Three Essays on Mergers and Acquisitions

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A Thesis

in

The John Molson School of Business

Presented in Partial Fulfillment of the Requirements
for the Degree of Doctor of Philosophy (Business Administration) at
Concordia University
Montréal, Québec, Canada

July, 2017

CONCORDIA UNIVERSITY
School of Graduate Studies

This is to certify that the thesis prepared

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Entitled: Three Essays on Mergers and Acquisitions

and submitted in partial fulfillment of the requirements for the degree of

Doctor Of Philosophy (Business Administration)

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ABSTRACT

Three Essayson Mergers and Acquisitions

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Concordia University, 2017

This thesis consists of three essays. In the first essay, we examine the behavior of the implied volatility of both target and acquirer firms around merger and acquisition announcements[1]. We find that option implied volatility is related to the bidder firm's announcement cumulative abnormal return (CAR-Bidder), the choice of the method of payment as well as the probability that the deal will be concluded successfully. Specifically, we show that target implied volatility not only drops at the announcement day but moves towards the acquirer implied volatility post acquisition announcement for stock or mixed deals. Moreover, we find that the method of payment is related to the post announcement target implied volatility, and we document that target implied volatilities are lower in cash deals. The probability of deal success is significantly negatively affected by the spread between the actual target's implied volatility two days after the announcement and its theoretical value. The greater the difference between the target's implied volatility and its theoretical value, the lower the probability of successful deal completion.

Next, we rely on the average of the implied volatility as a proxy for expected risk and the volatility of the implied volatility as a proxy for uncertainty about expected risk. We show that the CAR-Bidder decreases with an increase in both the expected risk and the uncertainty about expected risk of the bidder firm for stock or mixed deals. We also illustrate that the probability of a cash offer is decreasing in the expected risk and the uncertainty about expected risk of both bidder and target firms. We also find that the probability of deal success is decreasing in bidder's expected risk. Our measures related to risk and uncertainty about risk contain information additional to common proxies for asymmetric information and uncertainty used in the literature such as the standard deviation of analysts' forecasts and idiosyncratic volatility.

The second essay examines whether the puzzling negative relationship between idiosyncratic volatility and next month performance is affected by the intensity of merger and

[1] Based on the paper with Sandra Betton

acquisition (M&A) activity in the market[2]. Our results show that the idiosyncratic volatility puzzle is stronger in periods of high M&A activity than in periods of low M&A activity. Further analysis shows that the negative relationship between idiosyncratic volatility and next month performance is the strongest in the high M&A activity sub-period spanning from 1982-1989. In contrast, M&A activity does not explain the negative relationship between the common factor in idiosyncratic volatility (CIV) and the next month's performance. M&A activity can in part explain the idiosyncratic volatility puzzle, but it does not subsume the negative relationship between CIV exposure and firm returns.

The third essay investigates how investor sentiment affects mergers and acquisitions[3]. Our results show that periods of higher market sentiment are associated with a lower likelihood of observing a Cash-Only offer. We also find that for stock and mixed offers, periods of higher market sentiment are associated with lower bidder announcement returns, higher target bargaining power, and lower synergy. Our findings are consistent with Barker and Wu's (2012) argument that associates periods of higher market sentiment with greater overpricing. These results are consistent with the argument that higher overpricing results in bidder firms opting for stock or mixed deals. However, this will also lead bidder investors to react more negatively to these non-cash offer announcements, target investors to bargain more if they are to be paid in stock (fully or partially), and the market to anticipate lower total synergy as the deal may be driven by the stock overpricing rather than the maximization of synergy. Next, we find that target firm runups are, on average, higher in periods of higher market sentiment. This relationship is not observed in the premium, which is unrelated to investor sentiment. The differing results of the runup and the premium is interesting as we expected to find a relationship between runup and premium similar to the markup pricing hypothesis of Schwert (1996). It appears that in periods of higher investor sentiment there is a higher runup potentially associated with the overreaction of optimistic investors. However, bidder firms' management realize that this excessive runup is not an increase in the stand-alone value of the target firm and they price the deal accordingly.

[2] Based on the paper with Lorne Switzer
[3] Based on the paper with Sandra Betton

Acknowledgments

I would like to express my deepest gratitude for my supervisor Dr. Sandra Betton for the unconditional support since the beginning of this journey. Since I joined the PhD program at Concordia University and before Dr. Sandra Betton became my PhD supervior, she always made herself available when problems arose and magically fixed everything. When Dr. Sandra Betton became my supervisor, she extended this moral support to technical guidance and continuous research-related directives in a meticulous and diligent way. I cannot see how I could have accomplished my thesis without her support. Thank you Dr. Sandra Betton for providing the invisible hand that was pushing me to move forward in my thesis. I will always be looking for this hand!

I would like to extend great appreciation to Dr. Lorne Switzer for the guidance. It is efficient and fun working with you. Your skills in develpping great stories is marvellous and contagious.

I would also like to thank Dr. Rahul Ravi for being by my side since the beginning of this journey. You were always ready to discuss any research idea that crossed my mind and you worked with me to transform my ideas into something useful. In addition, I highly appreciate your crucial guidance in my early teaching experiences.

I would like to thank Dr. George Dionne for his valuable comments and suggestions on my thesis. I got to know him at the very early stage in my PhD journey. Dr. George Dionne was always available for guidance and discussions. In addition, I would like to thank the external examiner, Dr. Peter Christoffersen, for being on my committee and for providing valuable comments that will help getting my work to better publications in addition to his prompt guidance when needed throughout my PhD study. I also would like to thank Dr. Brian Campbel for being on my committee and for his great comments.

I also would like to thank all the faculties in the finance department at John Molson School of Business.

A special thank you goes to Edite Almeida, Sandra Romanini, and all the staff at the Finance Department, the PhD Office, the MBA Office, the office of the Associate Dean, Professional Graduate Programs, and the School of Graduate Studies.

This PhD study was easier to handle with the presence of friends sharing the same aspirations and challenges. A special thank you to my friends and collegues Mohammed Sabr, Ali Dirani, Najib Sahyoun, Chirstine Naaman, Ahmed Eissa, Alan Picard, and Kaveh Moradi. I would also like to thank Patrick Aboussouan, Tamara Close, and Richard Godbout for their encouragement.

Without her support, I would not have been able to continue my walk throughout my PhD studies. She was my cheerleader all the way throughout this long journey and always pushed me forward – thank you, my wife and best friend, Nada El Hassan. You made this happen with your patience, support, and relentless efforts. I am looking forward to attending your own thesis defense soon. A great thank you goes to my Sister and my Mother for their unconditional support. To my Father, a great thank you for teaching me since early childhood that I have to finish what I have started – however hard it is. I might not have used this lesson then but I needed it throughout this journey. To my Uncle Said, my PhD life wouldn't look the same without your support all the way though. To my MBA supervisor, Dr. Said Elfkahni, thank you for always being there.

To my daughter, Lana, sorry for not spending as much time together as you would have liked. I will always remember, you, not yet three years old, telling me that you wanted less toys but more time with daddy. I promise I will give you and your sister Talia all the time you need.

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1 CHAPTER ONE

Introduction

Mergers and acquisitions is a topic that attracts a lot of research. We contribute to this wide range of literature by reaching outside the scope of mergers and acquisitions to three different fields of finance. In the first essay, we reach out to the options market in analyzing different merger and acquisition characteristics. In the second essay, we link the intensity of mergers and acquisitions to one asset pricing anomaly: the idiosyncratic volatility puzzle, and in the third essay, we investigate how investor sentiment affects different mergers and acquisitions features.

In the first essay (Chapter two of this thesis), we study the choice of the medium of exchange in mergers and acquisitions. This line of work dates back to the early 1980s where Travlos (1987) and Majluf (1984) argue that bidder firms prefer to issue stock if they are overvalued and cash if they are undervalued. Within the same context, Hansen (1987) also supports the hypothesis that overvalued bidders would prefer to offer stock or mixed offers. In general, the literature supports the hypothesis that overvalued bidders are more inclined to choose a stock or mixed method of payment over a pure cash offer. In this essay, we link the choice of the medium of exchange to uncertainty about both the target and the acquirer. We use the Implied Volatility (IV) from the options market and use the average implied volatility (AIV) and the volatility of the implied volatility (VIV) as two proxies for risk and uncertainty about risk. We hypothesize that the higher the AIV and the VIV, the higher the uncertainty about the firms' prospects and the greater the chances that the bidder will choose a stock or mixed offer in an attempt to benefit from the possible overvaluation in its stock. Our main finding supports our hypothesis and indicates the higher the bidder firms' AIV and VIV; the lower the chances of a cash-only offer.

In the same essay, we build on the work of Moeller, Schlingemann, and Stulz (2007) that analyzes the effect of idiosyncratic volatility on Bidder Announcement CAR but instead of using idiosyncratic volatility, we use the forward-looking options-based AIV and VIV measures. We show that the CAR-Bidder decreases with an increase in both AIV and VIV of the bidder firm for stock or mixed deals.

We are not the first to use option-based data in a merger and acquisition context. For example, Borochin (2014) uses option prices to analyze the deal value, Barone-Adesi, Brown, and Harlow (1994) and Subrahmanian (2004) use option data to estimate the probability of deal success. Also, Chan, Ge, and Lin (2012) and Ordu and Schweizer (2015) show that option implied measures of volatility are related to acquiring firm stock returns. In our work, we estimate AIV and VIV over the runup period. The runup period spans 42 days to 2 days before the announcement of an offer. We focus on the runup period because it is associated with an increase in the target stock price that is often attributed to news about the deal leaking to the market. We also find that the probability of deal success is decreasing with bidder AIV.

In addition to the analysis mentioned above, we uncover the existence of a trend in the implied volatility of the target firms that starts with the announcement of the deal, and we show that this trend differs between stock (mixed) offers or cash-only offers. In particular, we show that the target IV approaches the acquirer IV around the announcement day for stock or mixed offers and drops to lower levels for cash-only offers. This result is not surprising as the target investors will receive zero risk cash (if the deal is successful) that in the case of cash-only offers but they will assume the bidder firm risk in case of stock or mixed offers. The post-announcement behavior of implied volatilities adds to the literature on the time series behavior of implied volatilities (for examples, see: Bester, Martinez, Rosu (2013) and Tassel (2014)).

In the second essay (Chapter three) we analyze the effect of mergers and acquisitions on one major anomaly in the empirical asset pricing literature: the idiosyncratic volatility puzzle. Ang et Al. (2006) show that stocks with higher idiosyncratic volatility exhibit lower next month return. This is puzzling as idiosyncratic volatility should not be priced as it can be diversified away. Even if idiosyncratic volatility is capturing stocks' exposure to a missing risk factor, it is expected to exhibit a positive relationship rather than a negative one. As such, this puzzling negative relationship has been widely researched in the empirical asset pricing literature. For example, Chen and Petkova (2012) show that the puzzle can be attributed to a missing risk factor that is related to the aggregate market variance; Fu (2009) and Huang, Liu, Rhee, and Zhang (2009) attribute the puzzle to return reversal. Spiegel and Wang (2007) link higher idiosyncratic volatility to lower stock liquidity. In that chapter, we shed new light on the puzzle from a merger and acquisition perspective. We argue that firms involved in a merger and acquisition would

have much higher uncertainty about their future. This uncertainty is firm-specific and not market-wide, as such it would not be captured by an asset pricing model and would be reflected in the idiosyncratic volatility. Since mergers and acquisitions cluster in periods of high level of overpricing (see: Shleifer and Vishney (2003) and Rhodes-Kropf and Viswanathan (2004)), we link merger and acquisition activities to the idiosyncratic volatility puzzle and hypothesize that the idiosyncratic volatility puzzle is stronger in periods of higher mergers and acquisitions activities. Our tests support this hypothesis.

In the third essay (Chapter four), we examine the relationship between investor sentiment and mergers and acquisitions. A relatively new literature has been developed linking market behavior to psychology. The most relevant literature for our purposes includes Baker and Wurgler (2006; 2007) who show that periods of higher market sentiments are usually associated with higher market valuation especially for hard to arbitrage stocks. Hwand (2011) shows that Closed End Fund (CEF) discount is affected by investors' sentiment and Stambaugh, Yu, and Yuan (2012) analyze the sentiment effect on different market anomalies. Our work follows this literature, and we investigate how investor sentiment affects different merger and acquisition characteristics. First, we show that stock or mixed offers are more likely in periods of higher market sentiment. Also, periods of higher market sentiment are associated with lower bidder announcement returns and higher target bargaining power in the case of stock or mixed offers, but higher synergy in the case of cash-only offers. These results can be interpreted within the context of Baker and Wu (2012) linking periods of higher market sentiment to higher levels of overpricing. Bidder firms will try to benefit from possible stock overvaluation in periods of higher market sentiment and opt for a stock or mixed acquisition. However, investors will react negatively to the bidder's choice of stock as a medium of exchange resulting in lower bidder announcement returns. Also, since target investors will probably receive overpriced stock they demand a higher price leading to higher bargaining power in case of stock or mixed acquisition. Within the same context, bidders who choose to offer cash are purchasing a possibly overvalued target stock. When bidders do pay with cash in high sentiment periods then they should be anticipating superior return on their investment. Consequntly, we expect to see higher synergy for cash offers in high sentiment periods than in low sentiment periods.

In the same essay, we then analyze whether the target runup is different between high and low sentiment periods and whether such a difference will affect the premium paid. The literature documents an increase in the target stock price around two months before the merger and acquisition's announcement. This runup can be attributed to either information leakage/insider trading or an increase in the stand-alone value of the target. In both cases, the increase is caused by positive news about the target. We argue that this positive news would cause optimistic target investors to overreact in higher sentiment periods leading to a higher runup in those periods. Our results support this hypothesis. Schwert (1996) shows that the runup is a cost to the bidder: an increase in the runup leads to an increase in the premium paid. He termed this relationship the markup pricing hypothesis. Our results show that periods of higher market sentiment are not associated with higher premiums although they are associated with a higher runup. This is at odds with the markup pricing hypothesis of Schwert (1996). It appears that bidder firm management infers that the higher runup in periods of higher market sentiment is more likely due to investor overreaction to news than to changes in the standalone value of the target and they react accordingly and don’t increase the offer premium.

2 CHAPTER TWO

Expected Risk and Uncertainty about Expected Risk in Mergers and Acquisitions

2.1 Introduction

In this paper, we test whether information extracted from option pricing plays a significant role in mergers and acquisitions (M&A). We consider option traders, sophisticated and well informed; thus we conjecture that their superior knowledge would be partially captured by the implied volatility extracted from option prices. We study implied volatility as a proxy for risk. We analyze the trends exhibited by the implied volatilities of both bidder and target firms and link these patterns to the probability of deal success. In addition, we use the Average of the Implied Volatility (AIV) as a proxy for the firm's expected risk and the Volatility of Implied Volatility (VIV) as a proxy for the uncertainty about the expected risk. We consider AIV as a measure of uncertainty and VIV as a measure of resolution of uncertainty. Our results support our main assumption that information extracted from option prices is valuable when tested on merger and acquisition deals. Specifically, we find that options implied volatility trends affect the probability of deal success. Both our risk measures are significantly linked to the bidder firm's Cumulative Abnormal Returns (CAR), to the chances of having a cash-only offer, and to the probability of deal success. We show how the significance of this link varies when accounting for different proxies for asymmetric information and uncertainty.

There is extensive empirical literature analyzing the relation between bidder Cumulative Abnormal Returns (CAR) around the announcement period and the choice and implication of the medium of exchange in mergers and acquisitions deals. The literature presents different hypotheses explaining such relations ranging from information asymmetry, to tax advantages, to co-insurance effect, to corporate controls to investment opportunity. We build our work around the signaling hypothesis and assume that our risk and uncertainty about risk measures proxy for different forms of uncertainty. At any time prior to the effective day, there is always the chance that the deal may not be completed successfully. The reasons for deal failure may include rival bids, disagreement regarding the value of the target and/or the package of securities being offered, or government intervention due to anti-trust, and etc. We examine the relationship between our risk and uncertainty about risk measures and the probability of deal success.

To present an overview of the literature analyzing the choice of the medium of exchange and the bidder cumulative abnormal return (CAR), we begin with the work of Carelton, Guilkey, Harris, and Stewart (1983) that highlights the importance of distinguishing between cash and non-cash takeovers in analyzing mergers and discuss the importance of cash offer in getting target management on board. Travlos (1987) explains three hypothesis that affect the medium of exchange in a merger. The author relies on Myers and Majluf (1984) framework to argue that in a context of asymmetric information bidders will prefer to issue stock if their firm is overvalued and to issue cash if their firm is undervalued. Travlos (1987) also highlights the different tax implication of cash offers versus stock offers; cash offers generate direct tax obligations to target shareholders leading the bidder to pay a higher premium in order to offset the tax paid by target shareholders. The third hypothesis that Travlos (1987) presents is the co-insurance effect: when the cash flows of two firms are not perfectly correlated combining them in a merger will decrease the default risk of the merged entity leading to higher debt capacity benefiting debt holders at the expense of stockholders resulting in lower stock prices. Fishman (1989) discusses how a cash offer would pre-empt competing bidders as it signals higher valuation in case of both target and bidder being asymmetrically informed. As such, he concludes that bidders will tend to move to cash offers when they want to increase the chances that the target will accept the offer or to deter other competing bidder or when the cost of gathering information about the target and the deal was high. Amihud, Lev, and Travlos (1990) link medium of exchange in a merger to corporate control. They argue that when insiders prefer to keep control of the firm they tend to go for cash or debt mergers in order to avoid issuing new stocks that will dilute their control. As such, the more materialistic the managerial ownership in the target company the more the likelihood that a cash offer would be selected over a stock offer. Brown and Ryngaert (1991) show that in spite of their negative signaling connotation, stock offers may still be chosen by bidders due to their tax advantages over cash offers while Martin (1996) shows that the higher the bidder and target investment opportunities the higher the chances of stock financing in a merger. Hansen (1987) argues that bidders would prefer to issue stocks when they are overvalued and cash when they are undervalued. Eckbo, Giammarino, and Heinkel (1990) study the effect of the mix of cash and securities offers on the bidders abnormal returns and show that the cash percentage tend to increase for higher valued acquisition.

Within the empirical context of measuring uncertainty and information asymmetry and studying their effect on the bidder's firm cumulative abnormal return as well as the medium of exchange, Moeller, Schlingemann, and Stulz (2007) use idiosyncratic volatility, standard deviation of analyst forecasts, the breadth of blockowners ownership and the change in the dispersion of analysts' forecasts as a proxy for different measures of uncertainty and asymmetric information. They showed that the bidders' abnormal returns fall as the idiosyncratic volatility increases in stock mergers. The idiosyncratic volatility effect dominates the diversity of opinion proxy when added to the same regression. They also show that bidders' abnormal return increases with an increase in idiosyncratic volatility in the case of cash deals and that change in the dispersion of analysts' forecasts affects stock and cash acquisition differently. Cemmanur, Paeglis, and Simonyan (2009) on their side use the number of analysts following the firm, the standard deviation of the analysts' forecasts and the absolute value of the difference in the analysts' earnings forecasts and the actual realized earning to proxy for information asymmetry about the firm. Their empirical results support the idea that bidders prefer cash offers when target information asymmetry increases. Dionne, Haye, and Bergeres (2015) use blockholders' ownership as a proxy for asymmetric information. They revealed a negative relationship between bidders being blockholders and the premium.

Our work is based on the assumption that the option markets contain valuable complementary information to stock markets. We create two measures relying on both targets and acquirers' implied volatility: the Average Implied Volatility (AIV) and the Volatility of Implied Volatility (VIV). Both our AIV and VIV are estimated during the runup period (days -42, -2). We posit that option implied volatility is a proxy for future expected risk. As such, we consider AIV to be a proxy for the firm expected risk and VIV to be a proxy for the uncertainty about its expected risk. Extensive research has shown that during the runup period target firms' stocks exhibit a significant cumulative abnormal return[4]. Option investors, considered as sophisticated and well informed, would be among the first to detect such a signal and trade upon it. As such, their aggregate beliefs should be embedded in option prices and updated consecutively as the private deal negotiation proceeds. AIV would enable us to measure their (option investors) expected level of risk during the deal negotiation period and the VIV would give us a rough estimate of the fluctuations in these expectations.

[4] Jarell and Poulsen (1989), King and Padalko (2005), Meulbroek (1992), Schwert (1996) and others

The use of option information is not new in the mergers and acquisitions context. Borochin (2014) relies on option prices to analyze the value generated by a merger. Cao, Chen and Griffin (2005) compare stock and call volume imbalances and discover that during the runup period call volume imbalance is significantly related to next day stock returns. Bester, Martinez, and Rosu (2013) find that the at-the-money (ATM) implied volatility of target companies' drops around the announcement date but rises after, if the deal fails. Barone-Adesi, Brown, and Harlow (1994) rely on target option implied volatilities to predict the probability of deal success for cash offers. Barraclough, Robinson, Smith, and Whaley (2012) expand use call option prices and stock prices to show that the gain is not limited to the target, as perceived in previous literature, but also spans to the bidder. Subramanian (2004) concludes that the probability of deal success is present in stock and option prices before it becomes a public news. Geppert and Kamerschen (2008)[5] use the sum of option implied volatility of the target and acquirer as a proxy for the volatility of the merged firm. Their results reveal that the market believes the new firm is riskier than a combined portfolio of both bidder and target through 18 months after the deal completion. Spyros, Tsekrekos, and Siougle (2010) show that there is an increase in option's trading volume prior to the announcement day in the UK equity markets. Chan, Ge, and Lin (2012) show that bidder cumulative abnormal return (CAR) increases with higher implied volatility (IV) spreads and decreases with higher implied volatility skew. Their IV spread measure is calculated as the difference of implied volatilities between call and put options on the same security with the same strike price and the same maturity[6] whereas their implied volatility skew is estimated as the difference in implied volatilities of the out-of-the-money (OTM) put and the ATM call. Tassel (2014) shows that for cash deals there is a decline in the target implied volatility at the announcement. For stock deals, he finds that target implied volatility drops at the announcement if the acquirer is less volatile than the target and increase if the acquirer is more volatile. Ordu and Schweizer (2015) show that acquiring firm options' volumes increases before the announcement of a stock merger and that the options' trade direction is related to future stock returns. In a more recent work, Luypaert and Caneghem (2017) use the average implied volatility estimated during the pre-runup period as a proxy for firm's uncertainty in mergers and acquisitions.

[5] We would like to thank an anonymous referee for raising up this point
[6] This is the same IV spread measure used in Bali and Hovakimian (2009) and Driessen, Lin, and Lu (2012)

This relatively new literature exploring the use of option implied information in mergers and acquisitions is not unique. Jayaraman, Mandelker, and Shastri (1991) use the target firms' implied variance to show that markets foresee acquisitions before the announcement day. Levy and Yoder (1993) show that target firms' implied volatility increases significantly before to the announcement day.

When it comes to volatility of implied volatility, Baltussen, Van Bekkum and Van Der Grient (2014)[7] show that the uncertainty about risk as measured by the volatility of implied volatility (similar to our VIV) is an important stock characteristics; stock with higher uncertainty about risk underperform those with lower uncertainty about risk. Huang and Shaliastovish (2014) showed that the volatility of volatility index (VVIX) is a significant risk factor and investors dislike increases in the VVIX. Agarwal, Arisoy, and Naik (2015) found that the volatility of aggregate volatility (VOV) is an important factor when estimating hedge funds risk exposure. More recently, Borochin and Zhao (2015) reveal a significant relationship between standard deviation of implied volatility and subsequent stock returns.

As we studied the effect of AIV and VIV on our deal characteristics, we analyzed the pattern exhibited by target and bidder implied volatility as we moved through the deal negotiation. Our findings confirm the following: for stock or mixed deals, the average target implied volatility moves towards the average acquirer implied volatility during the announcement period and hovers around it for the next 50 trading days or so. Since the targets' implied volatility is usually higher than the acquirers', this would indicate a decline in the target-implied volatility; a decline that is well documented in the existing literature. In cash-only deals, the decline in target implied volatility is more dramatic: we find a larger decline in target implied volatility with the target implied volatility dropping below the acquirer implied volatility. This result is not surprising as the target shareholders are replacing their risky stock investment with riskless cash. An observation that is not distant from that highlighted by Tassel (2014).

Building on the above findings, we create an Implied Volatility Spread measure that is constructed as the target implied volatility estimated two days after the announcement minus the acquirer implied Volatility estimated two days after the announcement for stock or mixed deals

[7] We would like to thank an anonymous referee for raising up this point

and as the target implied volatility estimated two days after the announcement minus zero for cash-only deals. We show that the higher this spread the lower the probability of deal success; we interpret the result as the further the target implied volatility from its theoretical value the lower the chances that the deal will finish successfully. Simply put, if investors believe that the deal has a good chance of succeeding two days after the announcement day, the target implied volatility would approach the acquirer implied volatility for stock or mixed deal and zero for cash deal.

We highlight the importance of AIV and VIV in a merger and acquisition framework. We postulate that the higher the AIV, the higher the expected risk about the firm undergoing a merger negotiation and consequently the higher uncertainty both parties are facing. We interpret the VIV in two ways. First, the VIV can be used as a proxy for resolution of uncertainty: the higher the VIV, the higher the uncertainty and the lower the resolution of uncertainty. Consequently, we associate a higher VIV with a lower CAR[8]. Second, we see VIV capturing the uncertainty in option investors' perception about the risk level of a firm undergoing a deal negotiation process. The higher this uncertainty, the harder it will be to assess the risk level of the firm, and the harder and costlier it will be to price the firm.

Our main results related to AIV and VIV can be summarized as follows. We find that both the average implied volatility and the volatility of implied volatility of the acquirer firm (AIV-Acquirer and VIV-Acquirer) estimated during the runup period (days -42, -2) are negatively related to the bidder cumulative abnormal returns (CAR-Bidder) estimated during the announcement period (days -1,1) for stock or mixed (Non-Cash-Only) acquisition and non-significant (VIV) or positive but marginally significant (AIV)s for cash-only acquisitions. The results can be interpreted as follows: when bidder risk and uncertainty about risk increases,

[8] What distinguishes our measure from the resolution of uncertainty measure analyzed by Moeller et al. (2007) is that their measure of resolution uncertainty is related to the "uncertainty about the firm's expected growth potentials" whereas ours is related to the "uncertainty about the firm's expected risk exposure". The different nature of the two components (growth potentials and risk exposure) leads us to formulate different expectations regarding the VIV. Where Moeller et al. (2007) assume that a lower uncertainty about the firms' growth potential should be associated with lower bidder CAR (backed by the work of Pastor and Veronesi '2006' and Johnson '2004'), we assume that a higher uncertainty about the firms' risk exposure should be associated with lower bidder CAR. Our assumption can be justified if we look at the Gordon growth model P/E = 1/(r-g). As explained in Pastor and Veronesi (2006), this function is convex in 'g' leading to a positive relationship between uncertainty about 'g' and the firm value. However, this same function is concave in 'r' and we postulate that the risk associated with a company should be captured in 'r' leading to a negative relationship between uncertainty about 'r' and the firm value.

ambiguity about bidder stock price increases. If it opts for a Non-Cash-Only offer, this signals to the market that the bidder stock is overvalued and lower bidder CAR is observed.

When AIV and VIV are tested together in the same model on bidder CAR, the AIV-Bidder overshadowed the VIV-Bidder for Non-Cash-Only deals (VIV-Bidder becomes insignificant) highlighting the importance of the level of risk over the uncertainty about the risk. For Cash-Only acquisitions including both the AIV and VIV in the same model leads to results consistent to those of Moeller et al. (2007); CAR-Bidder increases as AIV-Bidder increases and VIV-Bidder decreases. As bidder firm increases, opting for a cash-only offer signals that its own stock is undervalued, which is reflected in the market by higher relative abnormal returns around the announcement of the deal. The negative relationship between VIV-Bidder and the CAR-Bidder can be explained in the resolution of uncertainty context: the higher the uncertainty about the bidder risk (the less the resolution of uncertainty related to the firm's risk) the lower the firm value. The VIV-CAR relationship is also consistent with the findings of Baltussen, Van Bekkum and Van Der Grient (2014) who show that higher VIV stocks underperform their lower VIV peers.

Next we analyze the relationship between the medium of exchange and AIV and VIV. We find that the probability of cash-only offer is decreasing in the Average Implied Volatility and Volatility of Implied Volatility of both Target and Bidder firms. In the context of our interpretation of AIV and VIV, we conclude that as the target risk increases, bidder firms prefer non-cash-only offers as the risk involved would be shared by both acquirer and bidder firms. When it comes to increase in the bidder risk, the bidder still prefers non-cash only deals (in our sample at least) – either to share its own risk with the target shareholders or because it may benefit from a possible overvaluation in its own stock (opposite to the pre-emptive setting). A similar argument can be applied to our proxy for risk uncertainty; as VIV increases, the firm is faced with higher risk uncertainty. This makes it harder to properly quantify the risk of the firm (target or acquirer) should the deal go through and as such, a non-cash only acquisition would be preferred as the possible risk misspecification is shared by both target and acquirer.

What is interesting in our findings is that when both AIV and VIV are included in the same model, the probability of a cash-offer decreases with an increase in the Average Implied Volatility (consistent with the previous results) but increases with an increase in the Volatility of

Implied Volatility (opposite to the previous results). Thus we conjecture that the expected firm risk level (AIV) affects the choice of the medium of exchange as well as the way in which other variables (like uncertainty about risk 'VIV') affect the choice of the medium of exchange.

Our final test examines the relationship between the AIV (VIV) and the probability of the deal success. Our tests indicate that there is a negative relationship between the average implied volatility (AIV) of the bidder and the probability of the deal success: the higher the bidder risk the lower the chances that the deal will end successfully.

Next we test the robustness of our finding against different proxies for asymmetric information and uncertainty like analysts' divergence of opinion and idiosyncratic volatility. We estimate analysts' divergence of opinion as the standard deviation of analysts' forecast and the idiosyncratic volatility as the standard deviation of the market model residuals. Our results show that the effect of the divergence of opinion on CAR-Bidder, the chances of facing a cash-only offer and the probability of deal success depends on the time over which analysts' forecasts are captured. The divergence of opinion did not affect our main results.

We show that the idiosyncratic volatility plays a significant role in determining the chances of facing a cash-only offer as well as the probability of deal success in addition to the effect of idiosyncratic volatility on Bidder-CAR previously reported by Moeller et al (2007). We also highlight the importance of the choice of the estimation period for idiosyncratic volatility when this latter is used as a proxy for uncertainty in a merger and acquisition context. Controlling for idiosyncratic volatility in our AIV and VIV models mitigates our findings related to VIV but not to AIV. As such, idiosyncratic volatility does not seem to contain all information present in our option implied measures (AIV and VIV).

The main contribution of our work is highlighting the trend followed by the implied volatilities of both bidder and target firms when both counterparties possess options traded on them and how this trend can be used to predict the chances of deal success. We also use average implied volatility as proxy for expected risk and the volatility of implied volatility as a proxy for uncertainty about risk and show that both measures possess predictive power over the CAR-Bidder, choice of medium of exchange and the probability of deal success. The rest of the paper is organized as follows: Section II presents our research hypotheses and expectations; Section III discusses our sample construction and summarizes the sample characteristics; Section IV

presents our main results; Section V presents our different robustness checks; and Section VI concludes.

2.2 Research Hypothesis and Expectations

In this paper, we analyze the option implied volatility (IV) trends around mergers' and acquisitions announcements. We also study the effect of the average implied volatility (AIV) and the volatility of implied volatility (VIV) of both acquirer and target firms on the acquirer performances, the choice of the medium of exchange and probability of the deal success.

In cash deals, target shareholders will ultimately receive cash in return for their shares. They will end up having no equity ownership in the merged firm and the risk of their investment will converge to zero once they have received the cash payment. For stock deals, the target shareholders will ultimately be joining the acquirer shareholders and share the acquirer risk (merged firm risk). Consequently, in stock deals, we expect to observe the acquirer and target implied volatilities approaching each other as the deal effective date approaches. For cash deals, we expect target volatility to approach zero as the deal effective date approaches whereas the acquirer volatility would move toward the perceived IV of the new entity. This leads us to our first hypothesis in its two forms:

H1-a: As we move through time during the runup and post announcement periods, we expect the target-implied volatility to approach the acquirer implied volatility for Non-Cash-Only bids and to decline more for Cash-Only bids.

H1-b: The further away the target-implied volatility from the acquirer-implied volatility for Stock or Mixed offers and from zero for Cash-Only offers, the lower the chances that the deal will finish successfully. This effect should be clearer after the announcement day.

We focus on the runup period in the analysis and construction of the AIV and VIV variables as the literature[9] documents an increase in the average target stock prices starting approximately 42 trading days before the announcement date. One possible explanation for this observation is the possibility that information about the deal (negotiation process) may be leaking to the public before the announcement day. As we proceed through the M&A negotiation process, both acquirer and target option investors update (change) their beliefs regarding the likelihood that an

[9] Jarell and Poulsen (1989), King and Padalko (2005), Meulbroek (1992), Schwert (1996) and others.

offer appears and is successful, the riskiness of their own firm and the riskiness of the possible combined company. This revision of uncertainly is expected to be revealed in the implied volatilities of both target and acquirer as we progress in time through the runup period. The more investors revise their beliefs about the future uncertainty of the firms, the greater the fluctuations in the IVs; hence, the higher our VIV measure. The average of the IV estimated during the runup period proxies for the expected risk of the firm.

We construct a set of AIV and VIV measures: the Average Implied Volatility of the acquirers, the Average Implied Volatility of the Targets, the Volatility of Implied Volatility of the acquirers and the Volatility of Implied Volatility of the targets.

We associate a higher AIV with a higher level of the firm's expected risk and consequently a higher associated uncertainty. Moeller et al. (2007) test the effect of idiosyncratic volatility on bidder abnormal returns in mergers and acquisitions. Instead of using idiosyncratic volatility, we use average implied volatility estimated during the runup period. We believe that implied volatility serves as a good proxy for expected uncertainty due to its dynamic forward-looking characteristics. Hence, we anticipate the higher the target AIV (AIV-Target), the lower the bidder announcement cumulative abnormal return (CAR-Bidder) as a result of bigger risk faced by the bidder company. This effect is expected to be significant mainly for the cash offers as both bidder and target firms share the target risk when it comes to stock or mixed offers. We also anticipate the higher the bidder AIV (AIV-Bidder), the lower the CAR-Bidder in case of stock and mixed (Non-Cash-Only) offers and the higher the CAR-Bidder in case of Cash-Only offers. This prediction is related to the signaling hypothesis: the bidder will tend to offer cash if its stock is undervalued and offer stock (mixed) if its stock is overvalued. Based on the above arguments, we develop the following hypotheses:

H2: The higher the AIV-Target, the lower the CAR-Bidder in Cash-Only Offers

H3: The AIV-Target should not significantly affect the CAR-Bidder in Stock or Mixed (Non-Cash-Only) offers

H4: The higher the AIV-Bidder, the lower the CAR-Bidder in Stock or Mixed (Non-Cash-Only) offers

H5: The higher the AIV-Bidder, the higher the CAR-Bidder in Cash-Only offers

In the development of our VIV related hypothesis, we interpret the VIV in two different ways. In the first interpretation, the VIV can be used as a proxy for resolution of uncertainty: the higher the VIV, the higher the uncertainty and the lower the resolution of uncertainty. As such, we expect that the higher the uncertainty about the bidder risk (VIV-Bidder) the lower the CAR-Bidder – a result that should be observed for both Stock (Mixed) offers and Cash-Only offers. In the second interpretation, the VIV captures the uncertainty in option investors' perception about the risk level of a firm undergoing a deal negotiation process. The higher this uncertainty, the harder it will be to assign the appropriate risk level for the firm, the harder it will be to price it. As such, a higher VIV-Target would be associated with lower CAR-Bidder, reflecting the difficulties faced by the bidding firm in pricing the target. This observation should be valid only for Cash-Only deals and not for Stock (Mixed) deals as the target risk uncertainty is shared with the target investors in the case of a Stock (Mixed) offer and not completely absorbed by Acquirer's Investors. Our hypotheses related to VIV and CAR-Bidder are:

H6: The higher the VIV-Target, the lower the CAR-Bidder in Cash-Only Offers

H7: The VIV-Target should not significantly affect the CAR-Bidder in Stock or Mixed (Non-Cash-Only) offers

H8: The higher the VIV-Bidder, the lower the CAR-Bidder. A result that should be observed for both types of offers (Cash-Only and Stock 'Mixed' Offers)

Next, we analyze how the Average Implied Volatility (AIV) and Volatility of Implied Volatility (VIV) of both target and acquirer affect the choice of the medium of exchange. We conjecture that the higher the AIV-Target, the higher the target risk and the lower the chance that the bidder offers a Cash-Only deal because a Stock or Mixed offer will allow the bidder to share the target risk with the target shareholders. Regarding acquirer AIV, we expect the higher the AIV-Bidder, the more the uncertainty associated with the bidder firm, the greater the likelihood that the bidder offers cash if its objective is to pre-empt competing bids (pre-emptive bidding context). For the VIV analysis we expect the higher the VIV-Bidder the greater the uncertainty about the risk of the bidder, which makes it harder for external investors to value the bidder firm properly. This increases the chances that the bidder will go for a Cash-Only offer because it reduces the risk uncertainty absorbed by target shareholders and pre-empt competing bids. For the VIV-Target, the more the uncertainty about the risk of the target, the harder it would be for

the bidder to gather information about the target firm, and the more costly it would be to for the bidder to properly price the target. As such, and in a pre-emptive setting, the bidder will prefer to go for Cash-Only bids in order to avoid the possibility of losing the high costs already invested for a competing bidder. Our hypotheses related to AIV, VIV and medium of exchange are:

H9: The higher the AIV-Target, the lower the chances of a Cash-Only offer

H10: The higher the AIV-Bidder, the higher the chances of a Cash-Only offer

H11: The higher the VIV-Target, the higher the chances of a Cash-Only offer

H12: The higher the VIV-Bidder, the higher the chances of a Cash-Only offer

Lastly we analyze how AIV (VIV) affects the probability of the deal success. Looking at AIV and VIV as measures of expected risk and uncertainty about risk respectively, we link an increase in these measures for both target and acquirer to a lower probability that the deal will finish successfully. Our hypothesis related to AIV (VIV) and deal completion is:

H13: The higher the AIV (VIV) of both Bidder and Target, the lower the chances that the deal will finish successfully

Table 2.1 summarizes our predictions. < Please insert Table 2.1 here >

2.3 Data and Sample Construction

2.3.1 Data Collection

This paper joins two important fields of research: M&A and option implied information. In line with the extant literature, we rely on five databases to create our sample: SDC, CRSP, Compustat, Optionmetrics, and IBES.

We use Thompson Financial SDC database to obtain our M&A sample and limit our sample to US public target firms whereby the transactions form is classified as M (Merger) or AM (acquisition of majority interest). Our sample is limited to the period from January 1996 to December 2013 (as Optionmetrics starts from January 1996). From the initial bid announcements in SDC, we identify control bids as those in which bidders own less than 50% of the target shares prior to the bid and seek to own at least 50% of the target shares after completion of the deal, we

remove bid announcements where the target is a utility company or is a financial institution[10] and cases where the Target Primary SIC code is not provided by SDC[11].

As in Betton and Eckbo (2009; 2014) we arrange successive bids for the same target into takeover contests. A contest could have a single control bid, multiple bids by a single bidder, or multiple bidders. In our definition, control bidders initiate the contest if there are no other control bidders for the same target over the preceding six months. All subsequent control bids within six months of a previous bid relate to the same contest. A contest ends when there are no additional control bids for the same target over the following six-month period. This initial SDC sample contains 15,119 control bids with deal value reported on SDC.

In order to obtain the daily return data for the target and acquirer firms, we merge our SDC M&A sample with CRSP daily stock data. Firm accounting and financial information are gathered from Compustat and options extracted implied volatilities are taken from Optionmetrics.

We delete any bid that does not have 42 days of CRSP daily returns data before the announcement day; this is needed for runup period estimations. We have also removed any deal where there is no CRSP returns data within 3 days after the announcement day in order to avoid the possibility of associating wrong returns with the announcement period. We obtain the standard deviation of analysts' forecasts from IBES database.

Our final sample comprises 572 control bids.

2.3.2 Filtering the Option Implied Volatilities

The implied volatilities for our options are taken from the volatility surface file available on Optionmetrics. This file contains implied volatilities with the following maturities: 30, 60, 91, 182, 365, and 547 days. The data is provided for different ranges of strike prices covering a wide range moneyness: In-The-Money (ITM), At-The-Money (ATM), and Out-of-The-Money (OTM) options[12].

[10] This involved deleting targets whose primary first two-digit SIC codes range from 40 to 49 (Transportation and Public Utilities) and 60 to 67 (Finance, Insurance, and Real Estate).
[11] 304 control bids have missing target primary SIC code.
[12] This wide range of maturities and moneyness provided by Optionmetrics in the implied volatilities surface file are obtained by interpolating actual option implied volatilities across maturities and moneyness levels. The interpolation used is cubic interpolation based on a kernel smoothing algorithm. Optionmetrics estimates the implied volatility of the American Options relying on the Cox, Ross, and Rubinstein (1979) binomial tree model which is the case for most of our acquirer and target options.

We follow Barraclough et al. (2012) and use 30-day ATM implied volatilities as a proxy for the stock expected volatility. This leads to two main sets of Implied Volatility variables: 30-day at the money puts and 30-day at the money calls. Preliminary testing revealed similar results for both ATM puts and calls and consequently, we consider the average of the 30-day ATM puts and the 30-day ATM calls implied volatility as the proxy for our implied volatility. Driessen et al. (2009) deploy options delta to identify OTM options needed in their analysis. We follow their footsteps and use the ATM Implied Volatilities corresponding to an option having a delta equal to 0.5 for Call options and -0.5 for Put options.

2.3.3 Variable Definitions

We create the following control dummy variables relying on SDC data: whether the deal is hostile or friendly (hostile), whether it begins as a rumor or not (rumor), whether it is Cash-Only or Non-Cash-Only (Cash-Only), whether it is a tender offer or not (Tender), whether it contains a collar or not (Collar), whether the target is listed on NYSE/AMEX or not (NYSE/AMEX) and whether it is completed or not (Complete).

We form a dummy variable that takes a value of 1 if there are multiple Bidders within the same contest (Multiple Bids). If the target and acquirer have the same four digit Standard Industry Classification codes (obtained from CRSP), we give a value of 1 for the dummy variable (Horizontal). If the bidder company owns more than 5% of the target company before the announcement day, we associate a value of 1 to the (Toehold) dummy variable.

We estimate the Target (Bidder) Size as the logarithm of target (bidder) market value of equity, which is estimated by multiplying the number of target (bidder) shares outstanding by the target (bidder) stock price at event day -42. We estimate the target (bidder) Turnover as the ratio of target (bidder) volume to shares outstanding on day -42. We also estimate the Target (Bidder) B/M as the target (bidder) book value per share for the corresponding announcement day divided by the target (bidder) market value per share at day -42. We establish the runup variable as $[(P_{-2}/P_{-42}) - 1]$ where P_i is the price adjusted for dividend and splits 'i' days before the announcement day. We measure the Cumulative Abnormal Returns (CAR) over the announcement period as the sum of Abnormal Return ($AR_{i,t}$) estimated over the announcement period (days -1,+1) where $AR_{i,t}$ is equal to $ER_{i,t} - (\alpha_i + \beta_i ER_{M,t})$. $ER_{i,t}$ is company 'i' return on day 't' in excess of the risk free rate. $ER_{M,t}$ is the CRSP Value Weighted Index return on day 't' in excess of the risk free

rate. The model components (α_i, β_i) are obtained by estimating the model $(R_{i,t} = \alpha_i + \beta_i R_{M,t} + e_{i,t})$ over the (days -256; -43) event day window[13].

Variables used in this paper are summarized in Table 2.2.
<Please insert Table 2.2 here>

In constructing our risk variables, we calculate the Average Implied Volatility (AIV) as the mean of the daily Implied Volatility spanning the runup period (days -42, -2) and the Volatility of Implied Volatility (VIV) as the standard deviation of the daily Implied Volatility spanning the runup period (days -42, -2). To draw our graphs (figures 2.1 to 2.6), we rely on the average of the IV-Acquirer and the average of the IV-Target. The IV-Spread used in the graphs is equal to the difference between the average of the IV-Target and the average of the IV-Bidder. The IV-Spread@t used in testing our first hypothesis in its second form is constructed as the difference between the target implied volatility and the acquirer implied volatility in case of a stock (mixed) offer and the target implied volatility and zero in case of a cash offer. The IV-Spread-Ratio is equal to the ratio of the IV-Spread@2 divided by the IV-Spread-@-42. For the dispersion of analysts' forecasts measure, we rely on standard deviation of the analysts' forecasts estimated on month -12, month -2, and month +1. The idiosyncratic volatility is estimated as the standard deviation of the market model residuals over the indicated period.

2.3.4 Sample Characteristics

Table 2.3 presents the descriptive statistics for our final sample. Not surprising, the 572 control bids (deals) remaining in our final sample have larger deal values than the deals in our initial SDC sample as both target and acquirer are public companies and have options traded on their stocks. In our control bids, 146 are tender offers, 63 belong to a multiple bidder contest, 20 are hostile, 288 are Cash-Only, 41 are preceded by a rumor, 34 have a collar, 145 are horizontal, 13 involve a bidder having a toehold, 204 involve a target listed on NYSE/AMEX, and 485 were completed successfully. We have also constructed year and target industry dummies. We rely on the two-digit Standard Industrial Classification code to create our industry dummy.

[13] We have also estimated the Abnormal Returns (AR) as the excess stock return above the CRSP value weighted index. We obtained similar results to those reported in table 2.8, 2.9, and 2.10. We do not report these results here for space limitation.

< Please insert Table 2.3 here >

2.4 Empirical Tests and Results

2.4.1 Summary Statistics and Univariate Tests Results

Table 2.4 presents the descriptive statistics (Mean, Median) for the main variables in our sample as well as the results of our univariate tests.

<Please insert Table 2.4 here>

Our target firms are on average smaller than their acquirers, have higher turnover, and higher B/M. Bidder firms are usually bigger when it comes to a Cash-Only offer and have lower Turnover. Bidder firms achieve a negative CAR around the announcement period when the whole sample is considered. However, looking at Cash-Only versus Non-Cash-Only control bids, we can observe a positive bidder CAR for Cash-Only bids and a negative bidder CAR for Non-Cash-Only bids. The difference between both CARs is statistically significant: in Cash-Only deals, the bidder realizes a higher announcement performance relative to their Non-Cash-Only counterparts.

We find no significant difference between target characteristics (size, turnover and B/M) when it comes to Cash-Only bids versus Non-Cash-Only bids. We also find that the target runup during Cash-Only offers is significantly higher than that of Non-Cash-Only offers, a result that can be restated for the target markup but with lower significance.

We find that on average, targets' and bidders' implied volatility is bigger in case of Stock and Mixed offers relative to Cash-Only offers. The results are observed for implied volatility obtained 42 days before the announcement, 2 days before the announcement as well as the average implied volatility (AIV) estimated over the announcement period (days -42, -2). We observe riskier firms (target and acquirer) in Non-Cash-Only offers. Our univariate tests seem to support the inclination that the higher the target firm's risk (AIV-Target), the more the chances that it would be included in a Stock and Mixed offer – in accordance with our 9th hypothesis and supporting the notion that as the target risk increases, the bidder will tend to go for a Stock (mixed) offer to share the target risk with the target investors. The results also convey that the higher the bidder firm risk (AIV-Bidder), the more likely it would fall in the Stock (Mixed)

category – opposite to our 10th hypothesis built around the pre-emptive bidding setting. When it comes to a bidder's risk, it seems that the pre-emptive bidding scenario does not work for our sample: bidder firms with higher risk will tend to go for a stock or mixed offer as they may build on this higher risk and try to benefit from possible price ambiguity when exchanging their stocks for the target's stocks. It could also be that the riskier the bidder firm the more it would be inclined to opt for a stock or mixed offer in an attempt to share its own risk with the target shareholders.

The target volatility of implied volatility (VIV-Target) does not differ significantly between Cash-Only deals and Non-Cash-Only deals (in contradiction with our 11th hypothesis) whereas the bidder volatility of implied volatility (VIV-Bidder) is significantly larger for stock and mixed deals than for Cash-Only deals. This supports the intuition that the higher the VIV-Bidder the lower the chances that we would observe a Cash-Only deal (in contradiction with our 12th hypothesis). It seems that bidder firms with higher risk uncertainty do not prefer to go for Cash-Only offers in an attempt to reduce the uncertainty level taken by target shareholders (pre-emptive bidding setting). On the other hand, they prefer stock offers where they can either share their risk uncertainty with the target investors or benefit from this risk uncertainty (which probably leads to price uncertainty) in pricing the offer.

In relation to IBES measures, our sample statistics show that on average, the standard deviation of analysts' forecasts for target firms involved in a Stock or Mixed offer is higher than those involved in a Cash-Only offer. However, these differences are not significant. Bidders' divergence of opinion measures are not significantly different between Cash-only offers and Non-Cash-Only offers.

When it comes to idiosyncratic volatility, we notice that the target idiosyncratic volatility seems to be larger than the acquirer idiosyncratic volatility. In addition, the idiosyncratic volatility of both target and acquirer firms for stock (mixed) deals are larger than their counterparts for cash-only deals.

2.4.2 Behavior of Average Implied Volatilities around the Announcement Day

Figures 2.1 to 2.6 present the average implied volatility of our firms as we move through time around the announcement day. Figure 2.1 spans from 65 days before the deal announcement till 65 days after the deal announcement. It helps us observe what happens to the average target and

acquirer implied volatilities as we proceed during the merger negotiation process. Figure 2.2 spans only 3 days around the announcement; it is included in order for us to see exactly when the target implied volatility starts to change. Both Figures 2.1 and 2.2 cover all our deals. We can clearly observe from Figure 2.1 and 2.2 that the average target implied volatility starts dropping towards the acquirer implied volatility one day before the announcement day and the drop is almost complete one day after the announcement day. For Non-Cash-Only deals, the target-implied volatility approaches the acquirer-implied volatility and stay near it. For Cash-Only deals, the target-implied volatility drops much more and stays at these lower levels for a while. We can observe for Cash-Only deals that the target implied volatility starts increasing after almost 55 days from the announcement. This may be due to the fact that as the deal negotiation process time increases, investors start associating lower probability for the successful accomplishment of the deal, leading to an increase in the target-implied volatility.

Figures 2.3 and 2.4 and figures 2.5 and 2.6 are limited to complete deals and incomplete deals respectively. We observe high similarities in the target and acquirer implied volatility trends between complete and incomplete deals 3 days around the announcement period. For the larger periods, we observe an increase in the target and acquirer implied volatility starting around 10 days after the announcement days for incomplete deals. Whether this increasing trend is because the deals were rejected and announced to the public or whether this is a market anticipation of the deal failure we do not know at this stage, and it has been kept for future research. The figures generally support our first hypothesis that the target implied volatility does not simply drop but it also moves towards the acquirer implied volatility for Non-Cash-Only deals and drops further away for Cash-Only deals adding some clarifications to Tassel (2014) findings.

2.4.3 Model used in the Multivariate Tests

In order to test the average implied volatility (AIV) effect on Bidder CAR, we rely on Ordinary Least Square (OLS) estimation of Model 1 below. (Model 1 covers hypotheses H2 through H5).

$$CAR - Bidder_i$$
$$= \alpha + \beta_1 AIV_i + \gamma_1 Target\_Size_i + \gamma_2 Target\_Turnover_i$$
$$+ \gamma_3 Target\_NYSE\_AMEX_i + \gamma_4 Target\_B/M_i + \gamma_5 Target\_Runup_i$$
$$+ \gamma_6 Target\_Markup_i + \gamma_7 Collar_i + \gamma_8 Toehold_i + \gamma_9 Horizontal_i$$
$$+ \gamma_{10} Tender\_Offer_i + \gamma_{11} Cash_i + \gamma_{12} Hostile_i + \gamma_{13} Multiple\_Bidder_i$$
$$+ \gamma_{14} Rumor_i + \gamma_{15} Complete_i + \gamma_{16s} Industry\_Dummies_i$$
$$+ \gamma_{17s} Year\_Dummies_i + \varepsilon_i \ (\boldsymbol{Model\ 1})$$

In order to test the volatility of implied volatility (VIV) effect on Bidder CAR, we rely on Ordinary Least Square (OLS) estimation of Model 2 below. (Model 2 covers hypotheses H6 through H8).

$$CAR - Bidder_i$$
$$= \alpha + \beta_1 VIV_i + \gamma_1 Target\_Size_i + \gamma_2 Target\_Turnover_i$$
$$+ \gamma_3 Target\_NYSE\_AMEX_i + \gamma_4 Target\_B/M_i + \gamma_5 Target\_Runup_i$$
$$+ \gamma_6 Target\_Markup_i + \gamma_7 Collar_i + \gamma_8 Toehold_i + \gamma_9 Horizontal_i$$
$$+ \gamma_{10} Tender\_Offer_i + \gamma_{11} Cash_i + \gamma_{12} Hostile_i + \gamma_{13} Multiple\_Bidder_i$$
$$+ \gamma_{14} Rumor_i + \gamma_{15} Complete_i + \gamma_{16s} Industry\_Dummies_i$$
$$+ \gamma_{17s} Year\_Dummies_i + \varepsilon_i \ (\boldsymbol{Model\ 2})$$

For model 1 and 2, estimations are done for all our 572 bids, the 284 Non-Cash-Only bids and the 288 Cash-Only bids. Each estimation is performed twice: one using VIV-Target and another using VIV-Acquirer; 'i' corresponds to the control bid (deal) in our sample.

We test AIV and VIV effect on the choice of the medium of exchange using the logistic estimation provided by model 3 below (Model 3 covers hypotheses H9 through H12).

$$\text{Log}\left(\frac{P(Cash_{Offer}=1)}{1-P(Cash_{Offer}=1)}\right)_i$$
$$= \alpha + \beta_1 Risk\_Measure_i + \gamma_1 Target\_Size_i + \gamma_2 Target\_Turnover_i + \gamma_3 Target\_NYSE\_AMEX_i + \gamma_4 Target\_B/M_i + \gamma_5 Bidder\_Size_i + \gamma_6 Bidder\_Turnover_i + \gamma_7 Bidder\_NYSE\_AMEX_i + \gamma_8 Bidder\_B/M_i + \gamma_9 Relative\_Size_i + \gamma_{10} Collar_i + \gamma_{11} Toehold_i + \gamma_{12} Horizontal_i + \gamma_{13} Tender\_Offer_i + \gamma_{14} Hostile_i + \gamma_{15} Multiple\_Bidder_i + \gamma_{16} Rumor_i + \varepsilon_i \ (\textbf{\textit{Model 3}})$$

Model 3 is estimated four times in which the Risk_Measure independent variable takes the following values respectively: AIV-Target, VIV-Target, AIV-Bidder, and VIV-Bidder. The dependent variable is the Cash dummy. 'i' corresponds to the control bid (deal) in our sample.

Model 4 seen below is a logistic estimation for testing the AIV and VIV effect on the chances that the deal will finish successfully (Model 4 covers hypothesis H13).

$$\text{Log}\left(\frac{P(Complete=1)}{1-P(Complete=1)}\right)_i$$
$$= \alpha + \beta_1 Risk\_Measure_i + \gamma_1 Target\_Size_i + \gamma_2 Target\_Turnover_i + \gamma_3 \gamma_{3,i} Target\_NYSE\_AMEX_i + \gamma_4 Target\_B/M_i + \gamma_5 Target\_Runup_i + \gamma_6 Target\_Markup_i + \gamma_7 Collar_i + \gamma_8 Toehold_i + \gamma_9 Horizontal_i + \gamma_{10} Tender\_Offer_i + \gamma_{11} Cash_i + \gamma_{12} Hostile_i + \gamma_{13} Multiple\_Bidder_i + \gamma_{14} Rumor_i + \varepsilon_i \ (\textbf{\textit{Model 4}})$$

Model 3 and Model 4 have similar estimation procedures.

2.4.4 Multivariate Tests Results

Table 2.5 summarises the findings of multivariate testing.

<Please insert table 2.5 here>

2.4.4.1 The effect of our control variables

Table 2.8, Table 2.9 and Table 2.10 present the results for the tests related to the effect of AIV and VIV on CAR-Bidder. We observe that the bidder announcement CAR decreases with the

target size, target turnover, target markup, and for hostile takeover. On the other hand, it increases for cash deals, for multi-bid deals and for completed deals. The target B/M, target being listed on NYSE/Amex, the target runup or the deal containing a collar, a toehold or being horizontal, a tender offer or preceded by a rumor do not affect the CAR-Bidder significantly.

Table 2.11 presents the results of the tests related to the effect of AIV and VIV on the choice of the medium of exchange. From table 2.11 we can conclude that the chance that the deal will be a Cash-Offer increases with the B/M-Bidder, the deal being a tender offer, and when multiple bidders are competing for the same deal and decreases in the presence of a collar and in horizontal bids. The other control variables play no significant role in the choice of the medium of exchange.

Table 2.12 presents the results of the tests related to the effect of AIV and VIV on the chances that the deal will finish successfully. Table 2.12 reveals that the probability of the deal success increases with the deal being a tender offer and decreases for hostile deals, multi-bid deals, deals having a Toehold, with the target size and if the target is listed on NYSE/AMEX. Other control variables play no significant role in the probability of the deal being successfully completed.

2.4.4.2 The effect of the implied volatility spread on the probability of deal success

The results provided in table 2.6 and 2.7 present strong evidence in support of our first hypothesis in its second form: the further away is the target implied volatility from its theoretical value (acquirer implied volatility in case of stock 'mixed' deals or zero in case of cash deals), the lower the chances that the deal will finish successfully.

<Please Inset Tables 2.6 and 2.7 here>

We can notice that while the IV-Spread@+2 is negative and significant, the square of the spread when put in the same model with the IV-Spread@+2 is positive and significant. This observation leads us to conclude that the probability of deal success decreases as the IV-Spread@+2 increases but this relationship is not constant and is decreasing in strength. The IV-Spread@-42 plays no significant role in the determination of the probability of deal success as predicted by our hypothesis as the trends taken by the target implied volatilities are still in their very early stages. The IV-Spread-Ratio does not add additional explanatory power over the IV-Spread@+2. This ratio was designed to capture whether the relative spread between the target implied

volatility and its theoretical level before and after the announcement is important when it comes to assessing the probability of deal success. The results shows it is not.

2.4.4.3 The effect of the risk (AIV) and uncertainty about the risk (VIV) on CAR-Bidder

Related to hypothesis H3 through H8, Tables 2.8, 2.9, and 2.10 present the detailed results for testing the effect of the average implied volatility (AIV) and the volatility of implied volatility (VIV) of both target and acquirer firms on the CAR-Bidder.

<Please Inset Tables 2.8, 2.9, and 2.10 here>

We find out that when tested on Stock and Mixed offers, AIV-Bidder and VIV-Bidder negatively affect the CAR-Bidder; a 1% increase in the bidder's expected uncertainty (AIV-Bidder) is associated with 1.5% decrease in the bidder CAR whereas a 1% increase in bidder's uncertainty about risk (VIV-Bidder) leads to 0.5% decrease in bidder CAR[14]. However, VIV-Bidder plays no significant role when the sample is limited to Cash-Only offers and the AIV-Bidder effect becomes positive but not significant. In addition, when AIV and VIV are included together in the same regression, the AIV-Bidder overshadowed the VIV-Bidder for Stocks and Mixed offers (VIV-Bidder becomes insignificant) and the AIV-Bidder effect becomes positive and significant and the VIV-Bidder effect becomes negative and significant for Cash-Only offers.

The results related to AIV-Bidder on CAR-Bidder are in line with our predictions: they support the notion that the higher the bidder firm uncertainty (AIV) the more the perception of its stock being undervalued if it opts for Cash-Only deals and overvalued if it opts for Stock or Mixed (Non-Cash-Only) deals. The market will react accordingly: Bidder CAR will increase as a Bidder AIV increase for Cash-Only offers (in line with H5) and Bidder CAR will decrease as Bidder AIV increase for Stock and Mixed offers (in line with H4).

The results related to the VIV-Bidder reveals that VIV-Bidder negatively affect the CAR-Bidder in case of Stock (Mixed) offers when tested alone in the model. However, when we add the AIV-Bidder to the regression, the significance of the VIV-Bidder disappears. For Cash-Only offers, the situation is reversed: VIV-Bidder effect is significant and negative only in the presence of AIV-Bidder in the same regression but it is not significant when the AIV-Bidder is not included as explanatory variable in the model. Our eighth hypothesis (H8) related to associating a higher VIV-Bidder with lower CAR-Bidder passes but not in all settings. When the

[14] The 1.4% and 0.4% are the AIV and VIV respective elasticities in the OLS models used to estimate CAR-Bidder

related results deviate from our prediction it is not because of a counter significance but it is because of a lack of significance. The negative relationship between VIV-Bidder and CAR-Bidder seems to hold but is not very strong. This maybe a result of our 572-deal sample size limitation.

When it comes to AIV (VIV)-Target, it seems that target risk and uncertainty about risk do not affect the CAR-Bidder in case of both Cash offer and Stock or Mixed Offer. This contradicts what we have expected in H2 and H6 and in accordance with what we have expected in H3 and H7, respectively.

2.4.4.4 The effect of risk (AIV) and uncertainty about risk (VIV) on the Choice of the Medium of Exchange

Related to hypothesis H9 through H12, table 2.11 presents the detailed results for testing the effect of risk and uncertainty about risk of both target and bidder firms on the choice of the medium of exchange.

<Please Inset Table 2.11 here>

Our results show that an increase in any of our risk measures (AIV-Target and AIV-Bidder) and uncertainty about risk measures (VIV-Target and VIV-Bidder) leads to a decrease in the probability that we observe in a Cash-Only offer. It seems that as the risk of the bidder (AIV-Bidder) and the target (AIV-Target) both increases, the bidder will prefer to go for a Stock (Mixed) offer in order to share the target risk (supporting what we have expected – H9) and also to share its own risk with the target (not supporting the pre-emptive setting that we have expected – H10). When it comes to target risk uncertainty, it seems that as VIV-Target increases, the uncertainty about the target risk increases making it harder for the bidder to properly price it. In such case, it appears that bidder firms prefer a stock or mixed deal over a fixed cash one because it will be sharing the target risk uncertainty with target investors (in contradiction to H11). When it comes to bidder risk uncertainty; it seems that as VIV-Bidder increases, the uncertainty about the bidder risk increases and consequently the uncertainty about its price. This leads the bidder firm to prefer a stock or mixed deal with the possibility of benefiting from the ambiguity about their stock value while paying the target shareholder (in contradiction to H12). The pre-emptive bidding setting we have expected to occur when considering both bidder and target uncertainty about risk is not happening for our sample refuting both hypothesis 11 and 12,

respectively.

A point worth mentioning; when both AIV and VIV are used together in in the same regression in order to predict the probability of a Cash offer, the VIV effect of both target and bidder firms reverse signs: it now significantly positively affects the chance of being faced with a Cash-Only offer. It seems that the expected firm risk level (AIV) affects the choice of the medium of exchange as well as the way in which other variables (like uncertainty about risk 'VIV') affect the choice of the medium of exchange.

2.4.4.5 The effect of risk (AIV) and uncertainty about risk (VIV) on the chances that the deal will finish successfully

Related to hypothesis H13, table 2.12 presents the detailed results for testing the effect of risk and uncertainty about risk of both target and bidder firms on the probability that the deal will finish successfully.

<Please inset Table 2.12 here>

Although we expect a negative relation between AIV and VIV of both Target and Acquirer and the probability of deal success (H13), only the bidder level of risk (Bidder-AIV) seems to negatively affect the chances of the deal success. The higher the level of the bidder risk, the lower the possibility that the merger will be completed successfully. This may be due to conflict of interests between target and acquirer firms: the target would like to receive a cash offer or a higher premium to compensate its investors for the riskier bidder stock in case of a stock or mixed deal and the bidder will either prefer stock and/or disagree on the proper premium to pay (exchange ratio). The higher the bidder risk, the harder the negotiation would be in a merger and acquisition setting. Thus it would be more likely that these negotiations would fail.

2.5 Robustness Checks

2.5.1 A. The effect of the estimation period on our AIV and VIV related results

In order to check whether the results we have obtained are driven by information generated during the deal negotiation process or by firm specific features that existed way before target and bidder companies considered the merger, we estimate the average implied volatility (AIV) and the volatility of implied volatility (VIV) over a pre-runup period (days, -84, -43). This pre-runup estimation window is close to the one used by Luypaert and Caneghem (2017). We expect the

measures estimated during the runup period to be different in effect and significance than those estimated during the pre-runup period if they are found to capture deal related information rather than firm specific information. Table 2.13 presents a summary of the results performed on the pre-runup measures.

<Please insert Table 2.13 here>

The detailed results of our tests are presented in Appendix A. Our findings show that the results obtained by the tests performed during the pre-runup period are similar to those obtained during the runup period with a decrease in significance. Specifically, the VIV-Bidder no longer affects our CAR-Bidder significantly. We also lose the effect of the AIV-Bidder on the probability of the deal success when both AIV-Bidder and VIV-Bidder are included in the same regression. All other results are similar to those obtained in our original tests. These findings reveal that although the runup measures capture information from the deal negotiation process, they still keep some of the original target and firm characteristics that existed before the deal negotiation intensified.

2.5.2 B. The effect of controlling for the divergence of opinion measures on our AIV and VIV related results

The literature uses different measure to proxy for information asymmetry. Among the most widely used ones are the number of analysts' forecasts and the standard deviation of analysts' forecasts (usually referred to as diversity of opinion measures) – both measures are usually obtained from the IBES database. Following the same trend, we rely on the standard deviation of analysts' forecasts as a proxy for diversity of opinion. We use the one-year analysts' forecasts as our base. However, the main challenge we face is what month relative to the announcement month to tally the analysts' forecasts related measures. As presented in figure 6, we can notice an increasing trend in the standard deviation of analysts' forecasts for both bidder and target firms as we go through the deal negotiation process.

<Please insert figure 6 here>

Analysts seem to update their beliefs about both target and acquirer firms progressively. The more we go through the deal, the higher their level of disagreement (higher standard deviation of analysts' forecasts). As such we have picked three time-periods: 12 months before

the announcement month, 2 months before the announcement months, and 1 month after the announcement month. Next, we have checked the effect of IBES divergence of opinion on our CAR-Bidder, choice of medium of exchange and the chances that the deal will go through successfully. The rational for the choice of period is the following: 12 months represents one year before the announcement and we are relying on 1-year analysts' forecasts as our base, 2 months before the announcement month represents the start of our runup period and 1 month after the announcement period is selected to check how analysts react to the announcement after it occurs. The objective of our tests is to check whether the asymmetric information measure extracted from analysts' diversity of option would react on our sample as predicted in the literature. Table 2.14 summarizes the results of these tests and **Appendix B** presents the details tests results.

<Please insert Table 2.14 here>

Whereas previous work (Moeller et al. 2007 among others) predicts a negative relationship between diversity of opinion of the bidder and CAR-Bidder for Stock (Mixed) deals and no effect of diversity of opinion on Cash deals, our results show that diversity of opinion about the bidder plays no significant role in the CAR- Bidder for our sample except for the measure estimated one month after the announcement and for non-cash-only deals. It seems to play no role in the choice of medium of exchange as well. However, as the bidder diversity of opinion increases the chances that the deal finishes successfully increases. These results are limited to the measure estimated 2 months before the announcement months. It seems that for our deals, the analysts following the deal will update their beliefs about the firms' prospects when they are confident that the deal will go through – which in turn leads to this significant positive relationship between the chances that the deal will go through and the diversity of opinion measure. This phenomenon does not happen a year before the announcement nor a month after the announcement. When it comes to diversity of opinion related to the target firm, our sample reveals that the higher the target diversity of opinion the higher the CAR-Bidder in case of a Stock (Mixed) deal and the lower the CAR-Bidder in case of a Cash deal. It seems that the more the analysts disagree about the target firm, the more the uncertainty about the firm, thus the Bidder-CAR will react positively in case of Stock (Mixed) deal as this uncertainty is shared

with the target shareholders. Moreover, it will react negatively in case of a Cash deal as this uncertainty is absorbed solely by bidder shareholders.

Since the measures estimated two months before the announcement month are the most significant ones when it comes to the probability of deal success prediction, we use them as control variables in the subsequent tests. In order to test whether our AIV and VIV measures are capturing additional information above the standard deviation of analysts' forecasts, we repeat the same tests for AIV and VIV while including both Target and Bidder measures of diversity of opinion as control variables. Table 2.15 summarises our main findings and Appendix C presents the detailed results.

<Please insert Table 2.15 here>

Our findings show that the results originally obtained for AIV and VIV are robust and most of the significant relations are maintained. One effect is worth mentioning though: for Cash-Only deals, once we control for the bidder firms' analysts' diversity of opinion, the effect of AIV-Bidder and VIV-Bidder on CAR-Bidder becomes insignificant when put together in the same regression.

2.5.3 The effect of controlling for the idiosyncratic volatility on our AIV and VIV related results

2.5.3.1 Idiosyncratic volatility as an independent variable

A proxy for uncertainty that is used in the literature and used by Moeller et al., (2007) and Luypaert and Caneghem (2017) is idiosyncratic volatility. Following their work, we estimate the idiosyncratic volatility of both bidder and target firms relying on the standard deviation of the market model residuals. The main challenge we face is: over what interval do we estimate our idiosyncratic volatility? Driven by the literature about the run-up period and that information about the deal starts leaking around 42 days before the announcement day, we decided to estimate our idiosyncratic volatility measures over three periods: one spanning 256 trading days before the announcement and ending two trading days before the announcements [-256, -2], a second starting 256 trading days before the announcement and ending 43 trading days before the announcement day [-256, -43], and a third starting 43 trading days before the announcement day and ending two trading days before the announcement day [-43, -2]. The last interval covers the

same period over which our AIV (VIV) are estimated, the first interval is more in line with Moeller et al.'s (2007) estimation period that spanned from 205 days before the announcement to six days before the announcement and the middle interval was intended to catch the idiosyncratic volatility effect before the runup period in order to avoid any overlap with our AIV (VIV) estimation period.

The work of Moeller et al. 2007 predicts a negative relationship between the idiosyncratic volatility of the bidder and the CAR-Bidder for Stock-Only deals and a positive effect for Cash-Only deals. Table 2.16 summarizes the results of the idiosyncratic volatility effect on the CAR-Bidder, and the chances of facing a cash-only offer and the probability of the deal's success. The detailed tests' results are presented in Appendix D.

<Please insert Table 2.16 here>

The findings show that the acquirer's idiosyncratic volatility is negatively related to bidder CAR in case of stock or mixed deals (in line with the work of Moeller), and not significant or positively related to bidder CAR (significance is only observed for the idiosyncratic volatility estimated over the '-43,-2' interval) for a Cash-Only offer. The weak positive relationship between acquirer idiosyncratic volatility and bidder CAR in case of a Cash-only offer might be attributed to the different sample periods considered in both studies. Where Moeller et al.'s (2007) sample period spans from 1980 to 2002, our sample spans from 1996 till 2013. Adding to the CAR-Bidder related tests, we show that the higher the idiosyncratic volatility of either acquirer or target, the lower the chances of facing a cash-only offer, and the higher the acquirer idiosyncratic volatility, the lower the probability of deal success (only when idiosyncratic volatility is estimated over the interval '-43, -2'). Relying on our idiosyncratic volatility related tests we have two main conclusions: the first is that the idiosyncratic volatility behavior is in line with the results we have obtained for AIV and VIV when it comes to their effect on the CAR-bidder (also in line with the results of Moeller et. Al '2007). In addition, they conform to the results obtained by AIV and VIV when explaining the chances of facing a cash deal or on the probability of the deal's success. The second conclusion we observe is that the estimation period plays an important role in shaping the relationship between the idiosyncratic volatility and Acquirer-CAR, chances of facing a Cash-Only offer and the probability of the deal's success. Where the three measures behave similarly when it comes to determining the

chances of facing a Cash-Only offer, the idiosyncratic volatility estimated over the run-up period [-43,-2] seems to possess superior predictive power when it comes to its effect on the CAR-Bidder and the probability of the deal's success. For this reason and because it is estimated over the same period as our AIV and VIV measure, we rely on the idiosyncratic volatility estimated over the runup period [-43,-2] as a control variable in testing the robustness of our AIV and VIV findings[15].

2.5.3.2 The significance of AIV (VIV) on the CAR-Bidder while controlling for idiosyncratic volatility

Next we analyze how the results discovered for AIV and VIV are affected by the corresponding idiosyncratic volatility. Table 2.17 reports a summary of the results obtained by testing AIV and VIV effect on Bidder-CAR while controlling for the idiosyncratic volatility, and the chances of the deal being a cash-only offer and of the deal succeeding. Appendix E presents the detailed results.

<Please insert Table 2.17 here>

Our results show that the target AIV is still insignificant after controlling for the idiosyncratic volatility. When it comes to the effect of acquirer AIV on the CAR-bidder, a negative relationship was established earlier for Stock or Mixed deals. This relationship persists after controlling for the idiosyncratic volatility. The previously established relationship between VIV and CAR-Bidder becomes insignificant after controlling for idiosyncratic volatility.

2.5.3.3 The significance of AIV (VIV) on the chances of facing a cash-only offer while controlling for idiosyncratic volatility

When it comes to determining the probability of facing a Cash-only offer, the target and acquirer AIV seem to preserve their negative relationship after controlling for the idiosyncratic volatility, the VIV effect is neutralized.

[15] We have checked how AIV and VIV behaves while controlling for the idiosyncratic volatility estimated over the [-256,-2] and the [-256,-43] windows. The results reveal that the effect of AIV and VIV is stronger than those discussed here. Appendix K and Appendix L show the results of AIV and VIV performed while controlling for these two extra measures respectively.

2.5.3.4 The significance of AIV (VIV) on the probability of deal success while controlling for idiosyncratic volatility

Controlling for idiosyncratic volatility render the previously established relationship between the bidder AIV and the probability of deal success insignificant.

2.5.3.5 Main points related to the significance of AIV (VIV) after controlling for idiosyncratic volatility

The results presented here show that AIV (VIV) and idiosyncratic volatility appear to share some common information. However, the idiosyncratic volatility does not capture all the information included in our AIV measure. Because our results may be driven by high correlations between AIV and idiosyncratic volatility (as shown in Table 2.18 below), we orthogonalized our AIV and VIV measures to the idiosyncratic volatility by regressing AIV (VIV) to the corresponding idiosyncratic volatility and using the residuals as our new AIV (VIV) variables. A summary of the new results is presented in Table 2.19 below and the entire results are presented in Appendix F. The findings obtained after orthogonizing our AIV and VIV lead to the same conclusions about AIV and VIV as the above[16].

<Please insert Table 2.18 and Table 2.19 here>

2.5.3.6 Expanding our Sample

Next, we expand our sample by relaxing the requirement that both bidder and target firm need to have options traded on them into only having the option requirement limited to the bidder firms when testing a bidder related hypothesis (no option requirement on the target side) or the target firms when testing target related hypothesis (no option requirement on the bidder side).

2.5.3.6.1 Our main AIV and VIV hypothesis tested on the expanded sample

Table 2.20 presents a summary of the results found when testing Bidder and Target AIV and VIV on the expanded sample. The results of the tests performed on the larger sample are very similar to the ones obtained for the original 572 deals' sample except for the bidder VIV: the

[16] Appendix M and N presents the results related to AIV and VIV being orthogonized against the idiosyncratic volatilities estimated over the interval [-256, -2] and [-256, -43]

relationship between VIV-Bidder and chances of observing a cash-only offer is no more significant. The details of the tests performed on the expanded sample are presented in Appendix G.

<Please insert Table 2.20 here>

2.5.3.6.2 The effect of the idiosyncratic volatility in the expanded sample

The similarity of the expanded sample results to those obtained from the original sample is also observed for the idiosyncratic volatility as seen in Table 2.21 below, with the main addition that the acquirer idiosyncratic volatility estimated over the three intervals ['-256, -2', '-256, -43', '-43, -2'] negatively affects the probability of the deal's success. The details of the related tests are presented in Appendix H.

<Please insert Table 2.21 here>

2.5.3.6.3 The significance of AIV (VIV) after controlling for idiosyncratic volatility in the expanded sample

When it comes to the robustness of our AIV and VIV findings after controlling for the idiosyncratic volatility effect, we notice from Table 2.22 below that in the expanded sample the results conform to our 572-firm sample results. The details of the tests are presented in Appendix I[17].

<Please insert Table 2.22 here>

When it comes to assessing the effect of AIV and VIV on the chances of facing a cash-only offer in the expanded sample, we see that target AIV and VIV exhibit similar behavior as in the original sample; target AIV negatively affects the chances of facing a cash-only offer even after controlling for idiosyncratic volatility whereas target VIV is not significant. For the Acquirer AIV, it is still negatively affecting the chances of facing a cash-only offer while controlling for the idiosyncratic volatility and the VIV (which was insignificant in the original sample robustness check) is now positive and significant. The shift in the sign of the VIV was also observed when VIV and AIV were put together in the same regression, so it was not a surprise.

[17] Appendix O and Appendix P present the results related to AIV and VIV being while controlling for the idiosyncratic volatilities estimated over the interval [-256, -2] and [-256, -43] in the expanded sample respectively

After controlling for idiosyncratic volatility, none of our AIV or VIV measures affect the probability of the deal's success.

2.5.3.6.4 Main points for AIV (VIV) after controlling for idiosyncratic volatility in the expanded sample

Following the same procedure performed for our original sample, we estimate the correlation matrix among our main independent variables (Table 2.23 below) and we orthogonalize our AIV and VIV measures against the idiosyncratic volatility. As shown in Table 2.24, similar results are obtained. The details of the results are presented in Appendix J[18].

<Please insert Table 2.23 and 2.24 here>

In conclusion, accounting for idiosyncratic volatility neutralizes the effect of our option-implied measures on the probability of the deal's success and weaken the effect of VIV[19] on both CAR-Bidder and the chances of facing a cash-only offer but does not capture all the information related to AIV and its relationship with Bidder-CAR and the chances of facing a cash-only offer.

2.6 Conclusion

In this paper we study the behavior of future expected uncertainty (proxied by the implied volatility) of the bidder and target firms during the runup period. We show that for our sample of 572 M&A deals in which both target and acquirer possess traded options, the target's implied volatility (IV) approaches the acquirer's implied volatility (IV) for stock and mixed (Non-Cash-Only) deals and drops to lower levels for Cash-Only deals. Building on these findings, we hypothesize that the target implied volatility should ultimately approach a theoretical level: the acquirer-implied volatility in case of stock (mixed) deals and zero in case of cash deals. Consequently, the further away the implied volatility from this theoretical level, the lower the probability of the deal's success.

[18] Appendix Q and Appendix R present the results related to AIV and VIV while orthogonalizing against the idiosyncratic volatilities estimated over the interval [-256, -2] and [-256, -43] in the expanded sample respectively

[19] We note that the VIV effect on the CAR-Bidder was negative and significant for the cash-only offer while controlling for the idiosyncratic volatilities estimated over the interval [-256, -2] and [-256, -43] in the expanded sample.

We rely on the average implied volatility (AIV) as a proxy for average expected risk and the volatility of implied volatility (VIV) as a proxy for the uncertainty about the expected risk. We show that the average of the implied volatility of the acquirer company (AIV-Bidder) estimated over the runup period (days -42; -2) negatively affects the CAR-Bidder for Stock (Mixed) offers and positively affects the CAR-Bidder for Cash offers. The results can be interpreted as follows: when uncertainty about the bidder is high, a Cash offer will be perceived as a sign that the bidder stock is undervalued and a Stock (Mixed) offer will be perceived as a sign that the bidder stock is overvalued.

On the other hand, the bidder volatility of implied volatility (VIV-Bidder) negatively affects the CAR-bidder for Stock (Mixed) offers and negatively affects the CAR-bidder when tested in conjunction with AIV-Bidder for Cash deals. As uncertainty about the risk of the bidder firm increases, the CAR-Bidder tends to decrease (to varying extents) for both Cash and Stock (Mixed) offers. This result supports the hypothesis that VIV (Volatility of Implied Volatility) would serve as a good proxy for resolution of uncertainty of the firm's risk and that higher VIV implies lower resolution of uncertainty.

We also study the relation between risk and uncertainty about risk and the choice of the medium of exchange. Our results show that the probability of Cash deals decreases as both risk and uncertainty about the risk increases – results apply for both target and bidder firms. As target risk (AIV-Target) increases the bidder firm will opt for a Stock (Mixed) deal to share this increase risk with target investors. When target uncertainty about the risk (VIV-Target) increases, bidder investors would also be inclined to part any possible target risk misspecification with the target's investors. When the bidder risk uncertainty increases (VIV-Bidder), the bidder firm will prefer a Stock (Mixed) offer in order to possibly benefit from the prevailing ambiguity about its risk and consequently its stock price. A similar argument applies when it comes to interpreting the bidder risk.

We also show that the probability that the deal will be successfully completed decreases as the risk of the bidder increases. This may be a direct translation of the harder negotiation taken place between bidder and target when the bidder risk level is high (making it harder for the target investors to evaluate the offer).

Additional tests reveal that AIV, VIV, and idiosyncratic volatility behave as proxy for different forms of uncertainty. We present evidence showing that the idiosyncratic volatility affects the chances of facing a Cash-only offer as well as the probability of the deal's success, in addition to the effect of idiosyncratic volatility on Bidder-CAR pioneered by Moeller et al. (2007). When controlling for idiosyncratic volatility, the role that our AIV measure plays in determining the probability of deal success becomes insignificant. However, the relationship of our AIV with the bidder CAR and the chances of facing a Cash-only offer is not absorbed by the idiosyncratic volatility.

In this study, we convey that risk (AIV) and uncertainty about risk (VIV) both contain valuable information that play a predicting role over of the bidder cumulative abnormal return, the choice of the medium of exchange, and the possibility that the deal will pass through successfully. Our results open new doors to several interesting questions. Our Implied Volatility graphs show a slight difference between complete and incomplete deals post the announcement period. It would be interesting to check whether this behavior anticipates the effective (withdrawal) day. We have limited our analysis to the bidder performances around the announcement day. It would be worthwhile to check whether our AIV (VIV) measures (estimated during the runup period or after the announcement period) can predict the acquisition perceived synergy and consequently the long-term performance of the emerging company. In this study, we rely on Implied Volatilities extracted from the money (ATM) options. We pick ATM implied volatilities because they serve as a proxy for the stock expected volatility. However, deep out of the money (OTM) option prices would catch buying (selling) pressure. As such, we expect that OTM implied volatility based measures to behave differently than our ATM implied volatility based measures, an expectation supported by research analyzing the effect of volatility spread and volatility skew on stock returns. These are left for future research.

2.7 References Cited

Agarwal, V., Arisoy, Y. E., & Naik, N. Y. (2014). Volatility of aggregate volatility and hedge fund returns. Available at SSRN 2502352.

Amihud, Y., Lev, B., & Travlos, N. G. (1990). Corporate control and the choice of investment financing: The case of corporate acquisitions. *Journal of finance*, 45(2), 603-616.

Bali, T. G., & Hovakimian, A. (2009). Volatility spreads and expected stock returns. Management Science, 55(11), 1797-1812.

Baltussen, G., Van Bekkum, S., & Van der Grient, B. (2014, October). Unknown unknowns: Uncertainty about risk and stock returns. In AFA 2013 San Diego Meetings Paper.

Barone-Adesi, G., Brown, K. C., & Harlow, W. V. (1994). On the use of implied stock volatilities in the prediction of successful corporate takeovers. Rodney L. White Center for Financial Research.

Barraclough, K., Robinson, D. T., Smith, T., & Whaley, R. E. (2013). Using option prices to infer overpayments and synergies in M&A transactions. Review of Financial Studies, 26(3), 695-722.

Bester, A., Martinez, V. H., & Rosu, I. (2013, October). Cash mergers and the volatility smile. In AFA 2010 Atlanta Meetings Paper.

Betton, S., Eckbo, B. E., & Thorburn, K. S. (2009). Merger negotiations and the toehold puzzle. Journal of Financial Economics, 91(2), 158-178.

Betton, S., Eckbo, B. E., Thompson, R., & Thorburn, K. S. (2014). Merger negotiations with stock market feedback. The Journal of Finance, 69(4), 1705-1745.

Borochin, P. A. (2014). When does a merger create value? Using option prices to elicit market beliefs. Financial Management, 43(2), 445-466.

Borochin, P., & Zhao, Y. (2016). Variation of Implied Volatility and Return Predictability.

Brown, K. C., & Raymond, M. V. (1986). Risk arbitrage and the prediction of successful corporate takeovers. Financial Management, 15(3), 54-63.

Brown, D. T., & Ryngaert, M. D. (1991). The mode of acquisition in takeovers: Taxes and asymmetric information. Journal of Finance, 46(2), 653-669.

Cao, C., Chen, Z., & Griffin, J. M. (2005). Informational content of option volume prior to takeovers. The Journal of Business, 78(3), 1073-1109.

Carleton, W. T., Guilkey, D. K., Harris, R. S., & Stewart, J. F. (1983). An empirical analysis of the role of the medium of exchange in mergers. The Journal of Finance, 38(3), 813-826.

Chan, K., Ge, L., & Lin, T. C. (2013). Informational content of options trading on acquirer announcement return. Journal of Financial and Quantitative Analysis (JFQA), Forthcoming.

Chemmanur, T. J., Paeglis, I., & Simonyan, K. (2009). The medium of exchange in acquisitions: Does the private information of both acquirer and target matter? Journal of Corporate Finance, 15(5), 523-542.

Cox, J. C., Ross, S. A., & Rubinstein, M. (1979). Option pricing: A simplified approach. Journal of Financial Economics, 7(3), 229-263.

Dionne, G., La Haye, M., & Bergerès, A. S. (2015). Does asymmetric information affect the premium in mergers and acquisitions?. Canadian Journal of Economics/Revue canadienne d'économique, 48(3), 819-852.

Driessen, J., Maenhout, P., and Vilkov, G., (2009). The price of correlation risk: Evidence from equity options, Journal of Finance, 64(3), 1377-1406.

Eckbo, B. E., Giammarino, R. M., & Heinkel, R. L. (1990). Asymmetric information and the medium of exchange in takeovers: Theory and tests. Review of Financial studies, 3(4), 651-675.

Fishman, M. J. (1989). Preemptive bidding and the role of the medium of exchange in acquisitions. Journal of finance, 44(1), 41-57.

Geppert, G., & Kamerschen, D. R. (2008). The effect of mergers on implied volatility of equity options. International Review of Financial Analysis, 17(2), 330-344.

Hansen, R. G. (1987). A theory for the choice of exchange medium in mergers and acquisitions. Journal of Business, 60(1), 75-95.

Jarrell, G. A., & Poulsen, A. B. (1989). The returns to acquiring firms in tender offers: Evidence from three decades. Financial Management, 18(3), 12-19.

Jayaraman, N., Mandelker, G., & Shastri, K. (1991). Market anticipation of merger activities: an empirical test. Managerial and Decision Economics, 12(6), 439-448.

King, M. R. (2009). Prebid Run-Ups ahead of Canadian takeovers: how big is the problem? Financial Management, 38(4), 699-726.

Levy, H., & Yoder, J. A. (1993). The behavior of option implied standard deviations around merger and acquisition announcements. Financial Review, 28(2), 261-272.

Lin, T. C., Lu, X., & Driessen, J. (2013). Why Do Options Prices Predict Stock Returns? Working Paper

Luypaert, M., & Caneghem, T. (2017). Exploring the Double-Sided Effect of Information Asymmetry and Uncertainty in Mergers and Acquisitions. Financial Management.

Martin, K. J. (1996). The method of payment in corporate acquisitions, investment opportunities, and management ownership. Journal of Finance, 51(4), 1227-1246.

Meulbroek, L. K. (1992). An empirical analysis of illegal insider trading. The Journal of Finance, 47(5), 1661-1699.

Moeller, S. B., Schlingemann, F. P., & Stulz, R. M. (2007). How do diversity of opinion and information asymmetry affect acquirer returns? Review of Financial Studies, 20(6), 2047-2078.

Myers, S. C., & Majluf, N. S. (1984). Corporate financing and investment decisions when firms have information that investors do not have. Journal of financial economics, 13(2), 187-221.

Ordu, U., Schweizer, D. (2015) Executive compensation and informed trading in acquiring firms around merger announcements, Journal of Banking & Finance (2015, Forthcoming)

Schwert, G. W. (1996). Markup pricing in mergers and acquisitions. Journal of Financial economics, 41(2), 153-192. .

Siougle, G., Spyrou, S. I., & Tsekrekos, A. E. (2011). Informed trading around merger and acquisition announcements: Evidence from the UK equity and options market. Journal of Futures Markets, 31(8), 703-726.

Subramanian, A. (2004). Option pricing on stocks in mergers and acquisitions. The Journal of Finance, 59(2), 795-829.

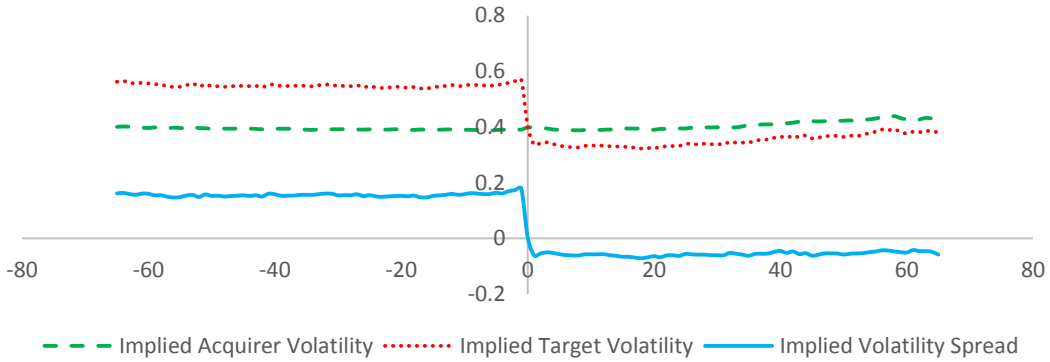
Travlos, N. G. (1987). Corporate takeover bids, methods of payment, and bidding firms' stock returns. The Journal of Finance, 42(4), 943-963.

Van Tassel, P. (2014). Merger Options and Risk Arbitrage. Working Paper.

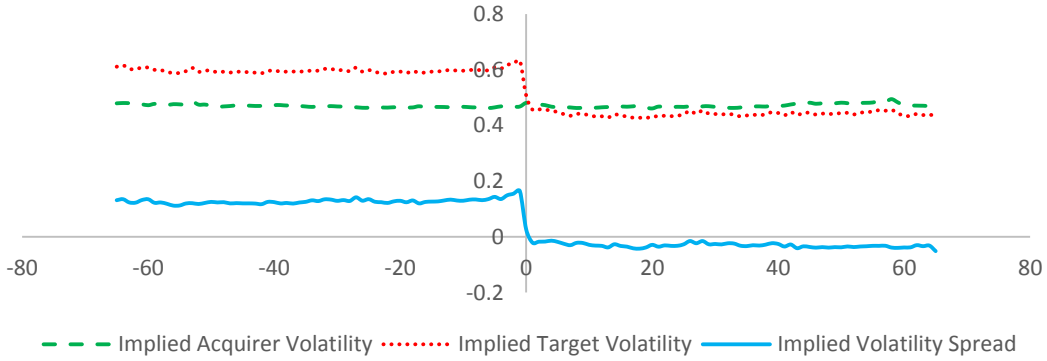
Figure 2-1 Average Implied Volatility Graphs

The figures below presents the average implied volatility for our bidder and target firms through the deal negotiation process. We use the average of put and call Implied Volatility for 30 day ATM option as our proxy for Implied Volatility. The implied volatility spread corresponds to the difference between target and acquirer Implied Volatility.

Panel A: Average Volatility as we move through time for All Control Bids in our Sample



Panel B: Average Volatility as we move through time for 'Non-Cash-Only (Stock and Mixed)' Control Bids in our Sample



Panel C: Average Volatility as we move through time for 'Cash-Only' Control Bids in our Sample

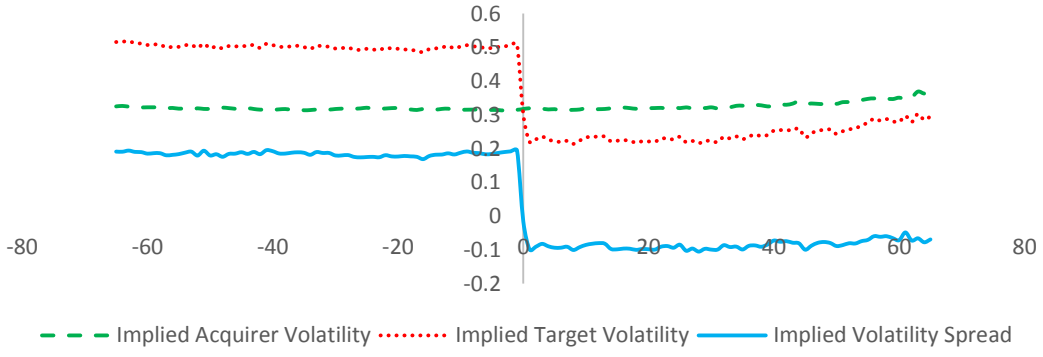
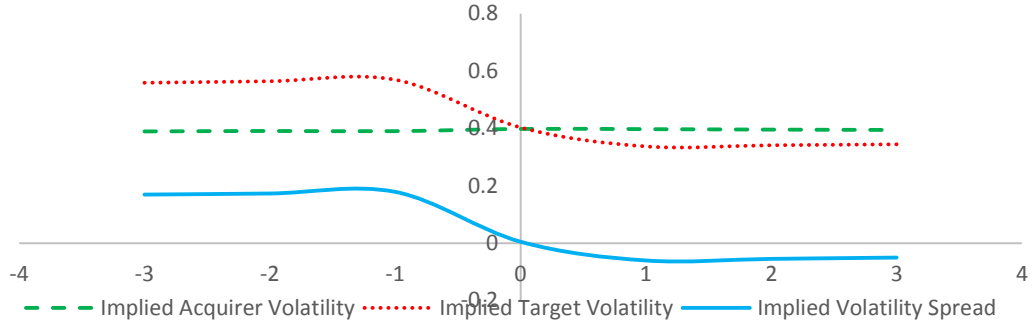


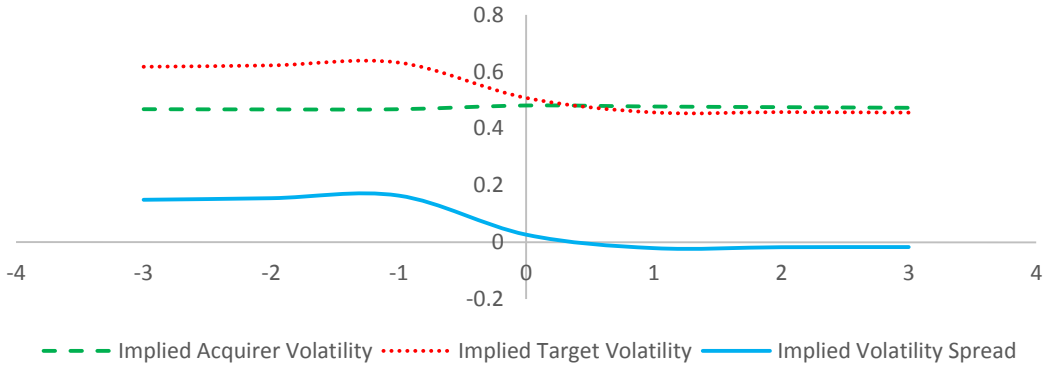
Figure 2-2 Average Implied Volatility Graphs around the Announcement Day

The figures below presents the average implied volatility for our bidder and target firms around the announcement day. We use the average of put and call Implied Volatility for 30 day ATM option as our proxy for Implied Volatility. The implied volatility Spread corresponds to the difference between the target and acquirer Implied Volatility.

Panel A: Average Volatility as we move through time for All Control Bids in our Sample



Panel B: Average Volatility as we move through time for 'Non-Cash-Only (Stock and Mixed)' Control Bids in our Sample



Panel C: Average Volatility as we move through time for 'Cash-Only' Control Bids in our Sample

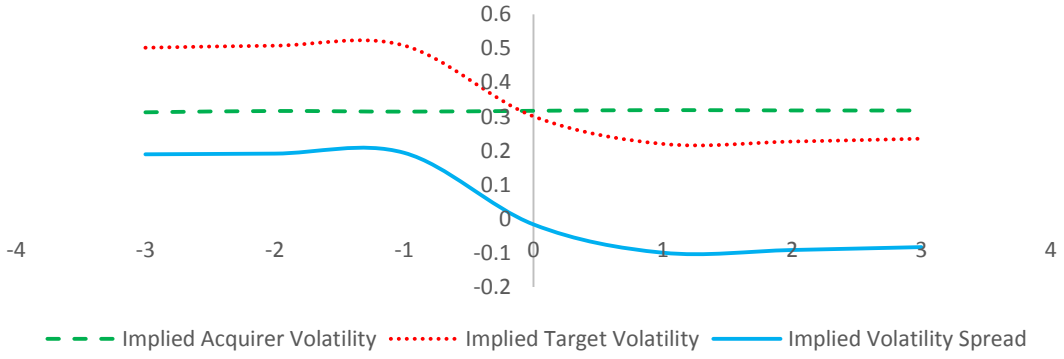
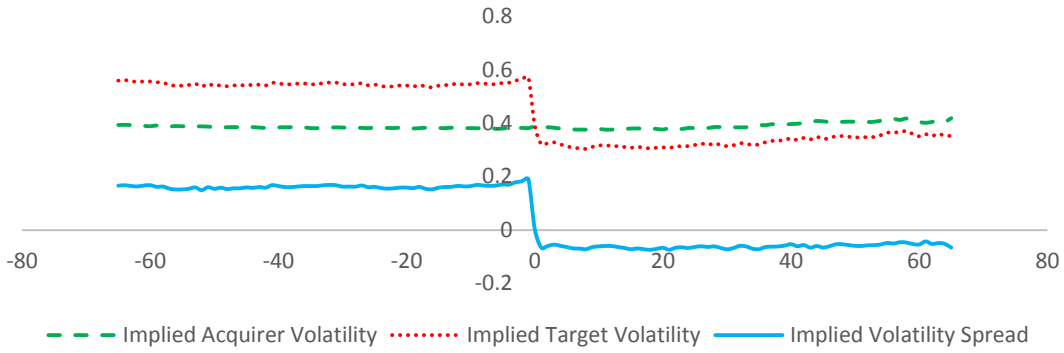


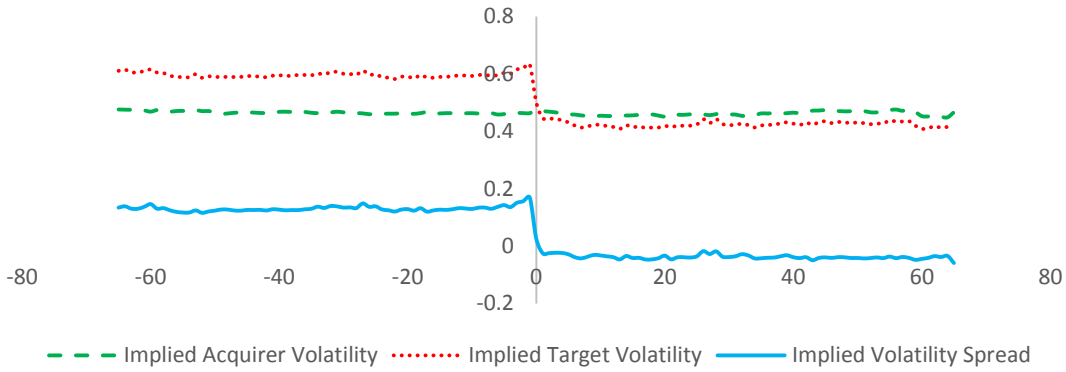
Figure 2-3 Average Implied Volatility Graphs for Complete Deals Only

The figures below presents the average implied volatility for our bidder and target firms, for complete deals only, through the deal negotiation process. We use the average of put and call Implied Volatility for 30 day ATM option as our proxy for Implied Volatility. The implied volatility Spread corresponds to the difference between the target and acquirer Implied Volatility.

Panel A: Average Volatility as we move through time for Complete Control Bids in our Sample



Panel B: Average Volatility as we move through time for 'Non-Cash-Only (Stock and Mixed)' Complete Control Bids in our Sample



Panel C: Average Volatility as we move through time for 'Cash-Only' Complete Control Bids in our Sample

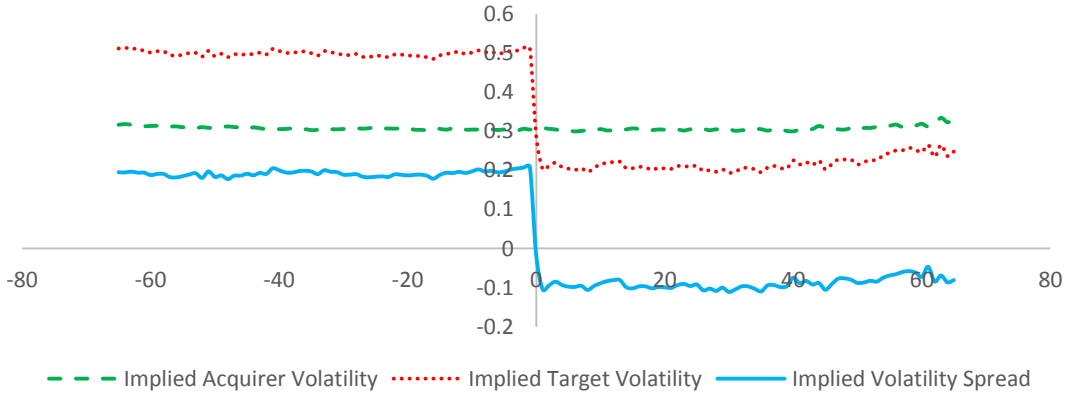
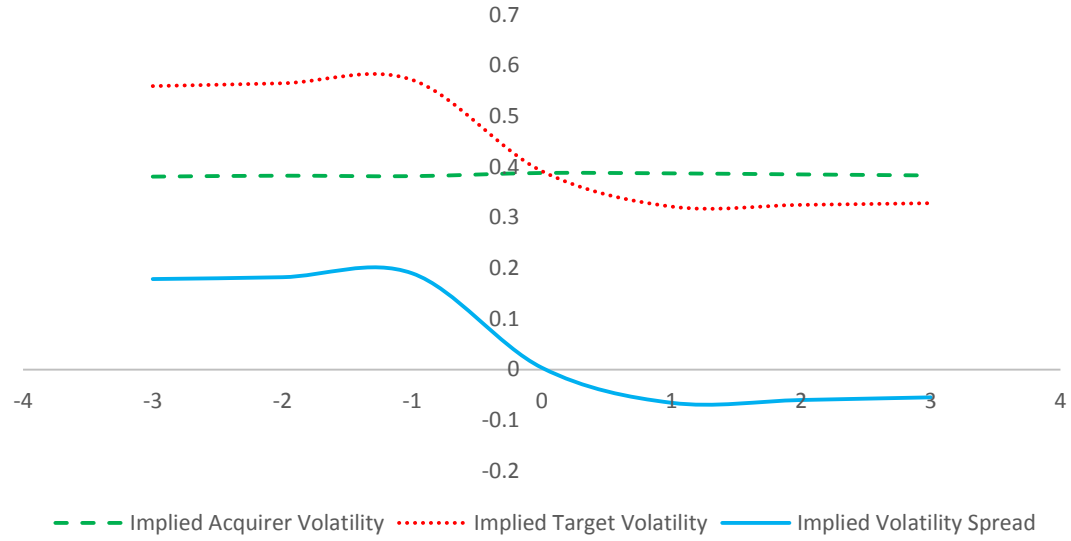


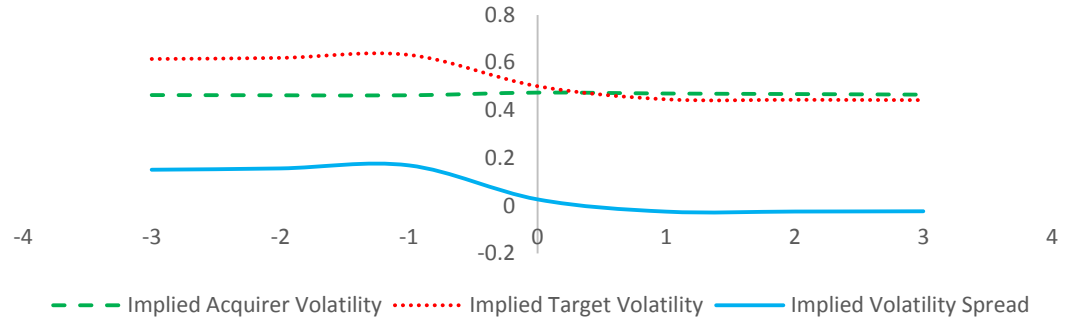
Figure 2-4 Average Implied Volatility Graphs for Complete Deals Only around the Announcement Day

The figures below present the average implied volatility for our bidder and target firms, for complete deals only, around the announcement day. We use the average of put and call Implied Volatility for 30 day ATM option as our proxy for Implied Volatility. The implied volatility Spread corresponds to the difference between the target and acquirer Implied Volatility.

Panel A: Average Volatility as we move through time for Complete Control Bids in our Sample



Panel B: Average Volatility as we move through time for 'Non-Cash-Only (Stock and Mixed)' Complete Control Bids in our Sample



Panel C: Average Volatility as we move through time for 'Cash-Only' Complete Control Bids in our Sample

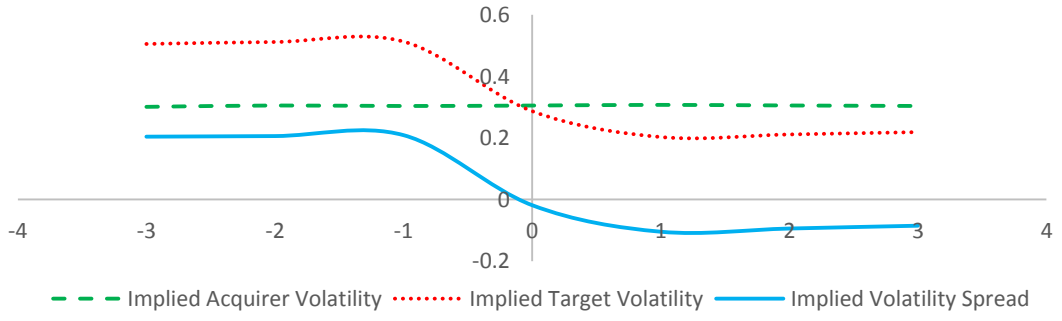
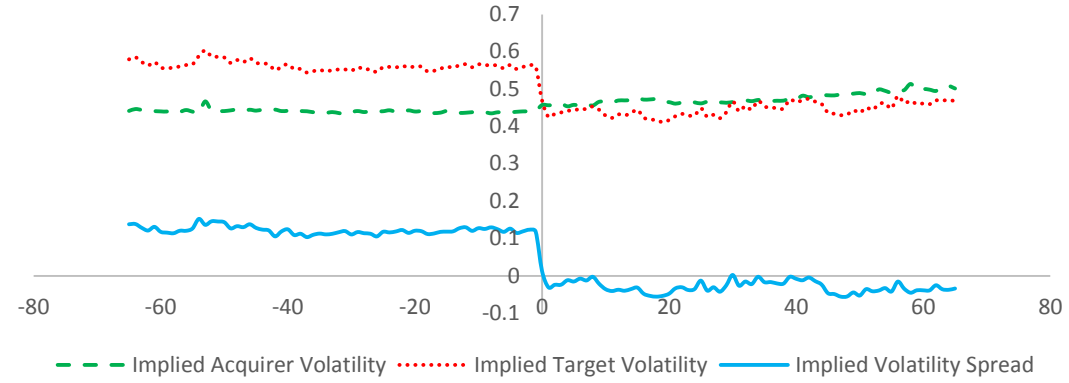


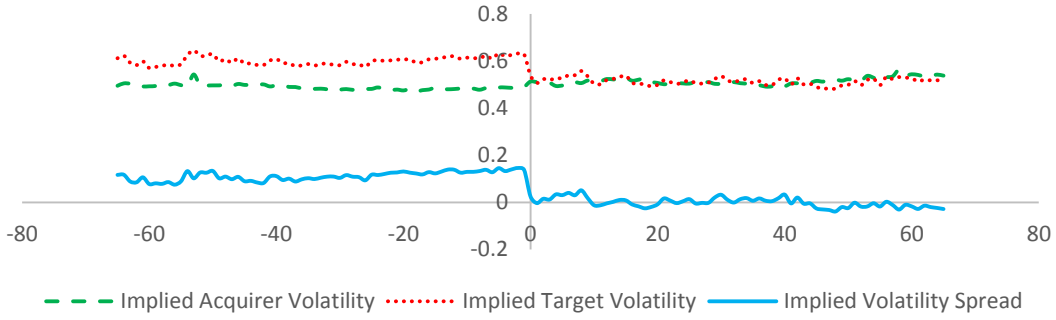
Figure 2-5 Average Implied Volatility Graphs for Incomplete Deals Only

The figures below presents the average implied volatility for our bidder and target firms, for incomplete deals only, through the deal negotiation process. We use the average of put and call Implied Volatility for 30 days ATM option as our proxy for Implied Volatility. The implied volatility Spread corresponds to the difference between the target and acquirer Implied Volatility.

Panel A: Average Volatility as we move through time for Incomplete Control Bids in our Sample



Panel B: Average Volatility as we move through time for 'Non-Cash-Only (Stock and Mixed)' Incomplete Control Bids in our Sample



Panel C: Average Volatility as we move through time for 'Cash-Only' Incomplete Control Bids in our Sample

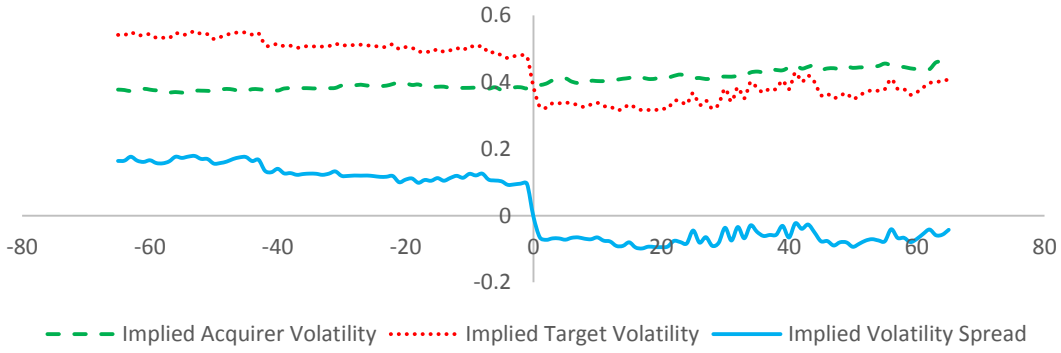
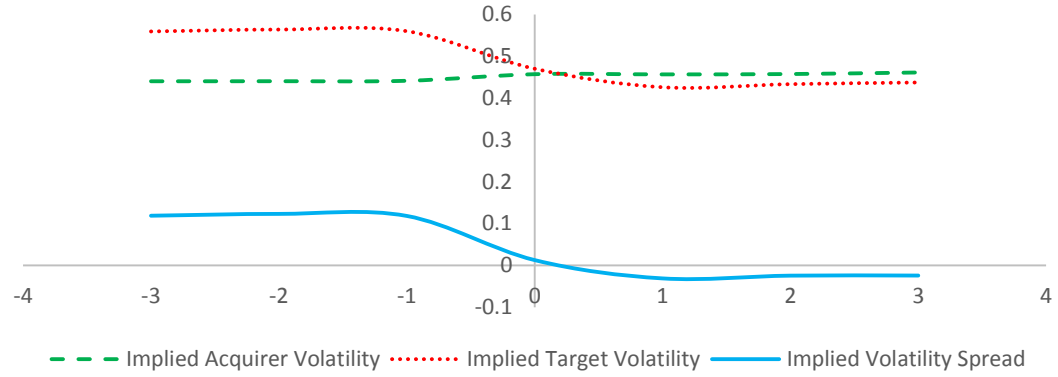


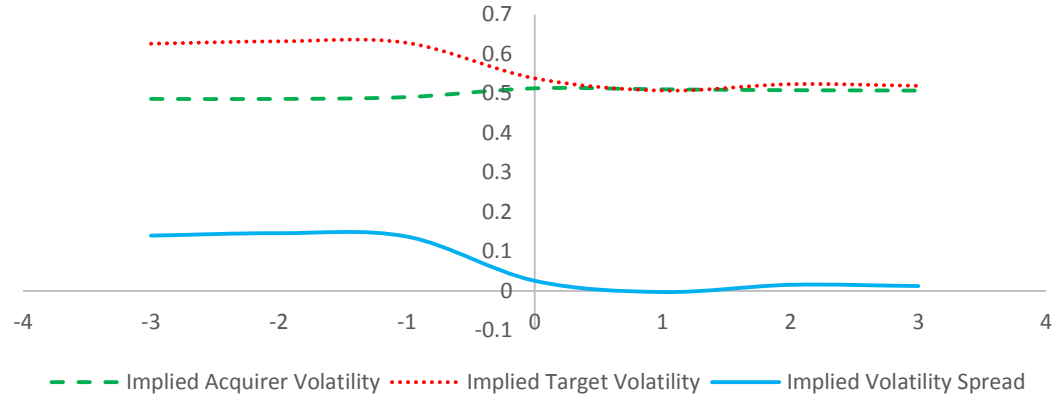
Figure 2-6 Average Implied Volatility Graphs for Incomplete Deals Only around the Announcement Day

The figures below presents the average implied volatility for our bidder and target firms, for incomplete deals only, around the announcement day. We use the average of put and call Implied Volatility for a 30-day ATM option as our proxy for Implied Volatility. The implied volatility Spread corresponds to the difference between the target and acquirer Implied Volatility.

Panel A: Average Volatility as we move through time for Incomplete Control Bids in our Sample



Panel B: Average Volatility as we move through time for 'Non-Cash-Only (Stock and Mixed)' Incomplete Control Bids in our Sample



Panel C: Average Volatility as we move through time for 'Cash-Only' Incomplete Control Bids in our Sample

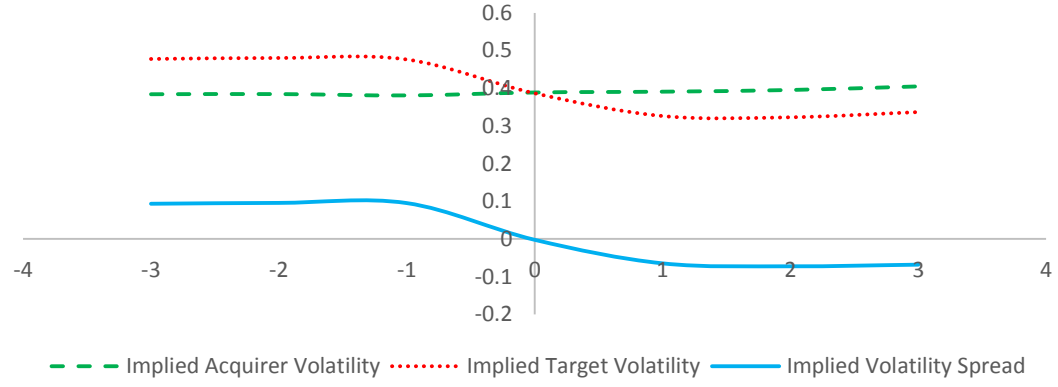


Figure 2-7 Analysts Divergence of Opinion around the Announcement Month

Figure 2.7a: Divergence of opinion about the Target firm around the announcement month (0) measured as the standard deviation of analysts' forecasts as reported by IBES.

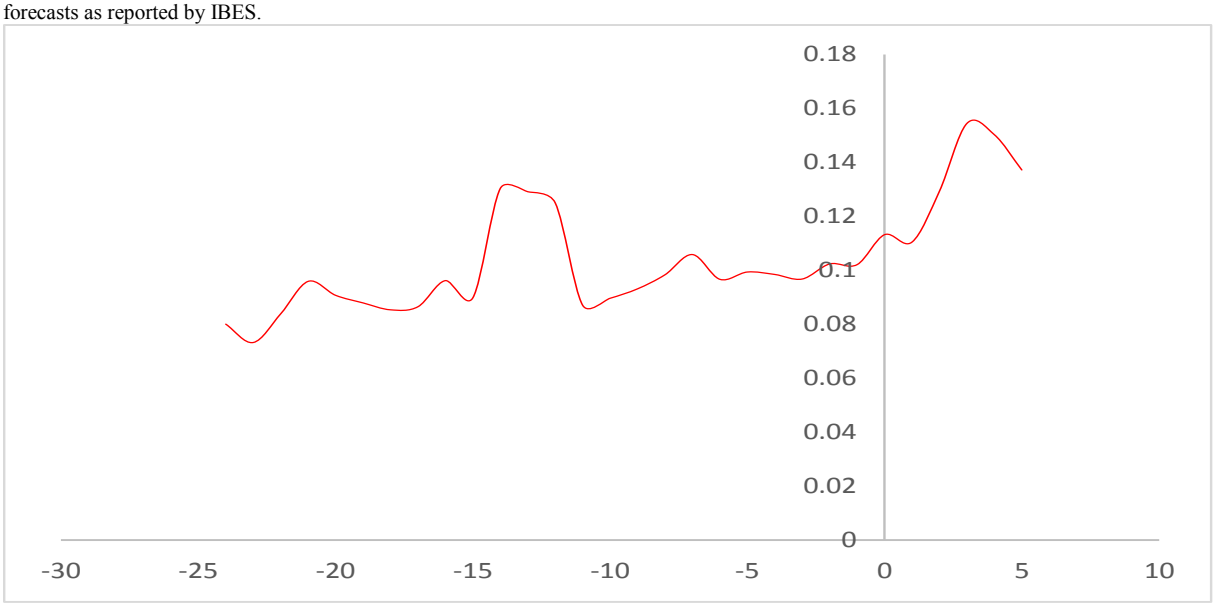


Figure 2.7b. Divergence of opinion about the Bidder firm around the announcement month (0) measured as the standard deviation of analysts' forecasts as reported by IBES.

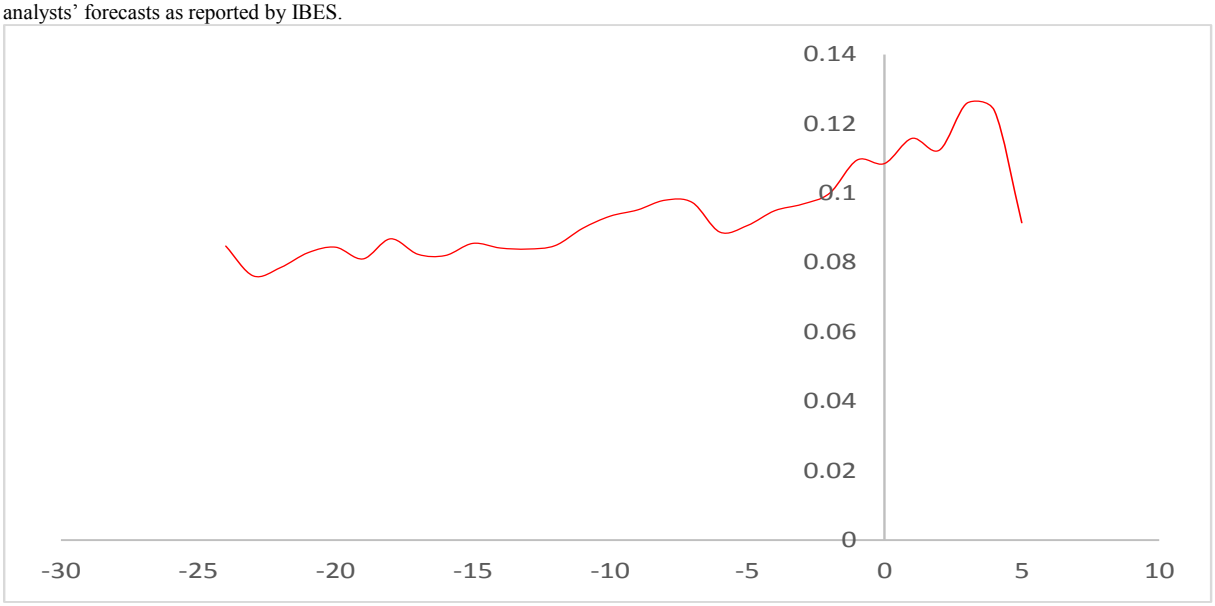


Table 2-1 Model Predictions

Synopsis of the main predictions highlighted in our hypothesis related to Risk (AIV) and Uncertainty about Risk (VIV) of both target and bidder firms.

	Acquirer Abnormal Returns	
Increase in:	Stock and Mixed Offers	Cash-Only Offers
Target Risk (AIV-Target)	No effect	Decrease
Bidder Risk (AIV-Bidder)	Decrease	Increase
Target Uncertainty about Risk (VIV-Target)	No effect	Decrease
Bidder Uncertainty about Risk (VIV-Bidder)	Decrease	Decrease
Increase in:	Probability of a Cash-Only offer	
Target Risk (AIV-Target)	Decrease	
Bidder Risk (AIV-Bidder)	Increase	
Target Uncertainty about Risk (VIV-Target)	Increase	
Bidder Uncertainty about Risk (VIV-Bidder)	Increase	
Increase in:	Probability of Deal Success	
Target Risk (AIV-Target)	Decrease	
Bidder Risk (AIV-Bidder)	Decrease	
Target Uncertainty about Risk (VIV-Target)	Decrease	
Bidder Uncertainty about Risk (VIV-Bidder)	Decrease	

Table 2-2 Summary of variables used in the cross-sectional analysis

Description of the main variables used in our work and the brief description of their construction.

Variable	**Definition and Estimation**
Adjusted_Price	CRSP Price Adjusted for Dividend and Split
Premium	(Initial_Offfer_Price/ P_{-42}) – 1
Runup	(P_{-2}/ P_{-42}) – 1
CAR Announcement	Announcement CAR is equal to the sum of Abnormal Return ($AR_{i,t}$) estimated over the announcement period [-1,+1]. $AR_{i,t}$ is equal to $ER_{i,t} - (\alpha_i + \beta_i ER_{M,t})$. $ER_{i,t}$ is company 'i' return on day 't' above the risk free rate on that day. $ER_{M,t}$ is the CRSP Value Weighted Index return on day 't' in excess of the risk free rate on that day. The model's components (α_i, β_i) are obtained by estimating the model $(R_{i,t} = \alpha_i + \beta_i R_{M,t} + e_{i,t})$ over the [-256; -43] event day window.
Target Size	Logarithm of target market value of equity
Target market value of equity	Number of target shares outstanding multiplies by the target stock price at event day -42
Target Share Turnover	The ratio of target volume to shares outstanding on day -42.
NYSE/AMEX	A dummy variable that takes a value of 1 if the target stock is listed on NYSE/ AMEX
Target Book/Market ratio	The target Book Value per share for the corresponding announcement day divided by the Target Market Value Per Share at day -42.
Acquirer Size	Logarithm of Acquirer market value of equity
Acquirer market value of equity	Number of Acquirer shares outstanding multiplies by the Acquirer stock price at event day -42
Acquirer Share Turnover	The ratio of Acquirer volume to shares outstanding on day -42.
Acquirer Book/Market ratio	The Acquirer Book Value per share for the corresponding announcement day divided by the Acquirer Market Value Per Share at day -42.
Collar	A dummy variable that takes a value of 1 if the target has a collar
Toehold	A dummy variable that takes a value of 1 if the bidder has more than 5% ownership prior to the announcement
Horizontal	A dummy variable that takes a value of 1 if bidder and target has the same 4 digits SIC (Standard Industrial Classification) code
Tender Offer	A dummy variable that takes a value of 1 if the Bid is a Tender Offer
Cash	A dummy variable that takes a value of 1 if the offer is in cash-only
Hostile	A dummy variable that takes a value of 1 if the bid is hostile
Multiple Bids	A dummy variable that takes a value of 1 if there are multiple bidders within the same contest (a contest is a 6-Month period from the first bidder bid)
Rumor	A dummy variable that takes a value of 1 if the deal started with a rumor - We relied on SDC for our rumor source
Complete	A dummy variable that takes a value of 1 if the deal was completed
IV-Bidder (@t)	The average of a 30-Day ATM Put and Call Option Implied Volatility estimated 't' days from the announcement day for the Bidder Company
IV-Target (@t)	The average of a 30-Day ATM Put and Call Option Implied Volatility estimated 't' days from the announcement day for the Target Company
IV-Spread-Target-Bidder-(@t)	IV-Target (@t) - IV-Bidder (@t)
IV-Spread(@t)	IV-Target (@t) - IV-Bidder (@t) in case of a stock (mixed) offer and IV-Target (@t) - 0 in case of a cash offer
AIV-Bidder (Target)	The Average of the Bidder (Target) Implied Volatility Estimated over the runup period (from day -42 till day -2)
VIV-Bidder (Target)	The Volatility of the Bidder (Target) Implied Volatility Estimated over the runup period (from day -42 till day -2)
AIV-Bidder (Target) Pre-Runup	The Average of the Bidder (Target) Implied Volatility Estimated over the pre-runup period (from day -84 till day -43)
VIV-Bidder (Target) Pre-Runup	The Volatility of the Bidder (Target) Implied Volatility Estimated over the runup period (from day -84 till day -43)
Diversity of Opinion (@t)	Standard Deviation of the analysts forecast obtained from IBES and estimated 't' months before the announcement month
Idiosyncratic Volatility [t_1, t_2]	Standard deviation of market adjusted residuals estimated over the interval [t_1,t_2]

Table 2-3 Sample Description

The data spans from January 1996 till December 2013. The sample is based on US target firms' with the deal form 'M' (merger) or 'AM' (acquisition of majority interest) obtained from the SDC Merger and Acquisition database. The control bids is defined as the bidder owning less than 50% of the target shares prior to the bid and seeking at least 50% of the target shares.

	Initial Sample			Final Sample		
	#Control Bids	Mean Deal Value	Median Deal Value	#Control Bids	Mean Deal Value	Median Deal Value
All contests	15119	479.04	39.00	572	3208.45	1450.68
1996-2008	3198	473.41170137	39.402	394	3338.29	1468.24
2009-2013	11921	500.02334303	37.483	178	2921.04	1342.53
Merger Bid	13934	452.856	32	426	3563.04	1458.93
Tender Offer	1185	786.841	221.312	146	2173.79	1345.77
Acquirer Private	4261	384.49	50.692	0	0	0
Acquirer Public	10858	516.145	35.706	572	3208.45	1450.68
Target Private	9395	135.326	18	0	0	0
Target Public	5724	1043.191	149.414	572	3208.45	1450.68
Target Not Listed on NYSE/AMEX	13985	238.55	30.875	368	1907.72	928.32
Target Listed on NYSE/AMEX	1134	3444.862	1080.45	204	5554.86	2634.59
Single Bidders	14324	438.204	35.759	209	3216.21	1399.99
Multi-Bidder	795	1214.826	136.706	63	3145.70	1702.61
Friendly	15000	457.10	38.1525	552	3095.02	1405.24
Hostile	119	3244.608	606.82	20	6339.03	1898.79
Non-Cash-Only	9634	459.023	23.39	284	4097.85	1480.22
Cash-Only	5485	514.199	87	288	2331.39	1401.61
No Rumor	14880	406.82	37	531	2868.09	1353.55
Rumor	239	4975.45	1499.47	41	7616.39	3901.32
Non Completed	2597	453.54	17.174	87	3686.57	1454.76
Completed	12522	484.33	44.909	485	3122.68	1436.28
No Collar	14838	464.34	37	538	3249.51	1395.11
Collar	281	1255.09	282.521	34	2558.58	2065.27
No Toehold	14439	483.747	38.4	559	3235.29	1454.76
Toehold	680	379.104	53.37	13	2053.69	701.57
Not Horizontal	10745	442.76	38	427	3057.82	1362
Horizontal	4375	568.16	41.84	145	3651.99	1660.72

Table 2-4 Summary Statistics and Univariate Tests of the differences in means and medians between Cash-Only and Non-Cash-Only deals

IV-Bidder (Target) (@-t) is the Option Extracted Implied Volatility obtained 't' days before the deal announcement day. IV-Spread-Target-Bidder (@-t) is the difference between the IV of the Target and the IV of the Bidder estimated 't' days before the deal announcement day. AIV-Bidder (Target) is the Average of the Implied Volatility of the Bidder (Target) firm estimated during the runup period (days -42, -2). VIV-Bidder (Target) is the Volatility of the Implied Volatility of the Bidder (Target) firm estimated during the runup period (days -42, -2). AIV-Bidder (Target) Pre-runup is the Average of the Implied Volatility of the Bidder (Target) firm estimated during the Pre-runup period (days -84, -43). VIV-Bidder (Target) Pre-runup is the Volatility of the Implied Volatility of the Bidder (Target) firm estimated during the Pre-runup period (days -84, -43). AIV (VIV) Spread are the difference between the AIV (VIV) of the Target and the AIV (VIV) of the bidder estimated during the runup and Pre-runup period correspondingly. Target (Bidder) Size is the logarithm of the market value of equity 42 days before the announcement and Target (Bidder) turnover is ratio of target volume to share outstanding estimated 42 days before the announcement. Target (Bidder) B/M is constructed as the ratio of the nearest stock book value before the announcement day divided by the stock price 42 days before the announcement. Target runup is defined as the ratio of the target price 2 days before the announcement divided by the target price 42 days before the announcement [(P-2 / P-42) - 1]. Target markup is defined as the ratio of the offer price divided by the target price 2 days before the announcement [(Offer-Price / P-2) - 1]. Bidder CAR is equal to the sum of Bidder Abnormal Return ($AR_{i,t}$) estimated over the announcement period [-1,+1]. ARi,t is equal to $ER_{i,t} - (\alpha_i + \beta_i ER_{M,t})$. $ER_{i,t}$ is the bidder company 'i' return on day 't' above the risk free rate on that day. $ER_{M,t}$ is the CRSP Value Weighted Index return on day 't' in excess of the risk free rate on that day. The models' components (α_i, β_i) are obtained by estimating the model $(R_{i,t} = \alpha_i + \beta_i R_{M,t} + e_{i,t})$ over the [-256; -43] event day window. Divergence of Opinion @t is the standard deviation of the analysts forecast obtained from IBES and estimated 't' months before the announcement month. The Target (Acquirer) Idiosyncratic Volatility is the standard deviation of the market model adjusted residuals estimated over the corresponding interval. The sample consists of 572 control bids divided into 288 Cash-Only Bids and 284 Non-Cash Only Bids. The sample is based on US targets firms with deal form 'M' (merger) or 'AM' (acquisition of majority interest) obtained from the SDC Merger and Acquisition database. The control bids is defined as the bidder owning less than 50% of the target shares prior to the bid and seeking to own at least 50% of the target shares. We request that both bidder and target have options traded on them. The results of t-tests for the difference in means and Wilcoxon tests for the difference in medians are reported in parentheses. The *, **, and *** indicate significance at 10, 5, and 1% respectively.

Panel A – Target and Bidder Characteristics								
	All Control Bids (Mean)	All Control Bids (Median)	Non-Cash Only Control Bids (Mean)	Non-Cash Only Control Bids (Median)	Cash Only Control Bids (Mean)	Cash Only Control Bids (Median)	Difference in means between the two subgroups (Non-Cash-Only minus Cash-Only)	Difference in medians between the two subgroups (Non-Cash-Only minus Cash-Only)
Target Size	13.7355	13.6760	13.7999	13.6773	13.6720	13.6679	0.1279 (1.28)	0.0094 (0.847)
Target Turnover	15.1403	8.9337	15.8807	9.4969	14.4101	8.4822	1.4706 (0.49)	1.0147 (0.44)
Target B/M	0.4420	0.3810	0.4412	0.3839	0.4427	0.3787	-0.0015 (-0.05)	0.0052 (-0.48)
Target Runup	0.0852	0.0625	0.0627	0.0496	0.1075	0.0768	-0.0448 (-2.39)**	-0.0272 (-2.36)**
Target Markup	0.3065	0.2632	0.2979	0.2493	0.3150	0.2789	-0.0171 (-0.69)	-0.0296 (-1.83)*
Bidder Size	15.8919	15.7202	15.3236	15.1109	16.4523	16.4657	-1.1287 (-8.39)***	-1.3548 (-8.29)***
Bidder Turnover	10.9381	6.9625	13.1012	7.6755	8.8050	6.7278	4.2962 (3.60)***	0.9477 (2.37)**
Bidder B/M	0.3581	0.3036	0.3634	0.3163	0.3529	0.2993	0.0105 (0.52)	0.017 (0.11)
Bidder CAR	-0.0209	-0.0106	-0.0429	-0.0424	0.0006	0.0007	-0.0435 (-7.01)***	-0.0431 (-6.96)***
Panel B – Implied Volatility Related Measures								
IV-Bidder (@-42)	0.3919	0.3415	0.4699	0.4108	0.3149	0.2899	0.155 (10.23)***	0.1209 (10.32)***
IV-Bidder (@-2)	0.3912	0.3481	0.4671	0.4084	0.3164	0.2936	0.1507 (10.34)***	0.1148 (10.49)***
IV-Target (@-42)	0.5423	0.4826	0.5872	0.5235	0.4979	0.4408	0.0893 (4.44)***	0.0827 (4.46)***
IV-Target (@-2)	0.5645	0.4980	0.6219	0.5435	0.5078	0.4536	0.1141 (5.05)***	0.0899 (5.04)***
IV-Spread-(Target-Bidder) - (@-42)	0.1504	0.1083	0.1173	0.0768	0.1831	0.1435	-0.0658 (-3.95)***	-0.0667 (-4.75)***
IV-Spread-(Target-Bidder) - (@-2)	0.1733	0.1280	0.1549	0.0942	0.1914	0.1556	-0.0365 (-1.89)*	-0.0614 (-3.24)***
AIV-Bidder	0.3909	0.3505	0.4669	0.4130	0.3160	0.2931	0.1509 (10.61)***	0.1199 (10.65)***
AIV-Target	0.5473	0.4884	0.5968	0.5336	0.4985	0.4474	0.0983 (5.02)***	0.0862 (4.77)***
AIV-Spread (Target-Bidder)	0.15638	0.1174	0.1299	0.0848	0.1914	0.1411	-0.0526 (-3.27)***	-0.0563 (-4.40)***
AIV-Bidder Pre-runup	0.4001	0.3524	0.4798	0.4313	0.3216	0.2995	0.1582 (10.73)***	0.1318 (10.66)***
AIV-Target Pre-runup	0.5546	0.4897	0.6035	0.5497	0.5064	0.4445	0.0971 (4.79)***	0.1052 (5.01)***
AIV-Spread (Target-Bidder) Pre-runup	0.15450	0.1131	0.1237	0.0786	0.1831	0.1402	-0.0611 (-3.61***)	-0.0615 (-4.47)***
VIV-Bidder	0.0382	0.0309	0.0433	0.0349	0.0331	0.0286	0.0102 (4.21)***	0.0063 (3.99)***
VIV-Target	0.0670	0.0495	0.0680	0.0514	0.0660	0.0485	0.002 (0.39)	0.0029 (1.07)
VIV-Spread (Target-Bidder)	0.02878	0.0153	0.0247	0.0110	0.1825	0.0188	-0.0082 (-1.63)	-0.0078 (-2.42)**
VIV-Bidder Pre-runup	0.0409	0.0313	0.0476	0.0333	0.0343	0.0281	0.0133 (4.62)***	0.0052 (3.79)***
VIV-Target Pre-runup	0.0651	0.0470	0.0682	0.0496	0.0621	0.0449	0.0061 (1.06)	0.0047 (0.77)
VIV-Spread (Target-Bidder) Pre-runup	0.02418	0.0130	0.0206	0.0083	0.1848	0.0158	-0.0071 (-1.24)	-0.0075 (-2.53)**

Table 2.4.(Continuity)

Panel C – IBES Divergence of Opinion Related Measures

	All Control Bids (Mean)	All Control Bids (Median)	Non-Cash Only Control Bids (Mean)	Non-Cash Only Control Bids (Median)	Cash Only Control Bids (Mean)	Cash Only Control Bids (Median)	Difference in means between the two subgroups (Non-Cash-Only minus Cash-Only)	Difference in medians between the two subgroups (Non-Cash-Only minus Cash-Only)
Divergence of Opinion – Target (@-12)	0.1249	0.04	0.1754	0.04	0.0743	0.04	0.1011 (1.36)	0.00 (0.17)
Divergence of Opinion – Bidder (@-12)	0.0848	0.03	0.0912	0.03	0.0785	0.04	0.0127 (1.04)	-0.01 (0.63)
Divergence of Opinion – Target (@-2)	0.1023	0.04	0.1278	0.05	0.0770	0.04	0.0507 (2.57)**	0.01 (1.58)
Divergence of Opinion – Bidder (@-2)	0.0999	0.04	0.0936	0.04	0.1062	0.04	-0.0127 (-0.81)	0.00 (-0.69)
Divergence of Opinion – Target (@1)	0.1104	0.045	0.1095	0.04	0.1112	0.05	-0.0016 (-0.06)	-0.01 (0.30)
Divergence of Opinion – Bidder (@1)	0.1157	0.04	0.1099	0.04	0.1215	0.04	-0.0116 (-0.58)	0.00 (0.28)
Target Idiosyncratic Volatility [-256,-2]	0.0305	0.0265	0.0336	0.0300	0.0274	0.0237	0.0063 (5.02)***	0.01 (5.48)***
Target Idiosyncratic Volatility [-256,-43]	0.0303	0.0265	0.0339	0.0299	0.0267	0.0234	0.0072 (5.84)***	0.01 (5.79)***
Target Idiosyncratic Volatility [-43,-2]	0.0289	0.0233	0.0308	0.0257	0.0271	0.0215	0.0038 (2.19)**	0.00 (4.54)***
Acquirer Idiosyncratic Volatility [-256,-2]	0.0213	0.0186	0.0265	0.0223	0.0163	0.0144	0.0102 (11.07)***	0.01 (11.22)***
Acquirer Idiosyncratic Volatility [-256,-43]	0.0215	0.0184	0.0266	0.0226	0.0164	0.0146	0.0103 (10.88)***	0.01 (10.99)***
Acquirer Idiosyncratic Volatility [-43,-2]	0.0196	0.0165	0.0243	0.0202	0.0150	0.0127	0.00925 (9.86)***	0.01 (10.53)***

Table 2-5 Summary of Multivariate Tests' Results

Summary of the results for the main explanatory variables (AIV and VIV) when estimated over the runup period.

Panel A - Acquirer Abnormal Returns (CAR-Bidder)		
Increase in:	Stock and Mixed Offers	Cash-Only Offers
Target Risk (AIV-Target)	No effect	No effect
Bidder Risk (AIV-Bidder)	Decrease	Increase (No effect)
Target Uncertainty about Risk (VIV-Target)	No effect	No effect
Bidder Uncertainty about Risk (VIV-Bidder)	Decrease	No effect
	When both AIV and VIV are included together in the same regression	
Bidder Risk (AIV-Bidder)	Decrease	Increase
Bidder Uncertainty about Risk (VIV-Bidder)	No effect	Decrease
Panel B – Probability of Cash-Only Offer		
Target Risk (AIV-Target)	Decrease	
Bidder Risk (AIV-Bidder)	Decrease	
Target Uncertainty about Risk (VIV-Target)	Decrease	
Bidder Uncertainty about Risk (VIV-Bidder)	Decrease	
	When both AIV and VIV are included together in the same regression	
Target Risk (AIV-Target)	Decrease	
Target Uncertainty about Risk (VIV-Target)	Increase	
Bidder Risk (AIV-Bidder)	Decrease	
Bidder Uncertainty about Risk (VIV-Bidder)	Increase	
Panel B – Probability of Deal Success		
Target Risk (AIV-Target)	No effect	
Bidder Risk (AIV-Bidder)	Decrease	
Target Uncertainty about Risk (VIV-Target)	No effect	
Bidder Uncertainty about Risk (VIV-Bidder)	No effect	
	When both AIV and VIV are included together in the same regression	
Target Risk (AIV-Target)	No effect	
Target Uncertainty about Risk (VIV-Target)	No effect	
Bidder Risk (AIV-Bidder)	Decrease	
Bidder Uncertainty about Risk (VIV-Bidder)	No effect	

Table 2-6 Logistic Model Estimation of the Probability that the deal will be a completed successfully on the Implied Volatility Spread (IV-Spread)

IV-Spread@+2 is constructed as the Target's Implied Volatility estimated two days after the announcement minus the Acquirer's Implied Volatility estimated two days after the announcement for Stock or Mixed Deals and the Target's Implied Volatility estimated two days after the announcement minus zero for Cash-Only Deals. IV-Spread@-42 is constructed as the Target's Implied Volatility estimated 42 days before the announcement minus the Acquirer's Implied Volatility estimated 42 days before the announcement for Stock or Mixed Deals and as the Target's Implied Volatility estimated 42 days before the announcement minus zero for Cash-Only Deals. The IV-Spread-Ratio is equal to the ratio of the IV-Spread@+2 divided by IV-Spread@-42. Target Size is the logarithm of the target (acquirer) market value of equity 42 days before the announcement and target turnover is the ratio of target volume to share outstanding estimated 42 days before the announcement. Target (acquirer) B/M is constructed as the ratio of the nearest target stock book value divided by the target stock price 42 days before the announcement. Target runup is defined as the ratio of the target (acquirer) price two days before the announcement divided by the target (acquirer) price 42 days before the announcement [$(P_{-2} / P_{-42}) - 1$]. Target markup is defined as the ratio of the offer price divided by the target (acquirer) price two days before the announcement [(Offer-Price / P_{-2}) - 1]. NYSE/AMEX, Collar, Tender Offer, Cash-Only, Hostile, Rumor, and Complete are dummy variables that respectively take the value of 1 if the Target is listed on NYSE/AMEX, the deal has a collar, the deal is a tender offer, the deal is financed by Cash only, the deal is hostile, the deal is preceded by a rumor, and the deal is completed successfully. Horizontal is a dummy variable that takes a value of 1 if the bidder and target share the same four-digit Standard Industrial Classification (SIC) Code. The Toehold dummy takes a value of one if the bidder own more than 5% of target before the announcement day. Multibid dummy takes a value of 1 if there are multiple Bidders within the same contest (a contest is a 6-Month period from the first bidder's bid). The p-values are given underneathand are the MLE p-values *, **, *** indicate significance at 1%, 5%, and 10% respectively.

	1	2	3	4
Constant	-0.623	-0.057	-0.6104	0.5245
(p-value)	(0.7473)	(0.9767)	(0.7536)	(0.7877)
IV-Spread@+2		-0.8855*		-4.1239***
(p-value)		(0.0755)		(0.0018)
(IV-Spread@+2)^2			-0.0259	2.824**
(p-value)			(0.9488)	(0.0211)
Target Size	0.2464*	0.2031	0.2455*	0.1566
(p-value)	(0.0774)	(0.15)	(0.0801)	(0.2652)
Target Turnover	-0.00032	-0.0003	-0.00032	-0.00089
(p-value)	(0.9246)	(0.933)	(0.9262)	(0.8284)
Target NYSE/Amex	-0.551*	-0.5721*	-0.5512*	-0.6377*
(p-value)	(0.0876)	(0.0761)	(0.0874)	(0.0506)
Target B/M	-0.7347**	-0.6772*	-0.7326**	-0.7468**
(p-value)	(0.0416)	(0.0609)	(0.043)	(0.0353)
Target Runup	0.8015	0.7755	0.8025	0.5937
(p-value)	(0.2035)	(0.2205)	(0.2032)	(0.343)
Target Markup	-0.4282	-0.4296	-0.4284	-0.3886
(p-value)	(0.3369)	(0.3355)	(0.3367)	(0.3798)
Collar	0.7531	0.6611	0.7525	0.4428
(p-value)	(0.2431)	(0.3062)	(0.2436)	(0.4894)
Toehold Exist	-1.4348**	-1.4139**	-1.4365**	-1.1639*
(p-value)	(0.0392)	(0.0402)	(0.0391)	(0.0873)
Horizontal	-0.1016	-0.0588	-0.0998	-0.1217
(p-value)	(0.749)	(0.8546)	(0.7544)	(0.7049)
Tender Offer	1.3744***	1.4123***	1.3768***	1.2638***
(p-value)	(0.001)	(0.0008)	(0.0011)	(0.0033)
Cash Bid	0.1456	0.35	0.1457	1.0692***
(p-value)	(0.6251)	(0.272)	(0.6248)	(0.0097)
Hostile	-3.634***	-3.5659***	-3.6347***	-3.2629***
(p-value)	(<.0001)	(<.0001)	(<.0001)	(<.0001)
Multiple Bidders	-2.7525***	-2.7726***	-2.7533***	-2.7801***

(p-value)	(<.0001)	(<.0001)	(<.0001)	(<.0001)
Rumor	0.4967	0.5559	0.4976	0.6898
(p-value)	(0.4354)	(0.3907)	(0.4348)	(0.3038)
Pseudo-R^2	0.1985	0.2024	0.1985	0.2136
Year Dummies	No	No	No	No
Industry Dummies	No	No	No	No
Number of Cases	572	572	572	572

Table 2-7 Logistic Model Estimation of the Probability that the deal will be completed successfully on the Implied Volatility Spread (IV-Spread)

IV-Spread@+2 is constructed as the Target's Implied Volatility estimated two days after the announcement minus the Acquirer's Implied Volatility estimated two days after the announcement for Stock or Mixed Deals and the Target's Implied Volatility estimated two days after the announcement minus zero for Cash-Only Deals. IV-Spread@-42 is constructed as the Target's Implied Volatility estimated 42 days before the announcement minus the Acquirer's Implied Volatility estimated 42 days before the announcement for Stock or Mixed Deals and as the Target's Implied Volatility estimated 42 days before the announcement minus zero for Cash-Only Deals. The IV-Spread-Ratio is equal to the ratio of the IV-Spread@+2 divided by IV-Spread@-42. Target Size is the logarithm of the target (acquirer) market value of equity 42 days before the announcement and target turnover is the ratio of target volume to share outstanding estimated 42 days before the announcement. Target (acquirer) B/M is constructed as the ratio of the nearest target stock book value divided by the target stock price 42 days before the announcement. Target runup is defined as the ratio of the target (acquirer) price 2 days before the announcement divided by the target (acquirer) price 42 days before the announcement [$(P_{-2} / P_{-42}) - 1$]. Target markup is defined as the ratio of the offer price divided by the target (acquirer) price 2 days before the announcement [$(\text{Offer-Price} / P_{-2}) - 1$]. NYSE/AMEX, Collar, Tender Offer, Cash-Only, Hostile, Rumor, and Complete are dummy variables that respectively take the value of 1 if the Target is listed on NYSE/AMEX, the deal has a collar, the deal is a tender offer, the deal is financed by Cash only, the deal is hostile, the deal is preceded by a rumor and the deal is completed successfully. Horizontal is a dummy variable that takes a value of 1 if the bidder and target share the same four-digit Standard Industrial Classification (SIC) Code. The Toehold dummy takes a value of one if the bidder own more than 5% of target before the announcement day. Multibid dummy takes a value of 1 if there are multiple Bidders within the same contest (a contest is a 6-Month period from the first bidder bid). The p-values are given underneath and are the MLE p-values. The *, **, *** indicate significance at 1%, 5%, and 10% respectively.

	1	2	3	4	5	6
Constant	-0.8015	-0.6298	-0.8637	-0.4701	-0.6525	-0.6229
(p-value)	(0.6859)	(0.7459)	(0.6698)	(0.8084)	(0.7369)	(0.75)
IV-Spread@-42	0.3688		0.5102			
(p-value)	(0.6168)		(0.676)			
(IV-Spread@-42)^2		0.1843	-0.1385			
(p-value)		(0.7525)	(0.8841)			
IV-Spread-Ratio				-0.0592*		-0.0728**
(p-value)				(0.0623)		(0.025)
(IV-Spread-Ratio)^2					-0.00173	-0.00145
(p-value)					(0.448)	(0.2128)
Target Size	0.2585*	0.2476*	0.2622*	0.2411*	0.2507*	0.2537*
(p-value)	(0.0696)	(0.077)	(0.07)	(0.0849)	(0.0733)	(0.0726)
Target Turnover	-0.00058	-0.00047	-0.00058	-0.00043	-0.00038	-0.0005
(p-value)	(0.8636)	(0.8905)	(0.8656)	(0.9023)	(0.9105)	(0.8856)
Target NYSE/Amex	-0.5358*	-0.5348	-0.5421*	-0.5843*	-0.5592*	-0.6058*
(p-value)	(0.0979)	(0.1012)	(0.097)	(0.0724)	(0.0835)	(0.0641)
Target B/M	-0.7553**	-0.7687**	-0.7382*	-0.7632**	-0.7258	-0.7322**
(p-value)	(0.0425)	(0.0443)	(0.0575)	(0.0339)	(0.0449)	(0.0428)
Target Runup	0.772	0.8021	0.7606	0.8258	0.8398	0.8866
(p-value)	(0.2246)	(0.2054)	(0.2339)	(0.1924)	(0.1848)	(0.1639)
Target Markup	-0.4564	-0.4384	-0.4596	-0.4684	-0.4312	-0.4694
(p-value)	(0.3115)	(0.3281)	(0.3083)	(0.2909)	(0.3362)	(0.2919)
Collar	0.724	0.7436	0.7199	0.5507	0.7827	0.6908
(p-value)	(0.2645)	(0.2497)	(0.2679)	(0.3764)	(0.2385)	(0.2891)
Toehold Exist	-1.4629**	-1.4465**	-1.465**	-1.6762**	-1.4065**	-1.5273**
(p-value)	(0.0369)	(0.038)	(0.0369)	(0.0148)	(0.0498)	(0.0308)
Horizontal	-0.102	-0.1	-0.1031	-0.0753	-0.0805	-0.0155
(p-value)	(0.7484)	(0.753)	(0.7456)	(0.8127)	(0.8009)	(0.9617)
Tender Offer	1.3281***	1.3429***	1.3336***	1.357***	1.3687***	1.3481***
(p-value)	(0.0018)	(0.0017)	(0.0019)	(0.0012)	(0.0011)	(0.0012)
Cash Bid	0.00669	0.1046	-0.0161	0.1471	0.1059	0.1024
(p-value)	(0.9869)	(0.747)	(0.9706)	(0.6248)	(0.7264)	(0.7352)
Hostile	-3.6195***	-3.6147***	-3.6281***	-3.5555***	-3.6075***	-3.5834***
(p-value)	(<.0001)	(<.0001)	(<.0001)	(<.0001)	(<.0001)	(<.0001)
Multiple Bidders	-2.7403***	-2.7511***	-2.7368***	-2.7683***	-2.7397***	-2.738***
(p-value)	(<.0001)	(<.0001)	(<.0001)	(<.0001)	(<.0001)	(<.0001)
Rumor	0.4771	0.4906	0.4741	0.482	0.4803	0.4484
(p-value)	(0.4549)	(0.4413)	(0.4581)	(0.4518)	(0.4511)	(0.485)
Pseudo -R^2	0.1989	0.1987	0.1989	0.2033	0.1996	0.2057
Year Dummies	No	No	No	No	No	No
Industry Dummies	No	No	No	No	No	No
Number of Cases	572	284	288	572	284	288

Table 2-8 Cross-sectional Regression of Bidder Announcement CAR on AIV-Target and VIV-Target

Cross-sectional regressions of the Bidder Announcement CAR on the Target Average Implied Volatility (AIV-Target) and the Target Volatility of Implied Volatility (VIV-Target). Bidder CAR is equal to the sum of Bidder Abnormal Return ($AR_{i,t}$) estimated over the announcement period [-1,+1]. ARi,t is equal to $ER_{i,t} - (\alpha_i + \beta_i ER_{M,t})$. $ER_{i,t}$ is the bidder company 'i' return on day 't' above the risk free rate on that day. $ER_{M,t}$ is the CRSP Value Weighted Index return on day 't' in excess of the risk free rate on that day. The model's components (α_i, β_i) are obtained by estimating the model $(R_{i,t} = \alpha_i + \beta_i R_{M,t} + e_{i,t})$ over the [-256; -43]. The AIV-Target and VIV-Target are the mean and standard deviation of the Implied Volatilities of Target firms estimated over the runup period [-42,-2]. Target Size is the logarithm of the target market value of equity 42 days before the announcement and target turnover is the ratio of target volume to share outstanding estimated 42 days before the announcement. Target B/M is constructed as the ratio of the nearest target stock book value divided by the target stock price 42 days before the announcement. Target runup is defined as the ratio of the target price 2 days before the announcement divided by the target price 42 days before the announcement [$(P_{-2} / P_{-42}) - 1$]. Target markup is defined as the ratio of the offer price divided by the target price 2 days before the announcement [(Offer-Price / P_{-2}) - 1]. NYSE/AMEX, Collar, Tender Offer, Cash-Only, Hostile, Rumor, and Complete are dummy variables that respectively take the value of 1 if the Target is listed on NYSE/AMEX, the deal has a collar, the deal is a tender offer, the deal is financed by Cash only, the deal is hostile, the deal is preceded by a rumor and the deal is completed successfully. Horizontal is a dummy variable that takes a value of 1 if the bidder and target share the same four-digit Standard Industrial Classification (SIC) Code. The Toehold dummy takes a value of one if the bidder own more than 5% of target before the announcement day. Multibid dummy takes a value of 1 if there are multiple Bidders within the same contest (a contest is a 6-Month period from the first bidder's bid). Industry and year dummies corresponding to the target two-digit SIC codes and to the announcement year. The p-values are given underneath and are the White Heteroscedasticity consistent p-values. The *, **, *** indicate significance at 1%, 5%, and 10% respectively.

Deal-Type	All Control Bids	Non-Cash-Only Control Bids	Cash-Only Control Bids	All Control Bids	Non-Cash-Only Control Bids	Cash-Only Control Bids
Constant	0.13238**	0.08494	0.1029*	0.1017**	0.0344	0.12271**
(p-value)	(0.0176)	(0.348)	(0.0728)	(0.0457)	(0.6612)	(0.025)
AIV-Target	-0.02638	-0.03868	0.01672			
(p-value)	(0.1401)	(0.1382)	(0.4101)			
VIV-Target				-0.03586	-0.06068	-0.00499
(p-value)				(0.4189)	(0.4175)	(0.919)
Target Size	-0.0105***	-0.01141**	-0.00558	-0.0091***	-0.00955**	-0.00681**
(p-value)	(0.0008)	(0.0214)	(0.1206)	(0.0021)	(0.0458)	(0.0448)
Target Turnover	-0.0001356***	-0.0001452**	-2.52E-05	-0.0001528***	-0.0001654***	1.45E-06
(p-value)	(0.0078)	(0.0145)	(0.6915)	(0.0007)	(0.0018)	(0.9812)
Target NYSE/Amex	0.00374	-0.0006764	-0.0001118	0.00502	0.00207	-0.0008239
(p-value)	(0.6189)	(0.959)	(0.9892)	(0.5027)	(0.8739)	(0.92)
Target B/M	-0.00751	-0.02086	-0.00548	-0.00722	-0.0201	-0.00488
(p-value)	(0.3642)	(0.1837)	(0.4923)	(0.3709)	(0.2003)	(0.5393)
Target Runup	0.0028	0.01315	-0.00667	0.00395	0.01424	-0.00578
(p-value)	(0.86)	(0.6252)	(0.6165)	(0.8054)	(0.5998)	(0.6822)
Target Markup	-0.03284***	-0.02708	-0.0384***	-0.03417***	-0.02902*	-0.03616***
(p-value)	(0.0058)	(0.1)	(0.0019)	(0.0033)	(0.0745)	(0.004)
Collar	-0.02831*	-0.03744**	0.02249	-0.02744*	-0.0361**	0.02321
(p-value)	(0.0553)	(0.0242)	(0.3366)	(0.0645)	(0.0302)	(0.3276)
Toehold Exist	0.01311	0.05221*	0.00363	0.01309	0.0542*	0.0025
(p-value)	(0.4412)	(0.0758)	(0.8811)	(0.4463)	(0.0651)	(0.9192)
Horizontal	0.00618	-0.00291	0.0124	0.00589	-0.00402	0.01191
(p-value)	(0.3854)	(0.7985)	(0.11)	(0.4096)	(0.7239)	(0.121)
Tender Offer	0.00267	0.01931	-0.00234	0.00205	0.02003	-0.0014
(p-value)	(0.6817)	(0.2407)	(0.7277)	(0.7511)	(0.2339)	(0.8338)
Cash Bid	0.02932***			0.03037***		
(p-value)	(<.0001)			(<.0001)		
Hostile	-0.0106	0.0177	-0.03454*	-0.0106	0.01912	-0.03359*
(p-value)	(0.5889)	(0.6124)	(0.0785)	(0.5916)	(0.59)	(0.09)
Multiple Bidders	0.00947	0.03102	-0.01442	0.01132	0.03365	-0.01428
(p-value)	(0.379)	(0.1276)	(0.2356)	(0.2999)	(0.1045)	(0.2428)
Rumor	0.00657	0.01048	-0.00776	0.00495	0.00732	-0.00691
(p-value)	(0.5176)	(0.544)	(0.5363)	(0.6205)	(0.6745)	(0.5751)
Complete	0.03037***	0.0439***	0.00957	0.03098***	0.04467***	0.01051
(p-value)	(0.0055)	(0.0053)	(0.4656)	(0.0048)	(0.0043)	(0.4257)
Adj-R^2	0.207	0.1603	0.0711	0.2046	0.1553	0.0693
Year Dummies	Yes	Yes	Yes	Yes	Yes	Yes
Industry Dummies	Yes	Yes	Yes	Yes	Yes	Yes
Number of Cases	572	284	288	572	284	288

Table 2-9 Cross-sectional Regression of Bidder Announcement CAR on AIV-Bidder and VIV-Bidder

Cross-sectional regressions of the Bidder Announcement CAR on the Bidder Average Implied Volatility (AIV-Bidder) and the Bidder Volatility of Implied Volatility (VIV-Bidder). Bidder CAR is equal to the sum of Bidder Abnormal Return ($AR_{i,t}$) estimated over the announcement period [-1,+1]. ARi,t is equal to $ER_{i,t} - (\alpha_i + \beta_i ER_{M,t})$. $ER_{i,t}$ is the bidder company 'i' return on day 't' above the risk free rate on that day. $ER_{M,t}$ is the CRSP Value Weighted Index return on day 't' in excess of the risk free rate on that day. The model's components (α_i, β_i) are obtained by estimating the model $(R_{i,t} = \alpha_i + \beta_i R_{M,t} + e_{i,t})$ over the [-256; -43]. The AIV-Target and VIV-Target are the mean and standard deviation of the Implied Volatilities of Bidder Companies estimated over the runup period [-42,-2]. Target Size is the logarithm of the target market value of equity 42 days before the announcement and target turnover is the ratio of the target volume to share outstanding estimated 42 days before the announcement. Target B/M is constructed as the ratio of the nearest target stock book value divided by the target stock price 42 days before the announcement. Target runup is defined as the ratio of the target price 2 days before the announcement divided by the target price 42 days before the announcement [(P_{-2} / P_{-42}) - 1]. Target markup is defined as the ratio of the offer price divided by the target price 2 days before the announcement [(Offer-Price / P_{-2}) - 1]. NYSE/AMEX, Collar, Tender Offer, Cash-Only, Hostile, Rumor, and Complete are dummy variables that respectively take the value of 1 if the Target is listed on NYSE/AMEX, the deal has a collar, the deal is a tender offer, the deal is financed by Cash only, the deal is hostile, the deal is preceded by a rumor and the deal is completed successfully. Horizontal is a dummy variable that takes a value of 1 if the bidder and target share the same four-digit Standard Industrial Classification (SIC) Code. The Toehold dummy takes a value of one if the bidder own more than 5% of target before the announcement day. Multibid dummy takes a value of 1 if there are multiple Bidders within the same contest (a contest is a 6-Month period from the first bidder's bid). Industry and year dummies corresponding to the target two-digit SIC codes and to the announcement year. The p-values are given underneath and are the White Heteroscedasticity consistent p-values. The *, **, *** indicate significance at 1%, 5%, and 10% respectively.

Deal-Type	All Control Bids	Non-Cash-Only Control Bids	Cash-Only Control Bids	All Control Bids	Non-Cash-Only Control Bids	Cash-Only Control Bids
Constant	0.15464***	0.13454*	0.08832	0.10791**	0.03314	0.12943**
(p-value)	(0.0033)	(0.0799)	(0.1495)	(0.0269)	(0.6478)	(0.0193)
AIV-Bidder	-0.08892***	-0.1388***	0.05421			
(p-value)	(0.0015)	(0.0002)	(0.1865)			
VIV-Bidder				-0.35715**	-0.50362**	-0.10739
(p-value)				(0.0103)	(0.011)	(0.4967)
Target Size	-0.01018***	-0.01143**	-0.00568*	-0.00858***	-0.00755*	-0.00706**
(p-value)	(0.0004)	(0.0148)	(0.0983)	(0.0021)	(0.0931)	(0.0369)
Target Turnover	-0.0001219**	-0.0001038	3.85E-06	-0.0001376***	-0.0001328*	-9.20E-07
(p-value)	(0.018)	(0.19)	(0.9466)	(0.005)	(0.0524)	(0.9879)
Target NYSE/Amex	0.00286	-0.00677	-0.0014	0.00303	-0.00429	-0.0008191
(p-value)	(0.7008)	(0.6024)	(0.8629)	(0.6812)	(0.7352)	(0.9205)
Target B/M	-0.00646	-0.02271	-0.00655	-0.00657	-0.02023	-0.00426
(p-value)	(0.417)	(0.1409)	(0.4038)	(0.4147)	(0.1911)	(0.5936)
Target Runup	0.00118	0.01315	-0.0042	0.00328	0.01399	-0.00586
(p-value)	(0.9391)	(0.6083)	(0.7553)	(0.8327)	(0.5931)	(0.6637)
Target Markup	-0.03359***	-0.0266*	-0.03585***	-0.03363***	-0.0288*	-0.03561***
(p-value)	(0.0035)	(0.0852)	(0.0029)	(0.0039)	(0.0679)	(0.0034)
Collar	-0.03233**	-0.0424***	0.01978	-0.02822**	-0.03329**	0.0232
(p-value)	(0.0224)	(0.005)	(0.3736)	(0.0441)	(0.0346)	(0.3265)
Toehold Exist	0.00769	0.04387	0.00213	0.0091	0.0486*	0.00226
(p-value)	(0.652)	(0.1378)	(0.936)	(0.5921)	(0.0956)	(0.9247)
Horizontal	0.00927	0.00306	0.01068	0.00893	0.00133	0.01244
(p-value)	(0.1925)	(0.7817)	(0.1634)	(0.2042)	(0.9069)	(0.1079)
Tender Offer	0.0007335	0.01117	-0.00194	0.0009684	0.01831	-0.00164
(p-value)	(0.9088)	(0.5021)	(0.7691)	(0.8786)	(0.2551)	(0.8058)
Cash Bid	0.02235***			0.02732***		
(p-value)	(0.0014)			(<.0001)		
Hostile	-0.00776	0.02382	-0.03782*	-0.01048	0.01389	-0.03174
(p-value)	(0.6839)	(0.4619)	(0.0577)	(0.592)	(0.7029)	(0.1123)
Multiple Bidders	0.01271	0.03535*	-0.0169	0.01078	0.03342	-0.0143
(p-value)	(0.2542)	(0.0928)	(0.1565)	(0.3225)	(0.1117)	(0.2425)
Rumor	0.00358	-0.0001633	-0.008	0.00433	0.00596	-0.00626
(p-value)	(0.7178)	(0.9923)	(0.5078)	(0.6627)	(0.7147)	(0.6079)
Complete	0.02741**	0.03737**	0.01001	0.03072***	0.04388***	0.01095
(p-value)	(0.0121)	(0.0191)	(0.4336)	(0.0047)	(0.0055)	(0.406)
Adj-R^2	0.228	0.2194	0.0776	0.2186	0.1825	0.0706
Year Dummies	Yes	Yes	Yes	Yes	Yes	Yes
Industry Dummies	Yes	Yes	Yes	Yes	Yes	Yes
Number of Cases	572	284	288	572	284	288

Table 2-10 Cross-sectional Regression of Bidder Announcement CAR on AIV-Bidder and VIV-Bidder

Cross-sectional regressions of the Bidder Announcement CAR on the Bidder Average Implied Volatility (AIV-Bidder) and the Bidder Volatility of Implied Volatility (VIV-Bidder). Bidder CAR is equal to the sum of Bidder Abnormal Return ($AR_{i,t}$) estimated over the announcement period [-1,+1]. ARi,t is equal to $ER_{i,t} - (\alpha_i + \beta_i ER_{M,t})$. $ER_{i,t}$ is the bidder company 'i' return on day 't' above the risk free rate on that day. $ER_{M,t}$ is the CRSP Value Weighted Index return on day 't' in excess of the risk free rate on that day. The models' components (α_i, β_i) are obtained by estimating the model $(R_{i,t} = \alpha_i + \beta_i R_{M,t} + e_{i,t})$ over the [-256; -43]. The AIV-Target and VIV-Target are the mean and standard deviation of the Implied Volatilities of Bidder Companies estimated over the runup period [-42,-2]. Target Size is the logarithm of the target market value of equity 42 days before the announcement and target turnover is the ratio of target volume to share outstanding estimated 42 days before the announcement. Target B/M is constructed as the ratio of the nearest target stock book value divided by the target stock price 42 days before the announcement. Target runup is defined as the ratio of the target price 2 days before the announcement divided by the target price 42 days before the announcement [(P_{-2} / P_{-42}) - 1]. Target markup is defined as the ratio of the offer price divided by the target price 2 days before the announcement [(Offer-Price / P_{-2}) - 1]. NYSE/AMEX, Collar, Tender Offer, Cash-Only, Hostile, Rumor, and Complete are dummy variables that respectively take the value of 1 if the Target is listed on NYSE/AMEX, the deal has a collar, the deal is a tender offer, the deal is financed by Cash only, the deal is hostile, the deal is preceded by a rumor and the deal is completed successfully. Horizontal is a dummy variable that takes a value of 1 if the bidder and target share the same four-digit Standard Industrial Classification (SIC) Code. The Toehold dummy takes a value of one if the bidder own more than 5% of target before the announcement day. Multibid dummy takes a value of 1 if there are multiple Bidders within the same contest (a contest is a 6-Month period from the first bidder's bid). Industry and year dummies corresponding to the target two-digit SIC codes and to the announcement year. The p-values are given underneath and are the White Heteroscedasticity consistent p-values. The *, **, *** indicate significance at 1%, 5%, and 10% respectively.

Deal-Type	All Control Bids	Non-Cash-Only Control Bids	Cash-Only Control Bids
Constant	0.14938***	0.13078*	0.08658
(p-value)	(0.0042)	(0.0895)	(0.158)
AIV-Bidder	-0.07364**	-0.13283***	0.09827**
(p-value)	(0.0377)	(0.0057)	(0.0473)
VIV-Bidder	-0.13098	-0.05293	-0.38344*
(p-value)	(0.4551)	(0.8341)	(0.0554)
Target Size	-0.00989***	-0.01117**	-0.0058*
(p-value)	(0.0006)	(0.0183)	(0.0868)
Target Turnover	-0.0001208**	-0.0001025	2.09E-06
(p-value)	(0.0206)	(0.1994)	(0.9706)
Target NYSE/Amex	0.00249	-0.00705	-0.00203
(p-value)	(0.7368)	(0.5836)	(0.805)
Target B/M	-0.00625	-0.02251	-0.0053
(p-value)	(0.4321)	(0.1427)	(0.4928)
Target Runup	0.00155	0.01312	-0.00169
(p-value)	(0.9199)	(0.6088)	(0.9004)
Target Markup	-0.03354***	-0.02674*	-0.03268***
(p-value)	(0.0036)	(0.0835)	(0.0067)
Collar	-0.03187**	-0.04181***	0.01704
(p-value)	(0.022)	(0.0059)	(0.427)
Toehold Exist	0.00723	0.04383	0.0003644
(p-value)	(0.6713)	(0.138)	(0.9887)
Horizontal	0.0098	0.00334	0.0115
(p-value)	(0.164)	(0.7602)	(0.1278)
Tender Offer	0.000625	0.0115	-0.00323
(p-value)	(0.922)	(0.4864)	(0.6219)
Cash Bid	0.02252***		
(p-value)	(0.0012)		
Hostile	-0.00818	0.023	-0.03416*
(p-value)	(0.6691)	(0.4826)	(0.0851)
Multiple Bidders	0.0124	0.03527*	-0.01831
(p-value)	(0.264)	(0.0925)	(0.1141)
Rumor	0.00359	-2.779E-05	-0.00663
(p-value)	(0.7175)	(0.9987)	(0.5803)
Complete	0.02796***	0.03759**	0.01182
(p-value)	(0.0097)	(0.0173)	(0.3465)
Adj-R^2	0.2277	0.216	0.0851
Year Dummies	Yes	Yes	Yes
Industry Dummies	Yes	Yes	Yes
Number of Cases	572	284	288

Table 2-11 Logistic Model Estimation of the Probability that the deal will be a cash-only offer versus a deal being a non-cash-only offer

The AIV-Bidder (Target) and VIV- Bidder (Target) are the mean and standard deviation of the Implied Volatilities of Bidder (Target) Companies estimated over the runup period [-42,-2]. Target (Acquirer) Size is the logarithm of the target (acquirer) market value of equity 42 days before the announcement and target (acquirer) turnover is the ratio of the target (acquirer) volume to share outstanding estimated 42 days before the announcement. Target (acquirer) B/M is constructed as the ratio of the nearest target stock book value divided by the target stock price 42 days before the announcement. Relative size is the ratio of the target size divided by the acquirer size (in log terms). NYSE/AMEX, Collar, Tender Offer, Cash-Only, Hostile, Rumor, and Complete are dummy variables that respectively take the value of 1 if the Target (Acquirer) is listed on NYSE/AMEX, the deal has a collar, the deal is a tender offer, the deal is financed by Cash only, the deal is hostile, the deal is preceded by a rumor and the deal is completed successfully. Horizontal is a dummy variable that takes a value of 1 if the bidder and target share the same four-digit Standard Industrial Classification (SIC) Code. The Toehold dummy takes a value of one if the bidder own more than 5% of target before the announcement day. Multibid dummy takes a value of 1 if there are multiple Bidders within the same contest (a contest is a 6-Month period from the first bidder's bid). The p-values are given underneath and are the MLE p-values. The *, **, *** indicate significance at 1%, 5%, and 10% respectively.

Independent Variable	AIV-Target	VIV-Target	AIV-Target and VIV-Target	AIV-Bidder	VIV-Bidder	AIV-Bidder and VIV-Bidder
Constant	2.2361	2.2373	1.6222	4.836	1.4451	5.8315
(p-value)	(0.8157)	(0.7977)	(0.8681)	(0.5861)	(0.8676)	(0.5123)
AIV-Variable	-5.1206***		-5.654***	-7.9795***		-9.3065***
(p-value)	(<.0001)		(<.0001)	(<.0001)		(<.0001)
VIV-Variable		-3.1006*	3.137*		-11.978***	11.5761**
(p-value)		(0.0571)	(0.0912)		(0.0066)	(0.0319)
Target Size	-0.7274	0.0832	-0.781	-0.2103	0.0656	-0.1858
(p-value)	(0.2751)	(0.8886)	(0.2501)	(0.7275)	(0.9116)	(0.7581)
Target Turnover	0.00201	-0.00057	0.002	0.000284	-0.00072	0.000335
(p-value)	(0.4426)	(0.8527)	(0.445)	(0.9276)	(0.8193)	(0.9141)
Target NYSE/Amex	-0.2984	-0.1324	-0.2941	-0.1252	-0.175	-0.0715
(p-value)	(0.2559)	(0.5919)	(0.2615)	(0.6345)	(0.4808)	(0.788)
Target B/M	0.3926	0.055	0.3334	0.4222	0.0776	0.4125
(p-value)	(0.26)	(0.859)	(0.3519)	(0.2056)	(0.7997)	(0.2266)
Acquirer Size	0.6518	0.145	0.7006	0.1894	0.1739	0.1428
(p-value)	(0.2644)	(0.7818)	(0.2392)	(0.7222)	(0.7385)	(0.789)
Acquirer Turnover	-0.00908	-0.0154*	-0.00927	0.0133	-0.0106	0.0129
(p-value)	(0.4116)	(0.0956)	(0.4077)	(0.2428)	(0.2753)	(0.2395)
Acquirer NYSE/Amex	-0.2519	-0.014	-0.2653	-0.2593	-0.0554	-0.2629
(p-value)	(0.2754)	(0.948)	(0.2514)	(0.2616)	(0.7971)	(0.2572)
Acquirer B/M	0.9154*	0.9883**	0.8593*	0.5744	1.0256**	0.4283
(p-value)	(0.0603)	(0.03)	(0.0804)	(0.2589)	(0.0253)	(0.4084)
Relative Size	-0.346	-6.6311	0.4531	-2.9401	-5.7376	-3.5099
(p-value)	(0.974)	(0.4897)	(0.9666)	(0.7625)	(0.5478)	(0.718)
Collar	-2.4928***	-2.4632***	-2.488***	-2.533***	-2.4474***	-2.5183***
(p-value)	(0.0002)	(0.0001)	(0.0003)	(0.0001)	(0.0001)	(0.0002)
Toehold Exist	-0.6262	-0.7448	-0.6577	-0.6459	-0.8407	-0.5926
(p-value)	(0.3973)	(0.3227)	(0.3799)	(0.3674)	(0.256)	(0.4118)
Horizontal	-0.5996**	-0.6956***	-0.5855**	-0.5494**	-0.6414***	-0.5529**
(p-value)	(0.0195)	(0.004)	(0.0228)	(0.0343)	(0.0083)	(0.034)
Tender Offer	1.7639***	1.5112***	1.7685***	1.6474***	1.467***	1.6862***
(p-value)	(<.0001)	(<.0001)	(<.0001)	(<.0001)	(<.0001)	(<.0001)
Hostile	-0.2225	-0.4459	-0.18	-0.0401	-0.397	0.00143
(p-value)	(0.6983)	(0.4333)	(0.7542)	(0.9467)	(0.4799)	(0.9981)
Multiple Bidders	0.7593**	0.9959***	0.711**	0.9925***	0.9052***	1.0198***
(p-value)	(0.0321)	(0.0044)	(0.0469)	(0.0063)	(0.0097)	(0.0051)
Rumor	0.5168	0.3474	0.5293	0.2133	0.3703	0.1699
(p-value)	(0.2231)	(0.3903)	(0.2139)	(0.6066)	(0.3631)	(0.681)
Adj-R^2	0.3536	0.2726	0.3568	0.3647	0.2784	0.3703
Year Dummies	No	No	No	No	No	No
Industry Dummies	No	No	No	No	No	No
Number of Cases	572	572	572	572	572	572

Table 2-12 Logistic Model Estimation of the Probability that the deal will be completed successfully on AIV- (Bidder) Target and VIV- (Bidder) Target

The AIV-Bidder (Target) and VIV- Bidder (Target) are the mean and standard deviation of the Implied Volatilities of Bidder (Target) Companies estimated over the runup period [-42,-2]. Target Size is the logarithm of the target (acquirer) market value of equity 42 days before the announcement and target turnover is the ratio of the target volume to share outstanding estimated 42 days before the announcement. Target (acquirer) B/M is constructed as the ratio of the nearest target stock book value divided by the target stock price 42 days before the announcement. Target runup is defined as the ratio of the target (acquirer) price 2 days before the announcement divided by the target (acquirer) price 42 days before the announcement [$(P_{-2} / P_{-42}) - 1$]. Target markup is defined as the ratio of the offer price divided by the target (acquirer) price 2 days before the announcement [(Offer-Price / P_{-2}) - 1]. NYSE/AMEX, Collar, Tender Offer, Cash-Only, Hostile, Rumor, and Complete are dummy variables that respectively take the value of 1 if the Target is listed on NYSE/AMEX, the deal has a collar, the deal is a tender offer, the deal is financed by Cash only, the deal is hostile, the deal is preceded by a rumor and the deal is completed successfully. Horizontal is a dummy variable that takes a value of 1 if the bidder and target share the same four-digit Standard Industrial Classification (SIC) Code. The Toehold dummy takes a value of one if the bidder own more than 5% of target before the announcement day. Multibid dummy takes a value of 1 if there are multiple Bidders within the same contest (a contest is a 6-Month period from the first bidder's bid). The p-values are given underneath and are the MLE p-values. The *, **, *** indicate significance at 1%, 5%, and 10% respectively.

Deal-Type	AIV-Target	VIV-Target	AIV-Target and VIV-Target	AIV-Bidder	VIV-Bidder	AIV-Bidder and VIV-Bidder
Constant	0.4534	-1.0295	0.1545	0.3574	-0.4327	0.3819
(p-value)	(0.8325)	(0.6119)	(0.9433)	(0.859)	(0.8237)	(0.8501)
AIV-Variable	-0.7369		-1.0075	-1.4645*		-1.6132*
(p-value)	(0.2688)		(0.1523)	(0.0649)		(0.0924)
VIV-Variable		1.7825	3.0568		-3.6861	1.6673
(p-value)		(0.4932)	(0.2843)		(0.4476)	(0.7844)
Target Size	0.1986	0.2685*	0.2188	0.2244	0.2436*	0.2225
(p-value)	(0.1694)	(0.062)	(0.1359)	(0.111)	(0.0799)	(0.1152)
Target Turnover	0.000484	-0.00054	0.000375	0.000113	-0.00024	0.000113
(p-value)	(0.8997)	(0.8735)	(0.9223)	(0.9755)	(0.9444)	(0.9756)
Target NYSE/Amex	-0.6276*	-0.5361*	-0.6334*	-0.6673**	-0.588*	-0.6601**
(p-value)	(0.0575)	(0.0985)	(0.0573)	(0.0433)	(0.0719)	(0.0462)
Target B/M	-0.6849*	-0.7667**	-0.7165**	-0.6569*	-0.7063*	-0.6618*
(p-value)	(0.0522)	(0.0353)	(0.0424)	(0.0711)	(0.051)	(0.0696)
Target Runup	0.7718	0.7567	0.679	0.7531	0.7896	0.7526
(p-value)	(0.2146)	(0.2333)	(0.2785)	(0.2185)	(0.2052)	(0.22)
Target Markup	-0.379	-0.4183	-0.3456	-0.389	-0.4315	-0.3847
(p-value)	(0.393)	(0.3492)	(0.4368)	(0.3798)	(0.3329)	(0.3851)
Collar	0.7467	0.769	0.7708	0.7066	0.7522	0.7009
(p-value)	(0.2482)	(0.2327)	(0.2323)	(0.2776)	(0.244)	(0.2823)
Toehold Exist	-1.4222**	-1.471**	-1.4744**	-1.5252**	-1.4807**	-1.5131**
(p-value)	(0.0405)	(0.035)	(0.034)	(0.0299)	(0.0342)	(0.0316)
Horizontal	-0.0878	-0.1002	-0.082	-0.0157	-0.0752	-0.022
(p-value)	(0.7824)	(0.7528)	(0.7971)	(0.9611)	(0.8139)	(0.9455)
Tender Offer	1.491***	1.3496***	1.4855***	1.4279***	1.3911***	1.4253***
(p-value)	(0.0007)	(0.0013)	(0.0007)	(0.0008)	(0.0009)	(0.0008)
Cash Bid	0.0503	0.1557	0.032	-0.0836	0.1224	-0.0946
(p-value)	(0.8722)	(0.6022)	(0.9191)	(0.7986)	(0.6829)	(0.7745)
Hostile	-3.7021***	-3.6316***	-3.7195***	-3.6597***	-3.6527***	-3.6524***
(p-value)	(<.0001)	(<.0001)	(<.0001)	(<.0001)	(<.0001)	(<.0001)
Multiple Bidders	-2.8072***	-2.7781***	-2.8679***	-2.734***	-2.7659***	-2.7266***
(p-value)	(<.0001)	(<.0001)	(<.0001)	(<.0001)	(<.0001)	(<.0001)
Rumor	0.5356	0.4835	0.5312	0.4529	0.5017	0.4466
(p-value)	(0.403)	(0.4472)	(0.4066)	(0.4776)	(0.4309)	(0.484)
Adj-R^2	0.2002	0.1992	0.2020	0.2030	0.1993	0.2031
Year Dummies	No	No	No	No	No	No
Industry Dummies	No	No	No	No	No	No
Number of Cases	572	284	288	572	284	288

Table 2-13 Summary of Multivariate Tests' Results – Pre-runup Period

Summary of the results for the main explanatory variables (AIV and VIV) when estimated over the pre-runup period.

Panel A - Acquirer Abnormal Returns (CAR-Bidder)		
Increase in:	Stock and Mixed Offers	Cash-Only Offers
Target Risk (AIV-Target)	No effect	No effect
Bidder Risk (AIV-Bidder)	Decrease	No effect
Target Uncertainty about Risk (VIV-Target)	No effect	No effect
Bidder Uncertainty about Risk (VIV-Bidder)	No effect	No effect
	When both AIV and VIV are included together in the same regression	
Bidder Risk (AIV-Bidder)	Decrease	No effect
Bidder Uncertainty about Risk (VIV-Bidder)	No effect	No effect
Panel B - Probability of a Cash-Only offer		
Target Risk (AIV-Target)	Decrease	
Bidder Risk (AIV-Bidder)	Decrease	
Target Uncertainty about Risk (VIV-Target)	Decrease	
Bidder Uncertainty about Risk (VIV-Bidder)	Decrease	
	When both AIV and VIV are included together in the same regression	
Target Risk (AIV-Target)	Decrease	
Target Uncertainty about Risk (VIV-Target)	Increase	
Bidder Risk (AIV-Bidder)	Decrease	
Bidder Uncertainty about Risk (VIV-Bidder)	Increase	
Panel C - Probability of Deal Success		
Target Risk (AIV-Target)	No effect	
Bidder Risk (AIV-Bidder)	Decrease	
Target Uncertainty about Risk (VIV-Target)	No effect	
Bidder Uncertainty about Risk (VIV-Bidder)	No effect	
	When both AIV and VIV are included together in the same regression	
Target Risk (AIV-Target)	No effect	
Target Uncertainty about Risk (VIV-Target)	No effect	
Bidder Risk (AIV-Bidder)	No effect	
Bidder Uncertainty about Risk (VIV-Bidder)	No effect	

Table 2-14 Summary of Multivariate Tests' Results for the IBES Divergence of Opinion Measures

Summary of the results for IBES divergence of opinion measure when used as explanatory variable.

Panel A - Acquirer Abnormal Returns (CAR-Bidder)		
Increase in:	Stock and Mixed Offers	Cash-Only Offers
When the divergence of opinion is estimated 12 months before the announcement month		
Divergence of Opinion - Target	Increase	Decrease
Divergence of Opinion - Bidder	No effect	No effect
When the divergence of opinion is estimated 2 months before the announcement month		
Divergence of Opinion - Target	Increase	No effect
Divergence of Opinion - Bidder	No effect	No effect
When the divergence of opinion is estimated 1 month after the announcement month		
Divergence of Opinion - Target	No effect	No effect
Divergence of Opinion - Bidder	Decrease	No effect
Panel B - Probability of a Cash-Only offer		
When the divergence of opinion is estimated 12 months before the announcement month		
Divergence of Opinion - Target	No effect	
Divergence of Opinion - Bidder	No effect	
When the divergence of opinion is estimated 2 months before the announcement month		
Divergence of Opinion - Target	Decrease (No effect)	
Divergence of Opinion - Bidder	No effect	
When the divergence of opinion is estimated 1 month after the announcement month		
Divergence of Opinion - Target	No effect	
Divergence of Opinion - Bidder	No effect	
Panel C - Probability of Deal Success		
When the divergence of opinion is estimated 12 months before the announcement month		
Divergence of Opinion - Target	No effect	
Divergence of Opinion - Bidder	No effect	
When the divergence of opinion is estimated 2 months before the announcement month		
Divergence of Opinion - Target	No effect	
Divergence of Opinion - Bidder	Increase	
When the divergence of opinion is estimated 1 month after the announcement month		
Divergence of Opinion - Target	No effect	
Divergence of Opinion - Bidder	No effect	

Table 2-15 Summary of Multivariate Tests' Results – with IBES Control

Summary of the results for the main explanatory variables (AIV and VIV) when controlling for IBES divergence of opinion measure.

Panel A - Acquirer Abnormal Returns (CAR-Bidder)		
Increase in:	Stock and Mixed Offers	Cash-Only Offers
Target Risk (AIV-Target)	No effect	No effect
Bidder Risk (AIV-Bidder)	Decrease	No effect
Target Uncertainty about Risk (VIV-Target)	No effect	No effect
Bidder Uncertainty about Risk (VIV-Bidder)	Decrease	No effect
	When both AIV and VIV are included together in the same regression	
Bidder Risk (AIV-Bidder)	Decrease	No effect
Bidder Uncertainty about Risk (VIV-Bidder)	No effect	No effect
Panel B - Probability of a Cash-Only offer		
Target Risk (AIV-Target)	Decrease	
Bidder Risk (AIV-Bidder)	Decrease	
Target Uncertainty about Risk (VIV-Target)	Decrease (no effect)	
Bidder Uncertainty about Risk (VIV-Bidder)	Decrease	
	When both AIV and VIV are included together in the same regression	
Target Risk (AIV-Target)	Decrease	
Target Uncertainty about Risk (VIV-Target)	Increase	
Bidder Uncertainty (AIV-Bidder)	Decrease	
Bidder Uncertainty about Risk (VIV-Bidder)	Increase	
Panel C - Probability of Deal Success		
Target Risk (AIV-Target)	No effect	
Bidder Risk (AIV-Bidder)	Decrease	
Target Uncertainty about Risk (VIV-Target)	No effect	
Bidder Uncertainty about Risk (VIV-Bidder)	No effect	
	When both AIV and VIV are included together in the same regression	
Target Risk (AIV-Target)	No effect	
Target Uncertainty about Risk (VIV-Target)	No effect	
Bidder Risk (AIV-Bidder)	Decrease	
Bidder Uncertainty about Risk (VIV-Bidder)	No effect	

Table 2-16 Summary of Multivariate Tests' Results for the Idiosyncratic Volatility

Summary of the results for idiosyncratic volatility when used as explanatory variable.

Panel A - Acquirer Abnormal Returns (CAR-Bidder)		
Increase in:	Stock and Mixed Offers	Cash-Only Offers
When the idiosyncratic volatility is estimated over the interval (-256, -2)		
Idiosyncratic Volatility - Target	No effect	No effect
Idiosyncratic Volatility - Bidder	Decrease	No effect
When the idiosyncratic volatility is estimated over the interval (-256, -43)		
Idiosyncratic Volatility - Target	No effect	No effect
Idiosyncratic Volatility - Bidder	Decrease	No effect
When the idiosyncratic volatility is estimated over the interval (-43, -2)		
Idiosyncratic Volatility - Target	No effect	No effect
Idiosyncratic Volatility - Bidder	Decrease	Increase
Panel B - Probability of a Cash-Only offer		
When the idiosyncratic volatility is estimated over the interval (-256, -2)		
Idiosyncratic Volatility - Target	Decrease	
Idiosyncratic Volatility - Bidder	Decrease	
When the idiosyncratic volatility is estimated over the interval (-256, -43)		
Idiosyncratic Volatility - Target	Decrease	
Idiosyncratic Volatility - Bidder	Decrease	
When the idiosyncratic volatility is estimated over the interval (-43, -2)		
Idiosyncratic Volatility - Target	Decrease	
Idiosyncratic Volatility - Bidder	Decrease	
Panel C - Probability of Deal Success		
When the idiosyncratic volatility is estimated over the interval (-256, -2)		
Idiosyncratic Volatility - Target	No effect	
Idiosyncratic Volatility - Bidder	No effect	
When the idiosyncratic volatility is estimated over the interval (-256, -43)		
Idiosyncratic Volatility - Target	No effect	
Idiosyncratic Volatility - Bidder	No effect	
When the idiosyncratic volatility is estimated over the interval (-43, -2)		
Idiosyncratic Volatility - Target	No effect	
Idiosyncratic Volatility - Bidder	Decrease	

Table 2-17 Summary of Multivariate Tests' Results – with Idiosyncratic Volatility used as Control

Summary of the results for the main explanatory variables (AIV and VIV) when controlling for Idiosyncratic Volatility.

Panel A - Acquirer Abnormal Returns (CAR-Bidder)		
Increase in:	Stock and Mixed Offers	Cash-Only Offers
Target Risk (AIV-Target)	No effect	No effect
Bidder Risk (AIV-Bidder)	Decrease	No effect
Target Uncertainty about Risk (VIV-Target)	No effect	No effect
Bidder Uncertainty about Risk (VIV-Bidder)	No effect	No effect
	When both AIV and VIV are included together in the same regression	
Bidder Risk (AIV-Bidder)	Decrease	No effect
Bidder Uncertainty about Risk (VIV-Bidder)	No effect	Decrease
Panel B - Probability of a Cash-Only offer		
Target Risk (AIV-Target)	Decrease	
Bidder Risk (AIV-Bidder)	Decrease	
Target Uncertainty about Risk (VIV-Target)	No effect	
Bidder Uncertainty about Risk (VIV-Bidder)	No effect	
	When both AIV and VIV are included together in the same regression	
Target Risk (AIV-Target)	Decrease	
Target Uncertainty about Risk (VIV-Target)	Increase	
Bidder Uncertainty (AIV-Bidder)	Decrease	
Bidder Uncertainty about Risk (VIV-Bidder)	Increase	
Panel C - Probability of Deal Success		
Target Risk (AIV-Target)	No effect	
Bidder Risk (AIV-Bidder)	No effect	
Target Uncertainty about Risk (VIV-Target)	No effect	
Bidder Uncertainty about Risk (VIV-Bidder)	No effect	
	When both AIV and VIV are included together in the same regression	
Target Risk (AIV-Target)	No effect	
Target Uncertainty about Risk (VIV-Target)	No effect	
Bidder Risk (AIV-Bidder)	No effect	
Bidder Uncertainty about Risk (VIV-Bidder)	No effect	

Table 2-18 Correlation Matrix between our Main Independent Variables for our 572 Firm Sample

The correlation coefficient between our AIV and VIV measures for both target and acquirer firms and the corresponding firms' idiosyncratic volatility estimated over different intervals.

$\boldsymbol{\rho}$	$\sigma_{e_i-Acq}(-256,-2)$	$\sigma_{e_i-Acq}(-256,-43)$	$\sigma_{e_i-Acq}(-43,-2)$	$\sigma_{e_i-Tar}(-256,-2)$	$\sigma_{e_i-Tar}(-256,-43)$	$\sigma_{e_i-Tar}(-43,-2)$	VIV-Tar	VIV-Acq	AIV-Tar	AIV-Acq
$\sigma_{e_i-Acq}(-256,-2)$	1.00									
$\sigma_{e_i-Acq}(-256,-43)$	0.99	1.00								
$\sigma_{e_i-Acq}(-43,-2)$	0.85	0.80	1.00							
$\sigma_{e_i-Tar}(-256,-2)$	0.59	0.58	0.53	1.00						
$\sigma_{e_i-Tar}(-256,-43)$	0.62	0.61	0.53	0.97	1.00					
$\sigma_{e_i-Tar}(-43,-2)$	0.38	0.36	0.44	0.78	0.61	1.00				
VIV-Tar	0.11	0.10	0.13	0.25	0.20	0.32	1.00			
VIV-Acq	0.50	0.48	0.53	0.33	0.33	0.28	0.31	1.00		
AIV-Tar	0.53	0.51	0.55	0.83	0.80	0.70	0.47	0.42	1.00	
AIV-Acq	0.91	0.89	0.87	0.60	0.60	0.45	0.17	0.62	0.61	1.00

Table 2-19 Summary of Multivariate Tests' Results – with Idiosyncratic Volatility used as Control and orthogonizing AIV and VIV against the corresponding idiosyncratic volatility

Summary of the results for the main explanatory variables (AIV and VIV) when controlling for Idiosyncratic Volatility and orthogonizing AIV and VIV against the corresponding idiosyncratic volatility.

Panel A - Acquirer Abnormal Returns (CAR-Bidder)		
Increase in:	Stock and Mixed Offers	Cash-Only Offers
Target Risk (AIV-Target)	No effect	No effect
Bidder Risk (AIV-Bidder)	Decrease	No effect
Target Uncertainty about Risk (VIV-Target)	No effect	No effect
Bidder Uncertainty about Risk (VIV-Bidder)	No effect	No effect
	When both AIV and VIV are included together in the same regression	
Bidder Risk (AIV-Bidder)	Decrease	No effect
Bidder Uncertainty about Risk (VIV-Bidder)	No effect	Decrease
Panel B - Probability of a Cash-Only offer		
Target Risk (AIV-Target)	Decrease	
Bidder Risk (AIV-Bidder)	Decrease	
Target Uncertainty about Risk (VIV-Target)	No effect	
Bidder Uncertainty about Risk (VIV-Bidder)	No effect	
	When both AIV and VIV are included together in the same regression	
Target Risk (AIV-Target)	Decrease	
Target Uncertainty about Risk (VIV-Target)	Increase	
Bidder Uncertainty (AIV-Bidder)	Decrease	
Bidder Uncertainty about Risk (VIV-Bidder)	Increase	
Panel C - Probability of Deal Success		
Target Risk (AIV-Target)	No effect	
Bidder Risk (AIV-Bidder)	No effect	
Target Uncertainty about Risk (VIV-Target)	No effect	
Bidder Uncertainty about Risk (VIV-Bidder)	No effect	
	When both AIV and VIV are included together in the same regression	
Target Risk (AIV-Target)	No effect	
Target Uncertainty about Risk (VIV-Target)	No effect	
Bidder Risk (AIV-Bidder)	No effect	
Bidder Uncertainty about Risk (VIV-Bidder)	No effect	

Table 2-20 Summary of Multivariate Tests' Results for the Expanded Sample

Summary of the results for the main explanatory variables (AIV and VIV) when estimated over the expanded.

Panel A - Acquirer Abnormal Returns (CAR-Bidder)		
Increase in:	Stock and Mixed Offers	Cash-Only Offers
Target Risk (AIV-Target)	No effect	No effect
Bidder Risk (AIV-Bidder)	Decrease	No effect
Target Uncertainty about Risk (VIV-Target)	No effect	No effect
Bidder Uncertainty about Risk (VIV-Bidder)	Decrease	Decrease
	When both AIV and VIV are included together in the same regression	
Bidder Risk (AIV-Bidder)	Decrease	No effect
Bidder Uncertainty about Risk (VIV-Bidder)	No effect	No effect
Panel B - Probability of a Cash-Only offer		
Target Risk (AIV-Target)	Decrease	
Bidder Risk (AIV-Bidder)	Decrease	
Target Uncertainty about Risk (VIV-Target)	Decrease	
Bidder Uncertainty about Risk (VIV-Bidder)	No effect	
	When both AIV and VIV are included together in the same regression	
Target Risk (AIV-Target)	Decrease	
Target Uncertainty about Risk (VIV-Target)	Increase	
Bidder Risk (AIV-Bidder)	Decrease	
Bidder Uncertainty about Risk (VIV-Bidder)	Increase	
Panel C - Probability of Deal Success		
Target Risk (AIV-Target)	No effect	
Bidder Risk (AIV-Bidder)	Decrease	
Target Uncertainty about Risk (VIV-Target)	No effect	
Bidder Uncertainty about Risk (VIV-Bidder)	No effect	
	When both AIV and VIV are included together in the same regression	
Target Risk (AIV-Target)	No effect	
Target Uncertainty about Risk (VIV-Target)	No effect	
Bidder Risk (AIV-Bidder)	No effect	
Bidder Uncertainty about Risk (VIV-Bidder)	No effect	

Table 2-21 Summary of Multivariate Tests' Results for the Idiosyncratic Volatility performed on the Expanded Sample

Summary of the results for idiosyncratic volatility when used as explanatory variable on the expanded sample.

Panel A - Acquirer Abnormal Returns (CAR-Bidder)		
Increase in:	Stock and Mixed Offers	Cash-Only Offers
When the idiosyncratic volatility is estimated over the interval (-256, -2)		
Idiosyncratic Volatility - Target	No effect	No effect
Idiosyncratic Volatility - Bidder	Decrease	No effect
When the idiosyncratic volatility is estimated over the interval (-256, -43)		
Idiosyncratic Volatility - Target	No effect	No effect
Idiosyncratic Volatility - Bidder	Decrease	No effect
When the idiosyncratic volatility is estimated over the interval (-43, -2)		
Idiosyncratic Volatility - Target	No effect	No effect
Idiosyncratic Volatility - Bidder	Decrease	Increase
Panel B - Probability of a Cash-Only offer		
When the idiosyncratic volatility is estimated over the interval (-256, -2)		
Idiosyncratic Volatility - Target	Decrease	
Idiosyncratic Volatility - Bidder	Decrease	
When the idiosyncratic volatility is estimated over the interval (-256, -43)		
Idiosyncratic Volatility - Target	Decrease	
Idiosyncratic Volatility - Bidder	Decrease	
When the idiosyncratic volatility is estimated over the interval (-43, -2)		
Idiosyncratic Volatility - Target	Decrease	
Idiosyncratic Volatility - Bidder	Decrease	
Panel C - Probability of Deal Success		
When the idiosyncratic volatility is estimated over the interval (-256, -2)		
Idiosyncratic Volatility - Target	No effect	
Idiosyncratic Volatility - Bidder	Decrease	
When the idiosyncratic volatility is estimated over the interval (-256, -43)		
Idiosyncratic Volatility - Target	No effect	
Idiosyncratic Volatility - Bidder	Decrease	
When the idiosyncratic volatility is estimated over the interval (-43, -2)		
Idiosyncratic Volatility - Target	No effect	
Idiosyncratic Volatility - Bidder	Decrease	

Table 2-22 Summary of Multivariate Tests' Results – with Idiosyncratic Volatility used as Control on the Expanded Sample

Summary of the results for the main explanatory variables (AIV and VIV) when controlling for Idiosyncratic Volatility in the Expanded Sample.

Panel A - Acquirer Abnormal Returns (CAR-Bidder)		
Increase in:	Stock and Mixed Offers	Cash-Only Offers
Target Risk (AIV-Target)	No effect	No effect
Bidder Risk (AIV-Bidder)	Decrease	No effect
Target Uncertainty about Risk (VIV-Target)	No effect	No effect
Bidder Uncertainty about Risk (VIV-Bidder)	No effect	No effect
	When both AIV and VIV are included together in the same regression	
Bidder Risk (AIV-Bidder)	Decrease	No effect
Bidder Uncertainty about Risk (VIV-Bidder)	No effect	No Effect
Panel B - Probability of a Cash-Only offer		
Target Risk (AIV-Target)	Decrease	
Bidder Risk (AIV-Bidder)	Decrease	
Target Uncertainty about Risk (VIV-Target)	No effect	
Bidder Uncertainty about Risk (VIV-Bidder)	Increase	
	When both AIV and VIV are included together in the same regression	
Target Risk (AIV-Target)	Decrease	
Target Uncertainty about Risk (VIV-Target)	Increase	
Bidder Uncertainty (AIV-Bidder)	Decrease	
Bidder Uncertainty about Risk (VIV-Bidder)	Increase	
Panel C - Probability of Deal Success		
Target Risk (AIV-Target)	No effect	
Bidder Risk (AIV-Bidder)	No effect	
Target Uncertainty about Risk (VIV-Target)	No effect	
Bidder Uncertainty about Risk (VIV-Bidder)	No effect	
	When both AIV and VIV are included together in the same regression	
Target Risk (AIV-Target)	No effect	
Target Uncertainty about Risk (VIV-Target)	No effect	
Bidder Risk (AIV-Bidder)	No effect	
Bidder Uncertainty about Risk (VIV-Bidder)	No effect	

Table 2-23 Correlation Matrix between our Main Independent Variables for our Expanded Sample

The table below present the correlation coefficient between our AIV and VIV measures for both target and acquirer firms and the corresponding firms' idiosyncratic volatility estimated over different intervals.

Panel A – Options are required for the Bidder firms					
$\boldsymbol{\rho}$	VIV-Acq	AIV-Acq	$\sigma_{e_i-Acq}(-256,-2)$	$\sigma_{e_i-Acq}(-256,-43)$	$\sigma_{e_i-Acq}(-43,-2)$
VIV-Acq	1.000				
AIV-Acq	0.573	1.000			
$\sigma_{e_i-Acq}(-256,-2)$	0.433	0.908	1.000		
$\sigma_{e_i-Acq}(-256,-43)$	0.412	0.885	0.993	1.000	
$\sigma_{e_i-Acq}(-43,-2)$	0.441	0.863	0.856	0.794	1.000
Panel B – Options are required for the Target firms					
$\boldsymbol{\rho}$	VIV-Tar	AIV-Tar	$\sigma_{e_i-Tar}(-256,-2)$	$\sigma_{e_i-Tar}(-256,-43)$	$\sigma_{e_i-Tar}(-43,-2)$
VIV-Tar	1.00				
AIV-tar	0.48	1.00			
$\sigma_{e_i-Tar}(-256,-2)$	0.28	0.83	1.00		
$\sigma_{e_i-Tar}(-256,-43)$	0.20	0.79	0.95	1.00	
$\sigma_{e_i-Tar}(-43,-2)$	0.37	0.69	0.78	0.57	1.00

Table 2-24 Summary of Multivariate Tests' Results – with Idiosyncratic Volatility used as Control on the Expanded Sample and orthogonizing AIV and VIV against the corresponding idiosyncratic volatility

Summary of the results for the main explanatory variables (AIV and VIV) when controlling for Idiosyncratic Volatility in the Expanded Sample

Panel A - Acquirer Abnormal Returns (CAR-Bidder)		
Increase in:	Stock and Mixed Offers	Cash-Only Offers
Target Risk (AIV-Target)	No effect	No effect
Bidder Risk (AIV-Bidder)	Decrease	No effect
Target Uncertainty about Risk (VIV-Target)	No effect	No effect
Bidder Uncertainty about Risk (VIV-Bidder)	No effect	No effect
	When both AIV and VIV are included together in the same regression	
Bidder Risk (AIV-Bidder)	Decrease	No effect
Bidder Uncertainty about Risk (VIV-Bidder)	No effect	No Effect
Panel B - Probability of a Cash-Only offer		
Target Risk (AIV-Target)	Decrease	
Bidder Risk (AIV-Bidder)	Decrease	
Target Uncertainty about Risk (VIV-Target)	No effect	
Bidder Uncertainty about Risk (VIV-Bidder)	Increase	
	When both AIV and VIV are included together in the same regression	
Target Risk (AIV-Target)	Decrease	
Target Uncertainty about Risk (VIV-Target)	Increase	
Bidder Uncertainty (AIV-Bidder)	Decrease	
Bidder Uncertainty about Risk (VIV-Bidder)	Increase	
Panel C - Probability of Deal Success		
Target Risk (AIV-Target)	No effect	
Bidder Risk (AIV-Bidder)	No effect	
Target Uncertainty about Risk (VIV-Target)	No effect	
Bidder Uncertainty about Risk (VIV-Bidder)	No effect	
	When both AIV and VIV are included together in the same regression	
Target Risk (AIV-Target)	No effect	
Target Uncertainty about Risk (VIV-Target)	No effect	
Bidder Risk (AIV-Bidder)	No effect	
Bidder Uncertainty about Risk (VIV-Bidder)	No effect	

2.8 Appendix A – Tests Performed with AIV and VIV estimated in the Pre-runup Period

Table 2-25 Cross-sectional Regression of Bidder Announcement CAR on AIV-Target and VIV-Target estimated over the Pre-runup period

Bidder CAR is equal to the sum of Bidder Abnormal Return ($AR_{i,t}$) estimated over the announcement period [-1,+1]. ARi,t is equal to $ER_{i,t} - (\alpha_i + \beta_i ER_{M,t})$. $ER_{i,t}$ is the bidder company 'i' return on day 't' above the risk free rate on that day. $ER_{M,t}$ is the CRSP Value Weighted Index return on day 't' in excess of the risk free rate on that day. The model's components (α_i, β_i) are obtained by estimating the model $(R_{i,t} = \alpha_i + \beta_i R_{M,t} + e_{i,t})$ over the [-256; -43].The AIV-Target and VIV-Target are the mean and standard deviation of the Implied Volatilities of Target firms estimated during the pre-runup period [-84,-43]. Target Size is the logarithm of the target market value of equity 42 days before the announcement and target turnover is the ratio of the target volume to share outstanding estimated 42 days before the announcement. Target B/M is constructed as the ratio of the nearest target stock book value divided by the target stock price 42 days before the announcement. Target runup is defined as the ratio of the target price 2 days before the announcement divided by the target price 42 days before the announcement $[(P_{-2} / P_{-42}) - 1]$. Target markup is defined as the ratio of the offer price divided by the target price 2 days before the announcement $[(\text{Offer-Price} / P_{-2}) - 1]$. NYSE/AMEX, Collar, Tender Offer, Cash-Only, Hostile, Rumor, and Complete are dummy variables that respectively take the value of 1 if the Target is listed on NYSE/AMEX, the deal has a collar, the deal is a tender offer, the deal is financed by Cash only, the deal is hostile, the deal is preceded by a rumor and the deal is completed successfully. Horizontal is a dummy variable that takes a value of 1 if the bidder and target share the same four-digit Standard Industrial Classification (SIC) Code. The Toehold dummy takes a value of one if the bidder own more than 5% of target before the announcement day. Multibid dummy takes a value of 1 if there are multiple Bidders within the same contest (a contest is a 6-Month period from the first bidder's bid). Industry and year dummies corresponding to the target two-digit SIC codes and to the announcement year. The p-values are given underneath and are the White Heteroskedasticity consistent p-values. The *, **, *** indicate significance at 1%, 5%, and 10% respectively.

Deal-Type	All Control Bids	Non-Cash-Only Control Bids	Cash-Only Control Bids	All Control Bids	Non-Cash-Only Control Bids	Cash-Only Control Bids
Constant	0.11171**	0.2385***	0.10989*	0.10039*	0.20115***	0.12106**
(p-value)	(0.0404)	(0.0037)	(0.0671)	(0.052)	(0.0075)	(0.0263)
AIV-Target	-0.01211	-0.02148	0.00775			
(p-value)	(0.4949)	(0.4517)	(0.6491)			
VIV-Target				0.01094	0.04651	0.0135
(p-value)				(0.7895)	(0.4891)	(0.7555)
Target Size	-0.00951***	-0.01024**	-0.00621*	-0.00866***	-0.0083*	-0.00665*
(p-value)	(0.0017)	(0.0401)	(0.0813)	(0.0027)	(0.0807)	(0.0501)
Target Turnover	-0.0001444***	-0.0001543***	-1.17E-05	-0.000159***	-0.0001836***	-2.01E-06
(p-value)	(0.0024)	(0.0074)	(0.8517)	(0.0003)	(0.0004)	(0.9737)
Target NYSE/Amex	0.00451	0.00135	-0.0004386	0.00514	0.00226	-0.0005829
(p-value)	(0.5514)	(0.9194)	(0.9578)	(0.4941)	(0.8633)	(0.9437)
Target B/M	-0.0075	-0.01982	-0.00537	-0.008	-0.01991	-0.00517
(p-value)	(0.3634)	(0.2008)	(0.5083)	(0.3236)	(0.1998)	(0.5155)
Target Runup	0.00324	0.01765	-0.00659	0.00314	0.01859	-0.00675
(p-value)	(0.8389)	(0.5113)	(0.6204)	(0.8443)	(0.4941)	(0.6201)
Target Markup	-0.03368***	-0.02791*	-0.03696***	-0.03414***	-0.02802*	-0.03682***
(p-value)	(0.0042)	(0.0749)	(0.0024)	(0.0036)	(0.075)	(0.003)
Collar	-0.02741*	-0.03641**	0.02304	-0.02679*	-0.03634***	0.02319
(p-value)	(0.0643)	(0.0276)	(0.3273)	(0.0719)	(0.0287)	(0.3263)
Toehold Exist	0.01283	0.05572*	0.00397	0.01197	0.05018*	0.00279
(p-value)	(0.458)	(0.0637)	(0.8686)	(0.4704)	(0.0844)	(0.9096)
Horizontal	0.00615	-0.00457	0.01226	0.0055	-0.00717	0.01202
(p-value)	(0.3898)	(0.6914)	(0.1158)	(0.4448)	(0.5398)	(0.1187)
Tender Offer	0.0021	0.01668	-0.00177	0.00141	0.01277	-0.00154
(p-value)	(0.7456)	(0.2996)	(0.7917)	(0.8294)	(0.4352)	(0.8187)
Cash Bid	0.03012***			0.03103***		
(p-value)	(<.0001)			(<.0001)		
Hostile	-0.01046	0.00598	-0.03425*	-0.01056	0.00761	-0.03398*
(p-value)	(0.596)	(0.8588)	(0.0822)	(0.5936)	(0.8244)	(0.0862)
Multiple Bidders	0.01049	0.03644*	-0.01456	0.01081	0.03739*	-0.01457
(p-value)	(0.3312)	(0.0757)	(0.233)	(0.319)	(0.0746)	(0.2326)
Rumor	0.00507	0.00602	-0.00697	0.00498	0.00706	-0.00695
(p-value)	(0.6116)	(0.7309)	(0.5741)	(0.6183)	(0.6928)	(0.5739)
Complete	0.03058***	0.04959***	0.01033	0.03085***	0.05093***	0.01016
(p-value)	(0.0055)	(0.0019)	(0.432)	(0.0051)	(0.0017)	(0.4394)
Adj-R^2	0.2045	0.1636	0.0698	0.2024	0.1647	0.0695
Year Dummies	Yes	Yes	Yes	Yes	Yes	Yes
Industry Dummies	Yes	Yes	Yes	Yes	Yes	Yes
Number of Cases	572	284	288	572	284	288

Table 2-26 Cross-sectional Regression of Bidder Announcement CAR on AIV-Bidder and VIV-Bidder estimated over the Pre-runup period.

Bidder CAR is equal to the sum of Bidder Abnormal Return ($AR_{i,t}$) estimated over the announcement period [-1,+1]. ARi,t is equal to $ER_{i,t} - (\alpha_i + \beta_i ER_{M,t})$. $ER_{i,t}$ is the bidder company 'i' return on day 't' above the risk free rate on that day. $ER_{M,t}$ is the CRSP Value Weighted Index return on day 't' in excess of the risk free rate on that day. The model's components (α_i, β_i) are obtained by estimating the model $(R_{i,t} = \alpha_i + \beta_i R_{M,t} + e_{i,t})$ over the [-256; -43]. The AIV-Target and VIV-Target are the mean and standard deviation of the Implied Volatilities of Bidder Companies estimated during the pre-runup period [-84,-43]. Target Size is the logarithm of the target market value of equity 42 days before the announcement and target turnover is the ratio of the target volume to share outstanding estimated 42 days before the announcement. Target B/M is constructed as the ratio of the nearest target stock book value divided by the target stock price 42 days before the announcement. Target runup is defined as the ratio of the target price 2 days before the announcement divided by the target price 42 days before the announcement [(P_{-2} / P_{-42}) - 1]. Target markup is defined as the ratio of the offer price divided by the target price 2 days before the announcement [(Offer-Price / P_{-2}) - 1]. NYSE/AMEX, Collar, Tender Offer, Cash-Only, Hostile, Rumor, and Complete are dummy variables that respectively take the value of 1 if the Target is listed on NYSE/AMEX, the deal has a collar, the deal is a tender offer, the deal is financed by Cash only, the deal is hostile, the deal is preceded by a rumor and the deal is completed successfully. Horizontal is a dummy variable that takes a value of 1 if the bidder and target share the same four-digit Standard Industrial Classification (SIC) Code. The Toehold dummy takes a value of one if the bidder own more than 5% of target before the announcement day. Multibid dummy takes a value of 1 if there are multiple Bidders within the same contest (a contest is a 6-Month period from the first bidder's bid). Industry and year dummies corresponding to the target two-digit SIC codes and to the announcement year. The p-values are given underneath and are the White Heteroskedasticity consistent p-values. The The *, **, *** indicate significance at 1%, 5%, and 10% respectively.

Deal-Type	All Control Bids	Non-Cash-Only Control Bids	Cash-Only Control Bids	All Control Bids	Non-Cash-Only Control Bids	Cash-Only Control Bids
Constant	0.14372***	0.2621***	0.09043	0.10145*	0.20894***	0.10607**
(p-value)	(0.0076)	(0.0009)	(0.1265)	(0.0522)	(0.0053)	(0.0438)
AIV-Bidder	-0.06009**	-0.08976**	0.05856			
(p-value)	(0.0329)	(0.0179)	(0.1183)			
VIV-Bidder				0.01243	-0.0223	0.27331
(p-value)				(0.9212)	(0.8886)	(0.104)
Target Size	-0.01023***	-0.01178**	-0.0056	-0.00873***	-0.00882*	-0.00588*
(p-value)	(0.0004)	(0.0126)	(0.1052)	(0.0023)	(0.0595)	(0.0779)
Target Turnover	-0.0001335***	-0.0001271*	5.01E-06	-0.0001577***	-0.000173***	5.33E-06
(p-value)	(0.0054)	(0.064)	(0.9316)	(0.0004)	(0.0013)	(0.9301)
Target NYSE/Amex	0.00384	-0.00257	-0.00149	0.00512	0.00221	-0.00117
(p-value)	(0.6096)	(0.85)	(0.8536)	(0.4915)	(0.8651)	(0.8862)
Target B/M	-0.00651	-0.02026	-0.00671	-0.0079	-0.01937	-0.00455
(p-value)	(0.413)	(0.1876)	(0.3911)	(0.3277)	(0.2136)	(0.5486)
Target Runup	0.00274	0.0165	-0.00669	0.00324	0.01835	-0.00684
(p-value)	(0.8604)	(0.5277)	(0.6233)	(0.839)	(0.495)	(0.6214)
Target Markup	-0.03499***	-0.02989**	-0.03581***	-0.03417***	-0.02803*	-0.03852***
(p-value)	(0.0024)	(0.0492)	(0.003)	(0.0037)	(0.0733)	(0.0017)
Collar	-0.031**	-0.04074***	0.02253	-0.02685*	-0.03627**	0.02748
(p-value)	(0.0329)	(0.0099)	(0.3078)	(0.0714)	(0.0294)	(0.2527)
Toehold Exist	0.00795	0.04577	0.00392	0.01242	0.05623*	0.00286
(p-value)	(0.6498)	(0.1329)	(0.8799)	(0.4602)	(0.0722)	(0.9098)
Horizontal	0.00897	0.0005057	0.00919	0.00556	-0.00561	0.0102
(p-value)	(0.2131)	(0.9636)	(0.25)	(0.4381)	(0.6149)	(0.1703)
Tender Offer	0.0008099	0.01115	-0.00154	0.00164	0.01618	-0.00117
(p-value)	(0.8998)	(0.4997)	(0.8164)	(0.7975)	(0.3104)	(0.8598)
Cash Bid	0.02442***			0.03096***		
(p-value)	(0.0006)			(<.0001)		
Hostile	-0.0079	0.01355	-0.03791*	-0.01065	0.0055	-0.03418*
(p-value)	(0.6835)	(0.6759)	(0.0557)	(0.5907)	(0.8712)	(0.0846)
Multiple Bidders	0.01177	0.03743*	-0.01705	0.01067	0.0376*	-0.01617
(p-value)	(0.2869)	(0.0772)	(0.1475)	(0.3278)	(0.0789)	(0.1826)
Rumor	0.00323	0.000951	-0.00666	0.00503	0.00563	-0.00688
(p-value)	(0.745)	(0.956)	(0.5841)	(0.6151)	(0.7521)	(0.5798)
Complete	0.0285***	0.04389***	0.00988	0.03084***	0.04987***	0.00949
(p-value)	(0.0093)	(0.0068)	(0.4413)	(0.005)	(0.0018)	(0.4601)
Adj-R^2	0.2152	0.1892	0.0803	0.2023	0.1636	0.0788
Year Dummies	Yes	Yes	Yes	Yes	Yes	Yes
Industry Dummies	Yes	Yes	Yes	Yes	Yes	Yes
Number of Cases	572	284	288	572	284	288

Table 2-27 Cross-sectional Regression of Bidder Announcement CAR on AIV-Bidder and VIV-Bidder estimated over the Pre-runup period.

Bidder CAR is equal to the sum of Bidder Abnormal Return ($AR_{i,t}$) estimated over the announcement period [-1,+1]. ARi,t is equal to $ER_{i,t} - (\alpha_i + \beta_i ER_{M,t})$. $ER_{i,t}$ is the bidder company 'i' return on day 't' above the risk free rate on that day. $ER_{M,t}$ is the CRSP Value Weighted Index return on day 't' in excess of the risk free rate on that day. The model's components (α_i, β_i) are obtained by estimating the model $(R_{i,t} = \alpha_i + \beta_i R_{M,t} + e_{i,t})$ over the [-256; -43]. The AIV-Target and VIV-Target are the mean and standard deviation of the Implied Volatilities of Bidder Companies estimated during the pre-runup period [-84,-43]. Target Size is the logarithm of the target market value of equity 42 days before the announcement and target turnover is the ratio of the target volume to share outstanding estimated 42 days before the announcement. Target B/M is constructed as the ratio of the nearest target stock book value divided by the target stock price 42 days before the announcement. Target runup is defined as the ratio of the target price 2 days before the announcement divided by the target price 42 days before the announcement [(P_{-2} / P_{-42}) - 1]. Target markup is defined as the ratio of the offer price divided by the target price 2 days before the announcement [(Offer-Price / P_{-2}) - 1]. NYSE/AMEX, Collar, Tender Offer, Cash-Only, Hostile, Rumor, and Complete are dummy variables that respectively take the value of 1 if the Target is listed on NYSE/AMEX, the deal has a collar, the deal is a tender offer, the deal is financed by Cash only, the deal is hostile, the deal is preceded by a rumor and the deal is completed successfully. Horizontal is a dummy variable that takes a value of 1 if the bidder and target share the same four-digit Standard Industrial Classification (SIC) Code. The Toehold dummy takes a value of one if the bidder own more than 5% of target before the announcement day. Multibid dummy takes a value of 1 if there are multiple Bidders within the same contest (a contest is a 6-Month period from the first bidder's bid). Industry and year dummies corresponding to the target two-digit SIC codes and to the announcement year. The p-values are given underneath and are the White Heteroskedasticity consistent p-values. The *, **, *** indicate significance at 1%, 5%, and 10% respectively.

Deal-Type	All Control Bids	Non-Cash-Only Control Bids	Cash-Only Control Bids
Constant	0.15***	0.26768***	0.09147
(p-value)	(0.0063)	(0.0006)	(0.122)
AIV-Bidder	-0.09222***	-0.1283***	0.04057
(p-value)	(0.0077)	(0.004)	(0.4548)
VIV-Bidder	0.24418	0.28384	0.14773
(p-value)	(0.1106)	(0.1432)	(0.5556)
Target Size	-0.01023***	-0.01241***	-0.00548
(p-value)	(0.0004)	(0.0082)	(0.1083)
Target Turnover	-0.0001322***	-0.0001265*	6.27E-06
(p-value)	(0.0078)	(0.072)	(0.9154)
Target NYSE/Amex	0.00406	-0.00181	-0.00148
(p-value)	(0.5863)	(0.8913)	(0.855)
Target B/M	-0.00589	-0.02104	-0.00594
(p-value)	(0.4625)	(0.1728)	(0.4384)
Target Runup	0.00209	0.01439	-0.0069
(p-value)	(0.8936)	(0.582)	(0.6164)
Target Markup	-0.03666***	-0.03173**	-0.03714***
(p-value)	(0.0016)	(0.04)	(0.0039)
Collar	-0.03035**	-0.04241***	0.02505
(p-value)	(0.0358)	(0.006)	(0.2695)
Toehold Exist	0.000843	0.02856	0.00365
(p-value)	(0.9591)	(0.3672)	(0.888)
Horizontal	0.00876	0.000389	0.0091
(p-value)	(0.2282)	(0.9715)	(0.2497)
Tender Offer	-0.0003554	0.00523	-0.00137
(p-value)	(0.9559)	(0.7534)	(0.8361)
Cash Bid	0.02447***		
(p-value)	(0.0006)		
Hostile	-0.00567	0.01959	-0.03688*
(p-value)	(0.7728)	(0.5411)	(0.0695)
Multiple Bidders	0.01127	0.03362	-0.01718
(p-value)	(0.3121)	(0.1286)	(0.1463)
Rumor	0.00355	0.0028	-0.00672
(p-value)	(0.7211)	(0.868)	(0.584)
Complete	0.02848***	0.04297***	0.00955
(p-value)	(0.0087)	(0.0075)	(0.4565)
Adj-R^2	0.2187	0.1977	0.0779
Year Dummies	Yes	Yes	Yes
Industry Dummies	Yes	Yes	Yes
Number of Cases	572	284	288

Table 2-28 Logistic Model Estimation of the Probability that the Deal Will be a Cash-Only offer versus Being a Non-Cash-Only Offer using AIV (VIV) as Explanatory Variables Estimated over the Pre-runup period.

The AIV-Bidder (Target) and VIV- Bidder (Target) are the mean and standard deviation of the Implied Volatilities of Bidder (Target) Companies estimated during the pre-runup period [-84,-43]. Target (Acquirer) Size is the logarithm of the target (acquirer) market value of equity 42 days before the announcement and target (acquirer) turnover is the ratio of target (acquirer) volume to share outstanding estimated 42 days before the announcement. Target (acquirer) B/M is constructed as the ratio of the nearest target stock book value divided by the target stock price 42 days before the announcement. Relative size is the ratio of the target size divided by the acquirer size (in log terms). NYSE/AMEX, Collar, Tender Offer, Cash-Only, Hostile, Rumor, and Complete are dummy variables that respectively take the value of 1 if the Target (Acquirer) is listed on NYSE/AMEX, the deal has a collar, the deal is a tender offer, the deal is financed by Cash only, the deal is hostile, the deal is preceded by a rumor and the deal is completed successfully. Horizontal is a dummy variable that takes a value of 1 if the bidder and target share the same four-digit Standard Industrial Classification (SIC) Code. The Toehold dummy takes a value of one if the bidder own more than 5% of target before the announcement day. Multibid dummy takes a value of 1 if there are multiple Bidders within the same contest (a contest is a 6-Month period from the first bidder's bid). The p-values are given underneath and are the MLE p-values. The *, **, *** indicate significance at 1%, 5%, and 10% respectively.

Independent Variable	AIV-Target	VIV-Target	AIV-Target and VIV-Target	AIV-Bidder	VIV-Bidder	AIV-Bidder and VIV-Bidder
Constant	2.2361	2.2373	1.6222	4.836	1.4451	5.8315
(p-value)	(0.8157)	(0.7977)	(0.8681)	(0.5861)	(0.8676)	(0.5123)
AIV-Variable	-5.1206***		-5.654***	-7.9795***		-9.3065***
(p-value)	(<.0001)		(<.0001)	(<.0001)		(<.0001)
VIV-Variable		-3.1006*	3.137*		-11.978***	11.5761**
(p-value)		(0.0571)	(0.0912)		(0.0066)	(0.0319)
Target Size	-0.7274	0.0832	-0.781	-0.2103	0.0656	-0.1858
(p-value)	(0.2751)	(0.8886)	(0.2501)	(0.7275)	(0.9116)	(0.7581)
Target Turnover	0.00201	-0.00057	0.002	0.000284	-0.00072	0.000335
(p-value)	(0.4426)	(0.8527)	(0.445)	(0.9276)	(0.8193)	(0.9141)
Target NYSE/Amex	-0.2984	-0.1324	-0.2941	-0.1252	-0.175	-0.0715
(p-value)	(0.2559)	(0.5919)	(0.2615)	(0.6345)	(0.4808)	(0.788)
Target B/M	0.3926	0.055	0.3334	0.4222	0.0776	0.4125
(p-value)	(0.26)	(0.859)	(0.3519)	(0.2056)	(0.7997)	(0.2266)
Acquirer Size	0.6518	0.145	0.7006	0.1894	0.1739	0.1428
(p-value)	(0.2644)	(0.7818)	(0.2392)	(0.7222)	(0.7385)	(0.789)
Acquirer Turnover	-0.00908	-0.0154*	-0.00927	0.0133	-0.0106	0.0129
(p-value)	(0.4116)	(0.0956)	(0.4077)	(0.2428)	(0.2753)	(0.2395)
Acquirer NYSE/Amex	-0.2519	-0.014	-0.2653	-0.2593	-0.0554	-0.2629
(p-value)	(0.2754)	(0.948)	(0.2514)	(0.2616)	(0.7971)	(0.2572)
Acquirer B/M	0.9154*	0.9883**	0.8593*	0.5744	1.0256**	0.4283
(p-value)	(0.0603)	(0.03)	(0.0804)	(0.2589)	(0.0253)	(0.4084)
Relative Size	-0.346	-6.6311	0.4531	-2.9401	-5.7376	-3.5099
(p-value)	(0.974)	(0.4897)	(0.9666)	(0.7625)	(0.5478)	(0.718)
Collar	-2.4928***	-2.4632***	-2.488***	-2.533***	-2.4474***	-2.5183***
(p-value)	(0.0002)	(0.0001)	(0.0003)	(0.0001)	(0.0001)	(0.0002)
Toehold Exist	-0.6262	-0.7448	-0.6577	-0.6459	-0.8407	-0.5926
(p-value)	(0.3973)	(0.3227)	(0.3799)	(0.3674)	(0.256)	(0.4118)
Horizontal	-0.5996**	-0.6956***	-0.5855**	-0.5494**	-0.6414***	-0.5529**
(p-value)	(0.0195)	(0.004)	(0.0228)	(0.0343)	(0.0083)	(0.034)
Tender Offer	1.7639***	1.5112***	1.7685***	1.6474***	1.467***	1.6862***
(p-value)	(<.0001)	(<.0001)	(<.0001)	(<.0001)	(<.0001)	(<.0001)
Hostile	-0.2225	-0.4459	-0.18	-0.0401	-0.397	0.00143
(p-value)	(0.6983)	(0.4333)	(0.7542)	(0.9467)	(0.4799)	(0.9981)
Multiple Bidders	0.7593**	0.9959***	0.711**	0.9925***	0.9052***	1.0198***
(p-value)	(0.0321)	(0.0044)	(0.0469)	(0.0063)	(0.0097)	(0.0051)
Rumor	0.5168	0.3474	0.5293	0.2133	0.3703	0.1699
(p-value)	(0.2231)	(0.3903)	(0.2139)	(0.6066)	(0.3631)	(0.681)
Adj-R^2	0.3536	0.2726	0.3568	0.3647	0.2784	0.3703
Year Dummies	No	No	No	No	No	No
Industry Dummies	No	No	No	No	No	No
Number of Cases	572	572	572	572	572	572

Table 2-29 Logistic Model Estimation of the Probability that the Deal Will be Completed Successfully on AIV-Target and VIV-Target when AIV (VIV) are estimated over the Pre-runup period.

The AIV-Bidder (Target) and VIV- Bidder (Target) are the mean and standard deviation of the Implied Volatilities of Bidder (Target) Companies estimated during the pre-runup period [-84,-43]. Target Size is the logarithm of the target (acquirer) market value of equity 42 days before the announcement and target turnover is the ratio of target volume to share outstanding estimated 42 days before the announcement. Target (acquirer) B/M is constructed as the ratio of the nearest target stock book value divided by the target stock price 42 days before the announcement. Target runup is defined as the ratio of the target (acquirer) price 2 days before the announcement divided by the target (acquirer) price 42 days before the announcement [$(P_{-2} / P_{-42}) - 1$]. Target markup is defined as the ratio of the offer price divided by the target (acquirer) price 2 days before the announcement [(Offer-Price / P_{-2}) - 1]. NYSE/AMEX, Collar, Tender Offer, Cash-Only, Hostile, Rumor, and Complete are dummy variables that respectively take the value of 1 if the Target is listed on NYSE/AMEX, the deal has a collar, the deal is a tender offer, the deal is financed by Cash only, the deal is hostile, the deal is preceded by a rumor and the deal is completed successfully. Horizontal is a dummy variable that takes a value of 1 if the bidder and target share the same four-digit Standard Industrial Classification (SIC) Code. The Toehold dummy takes a value of one if the bidder own more than 5% of target before the announcement day. Multibid dummy takes a value of 1 if there are multiple Bidders within the same contest (a contest is a 6-Month period from the first bidder's bid). The p-values are given underneath and are the MLE p-values. The *, **, *** indicate significance at 1%, 5%, and 10% respectively.

Deal-Type	AIV-Target	VIV-Target	AIV-Target and VIV-Target	AIV-Bidder	VIV-Bidder	AIV-Bidder and VIV-Bidder
Constant	0.0485	-0.4858	0.0199	0.3319	-0.3666	0.2856
(p-value)	(0.9816)	(0.8055)	(0.9925)	(0.8706)	(0.8529)	(0.8886)
AIV-Variable	-0.4924		-0.4361	-1.2445		-1.3568
(p-value)	(0.4386)		(0.5248)	(0.1072)		(0.1472)
VIV		-0.9424	-0.4348		-2.7612	0.8035
(p-value)		(0.6347)	(0.8408)		(0.4575)	(0.8533)
Target Size	0.2171	0.2399*	0.2183	0.2192	0.2358*	0.2229
(p-value)	(0.1306)	(0.0886)	(0.1297)	(0.1213)	(0.0937)	(0.1161)
Target Turnover	0.000392	-0.00015	0.000404	0.000119	-0.0002	0.000161
(p-value)	(0.919)	(0.9663)	(0.9162)	(0.974)	(0.9534)	(0.965)
Target NYSE/Amex	-0.6071*	-0.5687*	-0.6079*	-0.6444**	-0.5745*	-0.644**
(p-value)	(0.0668)	(0.0801)	(0.0665)	(0.0498)	(0.0764)	(0.0498)
Target B/M	-0.6828*	-0.7158**	-0.6779*	-0.6502*	-0.7065*	-0.6409*
(p-value)	(0.0562)	(0.0474)	(0.0584)	(0.0764)	(0.0531)	(0.0811)
Target Runup	0.7966	0.8117	0.8011	0.7813	0.7596	0.7888
(p-value)	(0.2006)	(0.197)	(0.1985)	(0.2042)	(0.2259)	(0.2015)
Target Markup	-0.4006	-0.419	-0.3975	-0.4087	-0.4076	-0.4076
(p-value)	(0.3685)	(0.3469)	(0.3721)	(0.3585)	(0.364)	(0.3595)
Collar	0.7557	0.74	0.7505	0.7059	0.7248	0.7147
(p-value)	(0.2427)	(0.2522)	(0.2466)	(0.2787)	(0.262)	(0.2735)
Toehold Exist	-1.4252**	-1.3682*	-1.3938**	-1.5328**	-1.377**	-1.5557**
(p-value)	(0.0398)	(0.0533)	(0.049)	(0.0289)	(0.0533)	(0.029)
Horizontal	-0.0851	-0.0862	-0.0784	-0.00972	-0.0793	-0.00351
(p-value)	(0.7891)	(0.787)	(0.8059)	(0.976)	(0.8034)	(0.9913)
Tender Offer	1.45***	1.4031***	1.4545***	1.4192***	1.3909***	1.4186***
(p-value)	(0.0009)	(0.0009)	(0.0008)	(0.0008)	(0.0009)	(0.0008)
Cash Bid	0.0834	0.1355	0.0876	-0.0633	0.1087	-0.0654
(p-value)	(0.7875)	(0.6507)	(0.7772)	(0.8473)	(0.7197)	(0.8427)
Hostile	-3.6689***	-3.6534***	-3.674***	-3.6306***	-3.648***	-3.6265***
(p-value)	(<.0001)	(<.0001)	(<.0001)	(<.0001)	(<.0001)	(<.0001)
Multiple Bidders	-2.7731***	-2.7641***	-2.7751***	-2.7468***	-2.7433***	-2.7461***
(p-value)	(<.0001)	(<.0001)	(<.0001)	(<.0001)	(<.0001)	(<.0001)
Rumor	0.4926	0.505	0.4964	0.4565	0.4926	0.453
(p-value)	(0.439)	(0.4287)	(0.436)	(0.4744)	(0.4396)	(0.4777)
Adj-R^2	0.1993	0.1989	0.1995	0.2020	1994	02022
Year Dummies	No	No	No	No	No	No
Industry Dummies	No	No	No	No	No	No
Number of Cases	572	284	288	572	284	288

2.9 Appendix B – Tests Performed with IBES Divergence of Opinion Measures being the Main Explanatory Variable

Table 2-30 Cross-sectional Regression of Bidder Announcement CAR on Target and Bidder Divergence of Opinion Measures.

Bidder CAR is equal to the sum of Bidder Abnormal Return ($AR_{i,t}$) estimated over the announcement period [-1,+1]. ARi,t is equal to $ER_{i,t} - (\alpha_i + \beta_i ER_{M,t})$. $ER_{i,t}$ is the bidder company 'i' return on day 't' above the risk free rate on that day. $ER_{M,t}$ is the CRSP Value Weighted Index return on day 't' in excess of the risk free rate on that day. The model's components (α_i, β_i) are obtained by estimating the model $(R_{i,t} = \alpha_i + \beta_i R_{M,t} + e_{i,t})$ over the [-256; -43]. The divergence of opinion measures are extracted from IBES as the standard deviation of the analysts' forecasts estimated 12 months before the announcement month. Target Size is the logarithm of the target market value of equity 42 days before the announcement and target turnover is the ratio of the target volume to share outstanding estimated 42 days before the announcement. Target B/M is constructed as the ratio of the nearest target stock book value divided by the target stock price 42 days before the announcement. Target runup is defined as the ratio of the target price 2 days before the announcement divided by the target price 42 days before the announcement [$(P_{-2} / P_{-42}) - 1$]. Target markup is defined as the ratio of the offer price divided by the target price 2 days before the announcement [(Offer-Price / P_{-2}) - 1]. NYSE/AMEX, Collar, Tender Offer, Cash-Only, Hostile, Rumor, and Complete are dummy variables that respectively take the value of 1S if the Target is listed on NYSE/AMEX, the deal has a collar, the deal is a tender offer, the deal is financed by Cash only, the deal is hostile, the deal is preceded by a rumor and the deal is completed successfully. Horizontal is a dummy variable that takes a value of 1 if the bidder and target share the same four-digit Standard Industrial Classification (SIC) Code. The Toehold dummy takes a value of one if the bidder own more than 5% of target before the announcement day. Multibid dummy takes a value of 1 if there are multiple Bidders within the same contest (a contest is a 6-Month period from the first bidder's bid). Industry and year dummies corresponding to the target two-digit SIC codes and to the announcement year. The p-values are given underneath and are the White Heteroskedasticity consistent p-values. The *, **, *** indicate significance at 1%, 5%, and 10% respectively.

	Estimated 12 months before the announcement months					
	Target Divergence of Opinion			Bidder Divergence of Opinion		
Deal-Type	All Control Bids	Non-Cash-Only Control Bids	Cash-Only Control Bids	All Control Bids	Non-Cash-Only Control Bids	Cash-Only Control Bids
Constant	-0.01571	0.02151	0.13577**	-0.0062	0.0265	0.14653**
(p-value)	(0.7488)	(0.7471)	(0.0308)	(0.8991)	(0.6956)	(0.0168)
Divergence of Opinion	0.00752***	0.008***	-0.06284*	0.00738	-0.00691	-0.00884
(p-value)	(0.0008)	(0.0055)	(0.0815)	(0.7669)	(0.8806)	(0.7384)
Target Size	-0.007**	-0.003	-0.00838**	-0.00751**	-0.00342	-0.00871**
(p-value)	(0.0249)	(0.5327)	(0.0314)	(0.0161)	(0.483)	(0.0221)
Target Turnover	-0.000116	-0.0001253	8.257E-07	-0.000124	-0.0001265	-1.975E-05
(p-value)	(0.2264)	(0.7474)	(0.9896)	(0.201)	(0.7508)	(0.7418)
Target NYSE/Amex	0.00493	-0.00518	0.00127	0.00498	-0.00353	0.00234
(p-value)	(0.5396)	(0.7052)	(0.8895)	(0.5425)	(0.7994)	(0.8105)
Target B/M	-0.01214	-0.01896	-0.00248	-0.01134	-0.01513	-0.00454
(p-value)	(0.1617)	(0.2559)	(0.7636)	(0.188)	(0.3635)	(0.5896)
Target Runup	0.01849	0.03743	-0.00882	0.01742	0.03666	-0.0087
(p-value)	(0.2866)	(0.2115)	(0.521)	(0.3141)	(0.2179)	(0.539)
Target Markup	-0.03789***	-0.03515**	-0.03813***	-0.03734***	-0.0336**	-0.03766***
(p-value)	(0.0015)	(0.0194)	(0.0033)	(0.0019)	(0.0271)	(0.004)
Collar	-0.02235*	-0.03299**	0.02336	-0.02242*	-0.03142**	0.02167
(p-value)	(0.0946)	(0.0288)	(0.2977)	(0.0952)	(0.0393)	(0.361)
Toehold Exist	0.00126	0.03563	-0.00294	0.0137	0.06025**	0.0003048
(p-value)	(0.938)	(0.2538)	(0.9047)	(0.4286)	(0.0487)	(0.9898)
Horizontal	0.00705	0.00181	0.01423	0.00573	-0.0006508	0.01117
(p-value)	(0.3422)	(0.8742)	(0.1023)	(0.4455)	(0.9545)	(0.1815)
Tender Offer	0.0007857	0.01904	-0.0035	0.0006203	0.01953	-0.00355
(p-value)	(0.9124)	(0.3052)	(0.6377)	(0.9309)	(0.2839)	(0.6406)
Cash Bid	0.04002***			0.03976***		
(p-value)	(<.0001)			(<.0001)		
Hostile	0.01392	0.05281*	-0.01141	0.01214	0.05123*	-0.01363
(p-value)	(0.4317)	(0.0884)	(0.5628)	(0.4996)	(0.0918)	(0.4761)
Multiple Bidders	0.01078	0.02762	-0.01249	0.0102	0.02839	-0.01254
(p-value)	(0.3463)	(0.1994)	(0.3475)	(0.3725)	(0.1913)	(0.3308)
Rumor	0.00396	0.00622	-0.00675	0.00511	0.00576	-0.00598
(p-value)	(0.7054)	(0.7384)	(0.5886)	(0.6256)	(0.7608)	(0.6361)
Complete	0.02242*	0.03506**	0.00881	0.02047*	0.03346**	0.00682
(p-value)	(0.0539)	(0.0395)	(0.5307)	(0.0775)	(0.0491)	(0.6244)
Adj-R^2	0.2535	0.2247	0.1054	0.2476	0.2151	0.0952
Year Dummies	Yes	Yes	Yes	Yes	Yes	Yes
Industry Dummies	Yes	Yes	Yes	Yes	Yes	Yes
Number of Cases	515	258	257	515	258	257

Table 2-31 Cross-sectional Regression of Bidder Announcement CAR on Target and Bidder Divergence of Opinion Measures

Bidder CAR is equal to the sum of Bidder Abnormal Return ($AR_{i,t}$) estimated over the announcement period [-1,+1]. ARi,t is equal to $ER_{i,t} - (\alpha_i + \beta_i ER_{M,t})$. $ER_{i,t}$ is the bidder company 'i' return on day 't' above the risk free rate on that day. $ER_{M,t}$ is the CRSP Value Weighted Index return on day 't' in excess of the risk free rate on that day. The model's components (α_i, β_i) are obtained by estimating the model $(R_{i,t} = \alpha_i + \beta_i R_{M,t} + e_{i,t})$ over the [-256; -43]. The divergence of opinion measures are extracted from IBES as the standard deviation of the analysts' forecasts estimated 2 months before the announcement month. Target Size is the logarithm of the target market value of equity 42 days before the announcement and target turnover is the ratio of target the volume to share outstanding estimated 42 days before the announcement. Target B/M is constructed as the ratio of the nearest target stock book value divided by the target stock price 42 days before the announcement. Target runup is defined as the ratio of the target price 2 days before the announcement divided by the target price 42 days before the announcement [(P_{-2} / P_{-42}) - 1]. Target markup is defined as the ratio of the offer price divided by the target price 2 days before the announcement [(Offer-Price / P_{-2}) - 1]. NYSE/AMEX, Collar, Tender Offer, Cash-Only, Hostile, Rumor, and Complete are dummy variables that respectively take the value of 1S if the Target is listed on NYSE/AMEX, the deal has a collar, the deal is a tender offer, the deal is financed by Cash only, the deal is hostile, the deal is preceded by a rumor and the deal is completed successfully. Horizontal is a dummy variable that takes a value of 1 if the bidder and target share the same four-digit Standard Industrial Classification (SIC) Code. The Toehold dummy takes a value of one if the bidder own more than 5% of target before the announcement day. Multibid dummy takes a value of 1 if there are multiple Bidders within the same contest (a contest is a 6-Month period from the first bidder's bid). Industry and year dummies corresponding to the target two-digit SIC codes and to the announcement year. The p-values are given underneath and are the White Heteroskedasticity consistent p-values. The *, **, *** indicate significance at 1%, 5%, and 10% respectively.

	Estimated 2 months before the announcement months					
	Target Divergence of Opinion			Bidder Divergence of Opinion		
Deal-Type	All Control Bids	Non-Cash-Only Control Bids	Cash-Only Control Bids	All Control Bids	Non-Cash-Only Control Bids	Cash-Only Control Bids
Constant	0.09499*	0.14732*	0.141**	0.09341*	0.15133*	0.14638**
(p-value)	(0.0562)	(0.0719)	(0.0189)	(0.0623)	(0.0656)	(0.014)
Divergence of Opinion	0.03097**	0.04028*	-0.03485	0.00799	0.00318	0.0072
(p-value)	(0.0353)	(0.0651)	(0.1801)	(0.5402)	(0.9353)	(0.5257)
Target Size	-0.00783***	-0.00578	-0.00727*	-0.0077**	-0.00557	-0.00788**
(p-value)	(0.0078)	(0.2261)	(0.0519)	(0.0104)	(0.25)	(0.0327)
Target Turnover	-0.0001519***	-0.000168***	9.88E-06	-0.0001427***	-0.0001555***	-2.247E-05
(p-value)	(0.0008)	(0.0022)	(0.8807)	(0.0026)	(0.0067)	(0.7048)
Target NYSE/Amex	0.00668	-0.0004853	-0.0001076	0.00621	0.00194	0.0009825
(p-value)	(0.4131)	(0.9717)	(0.99)	(0.4449)	(0.889)	(0.9115)
Target B/M	-0.01948**	-0.033**	-0.00581	-0.01663*	-0.02754*	-0.00844
(p-value)	(0.0195)	(0.045)	(0.5091)	(0.0504)	(0.0893)	(0.2994)
Target Runup	0.01057	0.02263	-0.01188	0.00866	0.02226	-0.00921
(p-value)	(0.5353)	(0.4418)	(0.4114)	(0.61)	(0.4502)	(0.5232)
Target Markup	-0.04358***	-0.03817**	-0.04558***	-0.04489***	-0.03991***	-0.04409***
(p-value)	(0.0002)	(0.0126)	(0.0005)	(0.0001)	(0.0098)	(0.0008)
Collar	-0.01477	-0.02443	0.02424	-0.01448	-0.02212	0.02319
(p-value)	(0.2687)	(0.1235)	(0.3092)	(0.2786)	(0.1641)	(0.3345)
Toehold Exist	0.00489	0.02412	0.00153	0.01607	0.05335*	0.0041
(p-value)	(0.7407)	(0.448)	(0.9537)	(0.3332)	(0.0733)	(0.8704)
Horizontal	0.00401	-0.0005371	0.0102	0.00354	-0.00356	0.00872
(p-value)	(0.5861)	(0.9632)	(0.1947)	(0.6328***)	(0.7548)	(0.2695)
Tender Offer	0.000851	0.01292	-0.0006875	0.00166	0.01534	-0.0009049
(p-value)	(0.8991)	(0.4521)	(0.9201)	(0.8042)	(0.3681)	(0.8986)
Cash Bid	0.03988***			0.03929***		
(p-value)	(<.0001)			(<.0001)		
Hostile	-0.01462	0.01442	-0.03688*	-0.01418	0.01834	-0.03841**
(p-value)	(0.4654)	(0.7114)	(0.0598)	(0.4723)	(0.6264)	(0.0458)
Multiple Bidders	0.00666	0.0331	-0.01595	0.00521	0.03007	-0.01452
(p-value)	(0.5355)	(0.1297)	(0.2097)	(0.6277)	(0.1795)	(0.2437)
Rumor	0.00225	0.01035	-0.01016	0.00355	0.01049	-0.01018
(p-value)	(0.8263)	(0.5939)	(0.4098)	(0.7266)	(0.5954)	(0.4143)
Complete	0.0238**	0.04042**	0.01223	0.02172**	0.03651**	0.01167
(p-value)	(0.0319)	(0.0171)	(0.3575)	(0.0494)	(0.0281)	(0.3722)
Adj-R^2	0.25	0.1955	0.1074	0.2449	0.1852	0.1036
Year Dummies	Yes	Yes	Yes	Yes	Yes	Yes
Industry Dummies	Yes	Yes	Yes	Yes	Yes	Yes
Number of Cases	545	271	274	545	271	274

Table 2-32 Cross-sectional Regression of Bidder Announcement CAR on Target and Bidder Divergence of Opinion Measures

Bidder CAR is equal to the sum of Bidder Abnormal Return ($AR_{i,t}$) estimated over the announcement period [-1,+1]. ARi,t is equal to $ER_{i,t} - (\alpha_i + \beta_i ER_{M,t})$. $ER_{i,t}$ is the bidder company 'i' return on day 't' above the risk free rate on that day. $ER_{M,t}$ is the CRSP Value Weighted Index return on day 't' in excess of the risk free rate on that day. The model's components (α_i, β_i) are obtained by estimating the model $(R_{i,t} = \alpha_i + \beta_i R_{M,t} + e_{i,t})$ over the [-256; -43]. The divergence of opinion measures are extracted from IBES as the standard deviation of the analysts' forecasts estimated 1 months after the announcement month. Target Size is the logarithm of the target market value of equity 42 days before the announcement and the target turnover is the ratio of the target volume to share outstanding estimated 42 days before the announcement. Target B/M is constructed as the ratio of the nearest target stock book value divided by the target stock price 42 days before the announcement. Target runup is defined as the ratio of the target price 2 days before the announcement divided by the target price 42 days before the announcement [$(P_{-2} / P_{-42}) - 1$]. Target markup is defined as the ratio of the offer price divided by the target price 2 days before the announcement [(Offer-Price / P_{-2}) - 1]. NYSE/AMEX, Collar, Tender Offer, Cash-Only, Hostile, Rumor, and Complete are dummy variables that respectively take the value of 1S if the Target is listed on NYSE/AMEX, the deal has a collar, the deal is a tender offer, the deal is financed by Cash only, the deal is hostile, the deal is preceded by a rumor and the deal is completed successfully. Horizontal is a dummy variable that takes a value of 1 if the bidder and target share the same four-digit Standard Industrial Classification (SIC) Code. The Toehold dummy takes a value of one if the bidder own more than 5% of target before the announcement day. Multibid dummy takes a value of 1 if there are multiple Bidders within the same contest (a contest is a 6-Month period from the first bidder's bid). Industry and year dummies corresponding to the target two-digitsSIC codes and to the announcement year. The p-values are given underneath and are the White Heteroskedasticity consistent p-values. The *, **, *** indicate significance at 1%, 5%, and 10% respectively.

	Estimated 1 month after the announcement months					
	Target Divergence of Opinion			Bidder Divergence of Opinion		
Deal-Type	All Control Bids	Non-Cash-Only Control Bids	Cash-Only Control Bids	All Control Bids	Non-Cash-Only Control Bids	Cash-Only Control Bids
Constant	0.10925**	0.17248*	0.14956**	0.1041**	0.17021*	0.15065**
(p-value)	(0.0346)	(0.0738)	(0.034)	(0.044)	(0.0639)	(0.0331)
Divergence of Opinion	0.01067	0.03463	-0.00548	-0.0112	-0.05817*	0.00101
(p-value)	(0.1574)	(0.4829)	(0.4108)	(0.3598)	(0.078)	(0.918)
Target Size	-0.00853***	-0.00598	-0.00927**	-0.00819***	-0.00512	-0.0093**
(p-value)	(0.0066)	(0.2558)	(0.0201)	(0.0094)	(0.3273)	(0.0204)
Target Turnover	-0.000143***	-0.0001625***	5.78E-06	-0.0001345***	-0.0001491**	-8.15E-06
(p-value)	(0.0032)	(0.006)	(0.9344)	(0.0098)	(0.0197)	(0.9043)
Target NYSE/Amex	0.00758	0.0009736	0.00298	0.00755	0.0003413	0.00307
(p-value)	(0.3664)	(0.9463)	(0.7434)	(0.3682)	(0.981)	(0.7385)
Target B/M	-0.02233**	-0.03654*	-0.00482	-0.01788**	-0.03328*	-0.00809
(p-value)	(0.0277)	(0.0502)	(0.6514)	(0.0499)	(0.0685)	(0.3311)
Target Runup	0.0071	0.02114	-0.01542	0.00582	0.02255	-0.01371
(p-value)	(0.6955)	(0.5062)	(0.3104)	(0.7452)	(0.4694)	(0.3474)
Target Markup	-0.04271***	-0.03723***	-0.04568***	-0.04467***	-0.0409***	-0.04415***
(p-value)	(0.0004)	(0.0155)	(0.0008)	(0.0002)	(0.0054)	(0.001)
Collar	-0.01395	-0.02267	0.02336	-0.01374	-0.02238	0.02194
(p-value)	(0.326)	(0.1718)	(0.3284)	(0.3369)	(0.1793)	(0.3521)
Toehold Exist	0.00714	0.0456	-0.00749	0.00652	0.05079*	-0.00379
(p-value)	(0.6713)	(0.142)	(0.8228)	(0.7015)	(0.095)	(0.9059)
Horizontal	0.00232	-0.00719	0.01198	0.0026	-0.00611	0.01169
(p-value)	(0.7651)	(0.5614)	(0.1257)	(0.7371)	(0.6151)	(0.1357)
Tender Offer	0.00224	0.02046	-0.0029	0.00281	0.0196	-0.00301
(p-value)	(0.7513)	(0.2711)	(0.682)	(0.6895)	(0.2836)	(0.6797)
Cash Bid	0.03984***			0.04097***		
(p-value)	(<.0001)			(<.0001)		
Hostile	-0.01507	0.01888	-0.03569*	-0.01307	0.04792	-0.03659*
(p-value)	(0.4731)	(0.6211)	(0.0792)	(0.5296)	(0.1707)	(0.0674)
Multiple Bidders	0.00901	0.03976*	-0.01626	0.00864	0.04047*	-0.01578
(p-value)	(0.4423)	(0.0656)	(0.2229)	(0.4593)	(0.0614)	(0.2352)
Rumor	0.00402	0.00705	-0.00935	0.00376	0.00926	-0.00906
(p-value)	(0.6972)	(0.7395)	(0.4558)	(0.7173)	(0.636)	(0.4725)
Complete	0.02308**	0.043**	0.01342	0.02325**	0.0413**	0.01286
(p-value)	(0.0492)	(0.0139)	(0.3315)	(0.0472)	(0.0144)	(0.3454)
Adj-R^2	0.2373	0.183	0.1025	0.2367	0.1901	0.1012
Year Dummies	Yes	Yes	Yes	Yes	Yes	Yes
Industry Dummies	Yes	Yes	Yes	Yes	Yes	Yes
Number of Cases	518	258	260	518	258	260

Table 2-33 Logistic Model Estimation of the Probability that the Deal will be a Cash-Only Offer Versus a Being a Non-Cash-Only Offer

The divergence of opinion measures are extracted from IBES as the standard deviation of the analysts' forecasts estimated 12 months and 2 months before the announcement day and 1 month after the announcement month. Target (Acquirer) Size is the logarithm of the target (acquirer) market value of equity 42 days before the announcement and target (acquirer) turnover is the ratio of the target (acquirer) volume to share outstanding estimated 42 days before the announcement. Target (acquirer) B/M is constructed as the ratio of the nearest target stock book value divided by the target stock price 42 days before the announcement. Relative size is the ratio of the target size divided by the acquirer size (in log terms). NYSE/AMEX, Collar, Tender Offer, Cash-Only, Hostile, Rumor, and Complete are dummy variables that respectively take the value of 1 if the Target (Acquirer) is listed on NYSE/AMEX, the deal has a collar, the deal is a tender offer, the deal is financed by Cash only, the deal is hostile, the deal is preceded by a rumor and the deal is completed successfully. Horizontal is a dummy variable that takes a value of 1 if the bidder and target share the same four-digit Standard Industrial Classification (SIC) Code. The Toehold dummy takes a value of one if the bidder own more than 5% of target before the announcement day. Multibid dummy takes a value of 1 if there are multiple Bidders within the same contest (a contest is a 6-Month period from the first bidder's bid). The p-values are given underneath and are the MLE p-values. The *, **, *** indicate significance at 1%, 5%, and 10% respectively.

	Estimated 12 Months before Announcement		Estimated 2 Months before Announcement		Estimated 1 Months After Announcement	
Independent Variable	Target	Acquirer	Target	Acquirer	Target	Acquirer
Constant	4.6813	3.9956	1.372	4.3852	2.5114	5.6563
(p-value)	(0.679)	(0.7243)	(0.8813)	(0.6347)	(0.794)	(0.5525)
Divergence of Opinion	-0.865	-0.0835	-1.2978*	0.7306	0.2143	0.7318
(p-value)	(0.2885)	(0.9183)	(0.1)	(0.2327)	(0.5924)	(0.1362)
Target Size	0.3256	0.2849	0.0959	0.2311	0.0795	0.2949
(p-value)	(0.672)	(0.7117)	(0.877)	(0.7076)	(0.9015)	(0.6408)
Target Turnover	0.00665	0.00598	-0.00012	-0.00107	-0.00165	-0.00155
(p-value)	(0.3622)	(0.4022)	(0.9684)	(0.7345)	(0.6529)	(0.6598)
Target NYSE/Amex	-0.2166	-0.2301	-0.2242	-0.2223	-0.3169	-0.3323
(p-value)	(0.4083)	(0.3865)	(0.3893)	(0.3937)	(0.2294)	(0.2077)
Target B/M	0.0931	0.0414	0.1272	0.00519	-0.1656	-0.0645
(p-value)	(0.772)	(0.8971)	(0.6918)	(0.9869)	(0.6522)	(0.8448)
Acquirer Size	-0.0468	-0.00562	0.1548	0.00515	0.1329	-0.056
(p-value)	(0.9447)	(0.9934)	(0.7775)	(0.9925)	(0.8159)	(0.9208)
Acquirer Turnover	-0.0158	-0.0154	-0.016	-0.0171*	-0.0176*	-0.0189*
(p-value)	(0.1008)	(0.1131)	(0.1004)	(0.0719)	(0.07)	(0.0569)
Acquirer NYSE/Amex	0.0658	0.0625	0.0568	0.0398	0.0896	0.1083
(p-value)	(0.7721)	(0.7831)	(0.7994)	(0.8577)	(0.6942)	(0.6347)
Acquirer B/M	1.0586**	1.0391**	1.0138**	0.8486*	0.9118*	0.7909
(p-value)	(0.0312)	(0.0359)	(0.0344)	(0.0805)	(0.0546)	(0.1006)
Relative Size	-10.1232	-9.4613	-6.2064	-9.0943	-6.7207	-10.3439
(p-value)	(0.4218)	(0.4536)	(0.5383)	(0.3672)	(0.5224)	(0.3191)
Collar	-2.4199***	-2.413***	-2.5462***	-2.4948***	-2.352***	-2.3266***
(p-value)	(0.0002)	(0.0002)	(<.0001)	(0.0001)	(0.0002)	(0.0003)
Toehold Exist	-0.5901	-0.7865	-0.5384	-0.7964	-0.7321	-0.7242
(p-value)	(0.4754)	(0.31)	(0.5226)	(0.3096)	(0.3707)	(0.3774)
Horizontal	-0.5912**	-0.6392**	-0.7142***	-0.7491***	-0.6654**	-0.6729***
(p-value)	(0.0244)	(0.0134)	(0.0049)	(0.003)	(0.0101)	(0.0091)
Tender Offer	1.4517***	1.4591***	1.5262***	1.4832***	1.4089***	1.4056***
(p-value)	(<.0001)	(<.0001)	(<.0001)	(<.0001)	(<.0001)	(<.0001)
Hostile	-0.784	-0.756	-0.4866	-0.4471	-0.3021	-0.3225
(p-value)	(0.2082)	(0.2235)	(0.394)	(0.4254)	(0.593)	(0.5672)
Multiple Bidders	0.9387**	0.9112**	1.1355***	1.1606***	0.9826***	1.0253***
(p-value)	(0.0121)	(0.0136)	(0.0018)	(0.0016)	(0.0078)	(0.0058)
Rumor	0.3421	0.3542	0.3725	0.4344	0.4354	0.4566
(p-value)	(0.4026)	(0.3894)	(0.3586)	(0.2923)	(0.2897)	(0.2682)
Adj-R^2	0.2782	0.2759	0.2891	0.2865	0.2763	0.2791
Year Dummies	No	No	No	No	No	No
Industry Dummies	No	No	No	No	No	No
Number of Cases	572	572	572	572	572	572

Table 2-34 Logistic Model Estimation of the Probability that the Deal Will be completed successfully on Target and Bidder Divergence of Opinion

The divergence of opinion measures are extracted from IBES as the standard deviation of the analysts' forecasts estimated 12 months and 2 months before the announcement day and 1 month after the announcement month. Target Size is the logarithm of the target (acquirer) market value of equity 42 days before the announcement and target turnover is the ratio of the target volume to share outstanding estimated 42 days before the announcement. Target (acquirer) B/M is constructed as the ratio of the nearest target stock book value divided by the target stock price 42 days before the announcement. Target runup is defined as the ratio of the target (acquirer) price 2 days before the announcement divided by the target (acquirer) price 42 days before the announcement [$(P_{-2} / P_{-42}) - 1$]. Target markup is defined as the ratio of the offer price divided by the target (acquirer) price 2 days before the announcement [$(Offer\text{-}Price / P_{-2}) - 1$]. NYSE/AMEX, Collar, Tender Offer, Cash-Only, Hostile, Rumor, and Complete are dummy variables that respectively take the value of 1 if the Target is listed on NYSE/AMEX, the deal has a collar, the deal is a tender offer, the deal is financed by Cash only, the deal is hostile, the deal is preceded by a rumor and the deal is completed successfully. Horizontal is a dummy variable that takes a value of 1 if the bidder and target share the same four-digit Standard Industrial Classification (SIC) Code. The Toehold dummy takes a value of one if the bidder own more than 5% of the target before the announcement day. Multibid dummy takes a value of 1 if there are multiple Bidders within the same contest (a contest is a 6-Month period from the first bidder's bid). The p-values are given underneath and are the MLE p-values. The *, **, *** indicate significance at 1%, 5%, and 10% respectively.

	Estimated 12 Months before Announcement		Estimated 2 Months before Announcement		Estimated 1 Months After Announcement	
Deal-Type	Target	Acquirer	Target	Acquirer	Target	Acquirer
Constant	-0.5995	-0.7289	-0.2265	0.0502	0.3778	0.1337
(p-value)	(0.774)	(0.7252)	(0.9115)	(0.9804)	(0.8611)	(0.9498)
Divergence of Opinion	-0.2981	1.0922	-0.2743	3.0387*	0.4997	0.9555
(p-value)	(0.6281)	(0.3181)	(0.583)	(0.0613)	(0.4619)	(0.2805)
Target Size	0.2417	0.2459*	0.2181	0.1806	0.1812	0.1925
(p-value)	(0.1036)	(0.0957)	(0.1344)	(0.2179)	(0.2373)	(0.2034)
Target Turnover	-0.00133	-0.00232	0.000172	-0.00097	-0.00012	0.000147
(p-value)	(0.7898)	(0.6486)	(0.9629)	(0.7897)	(0.9762)	(0.9721)
Target NYSE/Amex	-0.5341	-0.6028*	-0.5607	-0.6107*	-0.6377*	-0.6726*
(p-value)	(0.1183)	(0.08)	(0.1011)	(0.073)	(0.0674)	(0.0541)
Target B/M	-0.667*	-0.7563**	-0.6715*	-0.7805**	-0.9263**	-0.7857**
(p-value)	(0.0748)	(0.0425)	(0.0747)	(0.0355)	(0.0358)	(0.0432)
Target Runup	0.9494	1.0469	0.9798	0.9815	0.8747	0.7901
(p-value)	(0.159)	(0.1184)	(0.1456)	(0.1409)	(0.2101)	(0.2512)
Target Markup	-0.3092	-0.2432	-0.4289	-0.2898	-0.2375	-0.2687
(p-value)	(0.5346)	(0.6268)	(0.3715)	(0.5511)	(0.647)	(0.5963)
Collar	0.6954	0.7568	0.9743	1.0273	0.6052	0.6114
(p-value)	(0.2878)	(0.2491)	(0.1813)	(0.1508)	(0.3924)	(0.3819)
Toehold Exist	-1.1401	-1.3722**	-1.3468*	-1.423**	-1.4*	-1.4284*
(p-value)	(0.135)	(0.05)	(0.0644)	(0.0365)	(0.0768)	(0.0714)
Horizontal	-0.1154	-0.1567	-0.0951	-0.1126	-0.2415	-0.2581
(p-value)	(0.731)	(0.6397)	(0.7724)	(0.7335)	(0.4778)	(0.4483)
Tender Offer	1.4622***	1.4636***	1.3093***	1.3375***	1.2467***	1.2786***
(p-value)	(0.0008)	(0.0009)	(0.002)	(0.0018)	(0.0048)	(0.0038)
Cash Bid	-0.00064	0.0399	0.0854	0.1275	0.0509	0.0656
(p-value)	(0.9984)	(0.8999)	(0.7866)	(0.6888)	(0.8744)	(0.8392)
Hostile	-3.5133***	-3.5394***	-3.6537***	-3.7294***	-3.9094***	-4.0306***
(p-value)	(<.0001)	(<.0001)	(<.0001)	(<.0001)	(<.0001)	(<.0001)
Multiple Bidders	-2.7739***	-2.7701***	-2.8234***	-2.8228***	-2.8047***	-2.7897***
(p-value)	(<.0001)	(<.0001)	(<.0001)	(<.0001)	(<.0001)	(<.0001)
Rumor	0.6073	0.6549	0.5463	0.5923	0.5833	0.5964
(p-value)	(0.358)	(0.3236)	(0.3968)	(0.3582)	(0.3655)	(0.3545)
Adj-R^2	0.2003	0.2001	0.2119	0.2185	0.2177	0.2185
Year Dummies	No	No	No	No	No	No
Industry Dummies	No	No	No	No	No	No
Number of Cases	572	284	288	572	284	288

2.10 Appendix C – Tests Performed with AIV and VIV as main explanatory Variables with IBES Divergence of Opinion as Control

Table 2-35 Cross-sectional Regression of Bidder Announcement CAR on AIV-Target and VIV-Target with Divergence of Opinion used as Control Variable.

Bidder CAR is equal to the sum of Bidder Abnormal Return ($AR_{i,t}$) estimated over the announcement period [-1,+1]. ARi,t is equal to $ER_{i,t} - (\alpha_i + \beta_i ER_{M,t})$. $ER_{i,t}$ is the bidder company 'i' return on day 't' above the risk free rate on that day. $ER_{M,t}$ is the CRSP Value Weighted Index return on day 't' in excess of the risk free rate on that day. The model's components (α_i, β_i) are obtained by estimating the model $(R_{i,t} = \alpha_i + \beta_i R_{M,t} + e_{i,t})$ over the [-256; -43]. The AIV-Target and VIV-Target are the mean and standard deviation of the Implied Volatilities of Target firms estimated over the runup period [-42,-2]. The divergence of opinion measures are extracted from IBES as the standard deviation of the analysts' forecasts estimated 2 months before the announcement month. Target Size is the logarithm of the target market value of equity 42 days before the announcement and target turnover is the ratio of the target volume to share outstanding estimated 42 days before the announcement. Target B/M is constructed as the ratio of the nearest target stock book value divided by the target stock price 42 days before the announcement. Target runup is defined as the ratio of the target price 2 days before the announcement divided by the target price 42 days before the announcement [(P_{-2} / P_{-42}) - 1]. Target markup is defined as the ratio of the offer price divided by the target price 2 days before the announcement [(Offer-Price / P_{-2}) - 1]. NYSE/AMEX, Collar, Tender Offer, Cash-Only, Hostile, Rumor, and Complete are dummy variables that respectively take the value of 1 if the Target is listed on NYSE/AMEX, the deal has a collar, the deal is a tender offer, the deal is financed by Cash only, the deal is hostile, the deal is preceded by a rumor and the deal is completed successfully. Horizontal is a dummy variable that takes a value of 1 if the bidder and target share the same four-digit Standard Industrial Classification (SIC) Code. The Toehold dummy takes a value of one if the bidder own more than 5% of target before the announcement day. Multibid dummy takes a value of 1 if there are multiple Bidders within the same contest (a contest is a 6-Month period from the first bidder's bid). Industry and year dummies corresponding to the target two-digit SIC codes and to the announcement year. The p-values are given underneath and are the White Heteroscedasticity consistent p-values. The *, **, *** indicate significance at 1%, 5%, and 10% respectively.

Deal-Type	All Control Bids	Non-Cash-Only Control Bids	Cash-Only Control Bids	All Control Bids	Non-Cash-Only Control Bids	Cash-Only Control Bids
Constant	0.01419	0.11867	0.11379*	0.00611	0.08872	0.13599**
(p-value)	(0.7931)	(0.1361)	(0.061)	(0.8975)	(0.1861)	(0.0164)
AIV-Target	-0.00829	-0.01689	0.01693			
(p-value)	(0.6595)	(0.5525)	(0.4477)			
VIV-Target				-0.01908	0.00765	-0.00494
(p-value)				(0.685)	(0.9241)	(0.9197)
Divergence of Opinion - Target	0.03063**	0.03946*	-0.03478	0.03058**	0.03985*	-0.03109
(p-value)	(0.0387)	(0.0758)	(0.1891)	(0.0392)	(0.0703)	(0.2336)
Target Size	-0.00848***	-0.00667	-0.00515	-0.00811***	-0.00551	-0.00652*
(p-value)	(0.0092)	(0.1913)	(0.1926)	(0.0075)	(0.2597)	(0.0788)
Target Turnover	-0.0001497***	-0.0001561***	-4.246E-05	-0.0001539***	-0.0001687***	-1.839E-05
(p-value)	(0.0009)	(0.0055)	(0.5359)	(0.0005)	(0.0017)	(0.7861)
Target NYSE/Amex	0.00619	-0.00188	0.0006521	0.00659	-0.00124	5.551E-05
(p-value)	(0.4464)	(0.8899)	(0.9397)	(0.4146)	(0.9278)	(0.9948)
Target B/M	-0.01966**	-0.03278**	-0.00478	-0.01951**	-0.0334**	-0.00424
(p-value)	(0.0207)	(0.0473)	(0.5886)	(0.0207)	(0.0413)	(0.6375)
Target Runup	0.00933	0.01987	-0.01013	0.00998	0.02078	-0.00944
(p-value)	(0.5832)	(0.493)	(0.4861)	(0.5567)	(0.4728)	(0.537)
Target Markup	-0.04551***	-0.03824**	-0.04706***	-0.04588***	-0.03819**	-0.04455***
(p-value)	(0.0001)	(0.0137)	(0.0004)	(<.0001)	(0.0142)	(0.0011)
Collar	-0.01542	-0.0253	0.0243	-0.0151	-0.02425	0.02491
(p-value)	(0.2543)	(0.1109)	(0.3066)	(0.2601)	(0.1238)	(0.3008)
Toehold Exist	0.0046	0.02416	0.00186	0.00473	0.02392	0.00112
(p-value)	(0.7542)	(0.4524)	(0.9433)	(0.7472)	(0.4499)	(0.9664)
Horizontal	0.005	0.0005879	0.01182	0.00492	-3.519E-05	0.01131
(p-value)	(0.4995)	(0.9597)	(0.1532)	(0.5066)	(0.9976)	(0.1647)
Tender Offer	0.0007923	0.0132	-0.00273	0.0006933	0.01237	-0.00181
(p-value)	(0.9079)	(0.4507)	(0.6951)	(0.9192)	(0.4961)	(0.7923)
Cash Bid	0.03909***			0.03935***		
(p-value)	(<.0001)			(<.0001)		
Hostile	-0.00915	0.01994	-0.03664*	-0.0091	0.0209	-0.03585*
(p-value)	(0.6397)	(0.5707)	(0.0576)	(0.6424)	(0.5563)	(0.0683)
Multiple Bidders	0.00464	0.03128	-0.01665	0.00541	0.03264	-0.01642
(p-value)	(0.6605)	(0.1411)	(0.1941)	(0.6149)	(0.134)	(0.2034)
Rumor	0.00253	0.00909	-0.01406	0.00208	0.00829	-0.01299
(p-value)	(0.8064)	(0.6415)	(0.2481)	(0.839)	(0.6706)	(0.2771)
Complete	0.02243**	0.03964**	0.01285	0.02263**	0.03995**	0.01362
(p-value)	(0.0422)	(0.0186)	(0.3491)	(0.0405)	(0.0186)	(0.3242)
Adj-R^2	0.2469	0.1955	0.1076	0.2468	0.1943	0.106
Year Dummies	Yes	Yes	Yes	Yes	Yes	Yes
Industry Dummies	Yes	Yes	Yes	Yes	Yes	Yes
Number of Cases	572	284	288	572	284	288

Table 2-36 Cross-sectional Regression of Bidder Announcement CAR on AIV-Bidder and VIV-Bidder with Divergence of Opinion used as Control Variable.

Bidder CAR is equal to the sum of Bidder Abnormal Return ($AR_{i,t}$) estimated over the announcement period [-1,+1]. ARi,t is equal to $ER_{i,t} - (\alpha_i + \beta_i ER_{M,t})$. $ER_{i,t}$ is the bidder company 'i' return on day 't' above the risk free rate on that day. $ER_{M,t}$ is the CRSP Value Weighted Index return on day 't' in excess of the risk free rate on that day. The model's components (α_i, β_i) are obtained by estimating the model $(R_{i,t} = \alpha_i + \beta_i R_{M,t} + e_{i,t})$ over the [-256; -43]. The AIV-Target and VIV-Target are the mean and standard deviation of the Implied Volatilities of Bidder Companies estimated over the runup period [-42,-2]. The divergence of opinion measures are extracted from IBES as the standard deviation of the analysts' forecasts estimated 2 months before the announcement month. Target Size is the logarithm of the target market value of equity 42 days before the announcement and target turnover is the ratio of the target volume to share outstanding estimated 42 days before the announcement. Target B/M is constructed as the ratio of the nearest target stock book value divided by the target stock price 42 days before the announcement. Target runup is defined as the ratio of the target price 2 days before the announcement divided by the target price 42 days before the announcement [(P_{-2} / P_{-42}) - 1]. Target markup is defined as the ratio of the offer price divided by the target price 2 days before the announcement [(Offer-Price / P_{-2}) - 1]. NYSE/AMEX, Collar, Tender Offer, Cash-Only, Hostile, Rumor, and Complete are dummy variables that respectively take the value of 1 if the Target is listed on NYSE/AMEX, the deal has a collar, the deal is a tender offer, the deal is financed by Cash only, the deal is hostile, the deal is preceded by a rumor and the deal is completed successfully. Horizontal is a dummy variable that takes a value of 1 if the bidder and target share the same four-digit Standard Industrial Classification (SIC) Code. The Toehold dummy takes a value of one if the bidder own more than 5% of target before the announcement day. Multibid dummy takes a value of 1 if there are multiple Bidders within the same contest (a contest is a 6-Month period from the first bidder's bid). Industry and year dummies corresponding to the target two-digit SIC codes and to the announcement year. The p-values are given underneath and are the White Heteroscedasticity consistent p-values. The *, **, *** indicate significance at 1%, 5%, and 10% respectively.

Deal-Type	All Control Bids	Non-Cash-Only Control Bids	Cash-Only Control Bids	All Control Bids	Non-Cash-Only Control Bids	Cash-Only Control Bids
Constant	0.07812	0.1837*	0.11766*	0.02469	0.10621	0.1446**
(p-value)	(0.1332)	(0.0157)	(0.0548)	(0.5989)	(0.1087)	(0.0111)
AIV-Bidder	-0.08186***	-0.1261***	0.04381			
(p-value)	(0.0048)	(0.0019)	(0.2837)			
VIV-Bidder				-0.31978**	-0.464**	-0.04936
(p-value)				(0.0226)	(0.0481)	(0.757)
Divergence of Opinion - Bidder	0.00935	0.02449	0.00772	0.00711	0.00741	0.00684
(p-value)	(0.4864)	(0.5458)	(0.5191)	(0.5888)	(0.8504)	(0.5637)
Target Size	-0.00966***	-0.00865*	-0.00621*	-0.00804***	-0.00509	-0.00718*
(p-value)	(0.002)	(0.084)	(0.0952)	(0.008)	(0.2884)	(0.0511)
Target Turnover	-0.0001163**	-9.921E-05	-4.483E-05	-0.0001299***	-0.0001226*	-4.842E-05
(p-value)	(0.0259)	(0.2143)	(0.4592)	(0.0089)	(0.0816)	(0.4182)
Target NYSE/Amex	0.00421	-0.00639	0.0003727	0.0049	-0.00176	0.00103
(p-value)	(0.6012)	(0.6448)	(0.9659)	(0.5408)	(0.897)	(0.9055)
Target B/M	-0.01587*	-0.02983*	-0.00782	-0.01617*	-0.02804*	-0.00634
(p-value)	(0.0561)	(0.0573)	(0.3365)	(0.059)	(0.079)	(0.4491)
Target Runup	0.00684	0.01986	-0.0064	0.0094	0.02281	-0.00718
(p-value)	(0.6796)	(0.4797)	(0.6611)	(0.5712)	(0.4182)	(0.6228)
Target Markup	-0.04656***	-0.03677**	-0.04221***	-0.04604***	-0.03862**	-0.04315***
(p-value)	(<.0001)	(0.0149)	(0.0016)	(<.0001)	(0.0111)	(0.0011)
Collar	-0.02283*	-0.03169**	0.02148	-0.01879	-0.02471	0.02388
(p-value)	(0.0904)	(0.0373)	(0.3478)	(0.1685)	(0.1233)	(0.3232)
Toehold Exist	0.01085	0.04417	0.00354	0.01243	0.0481	0.00338
(p-value)	(0.512)	(0.1349)	(0.8953)	(0.4514)	(0.1038)	(0.8925)
Horizontal	0.00697	0.00206	0.00917	0.00626	-0.0003122	0.01033
(p-value)	(0.349)	(0.8534)	(0.256)	(0.4009)	(0.9782)	(0.209)
Tender Offer	-0.0002995	0.00964	-0.0024	0.0009235	0.01678	-0.00212
(p-value)	(0.9644)	(0.5823)	(0.7349)	(0.8897)	(0.3268)	(0.7667)
Cash Bid	0.03082***			0.036***		
(p-value)	(<.0001)			(<.0001)		
Hostile	-0.00687	0.02398	-0.04059**	-0.00868	0.01962	-0.03641*
(p-value)	(0.7139)	(0.4706)	(0.0373)	(0.6518)	(0.5787)	(0.0623)
Multiple Bidders	0.00522	0.0287	-0.01722	0.00268	0.02482	-0.01532
(p-value)	(0.6314)	(0.1945)	(0.1639)	(0.795)	(0.2392)	(0.2252)
Rumor	0.00165	-0.0005227	-0.01309	0.00323	0.00809	-0.01261
(p-value)	(0.8695)	(0.9787)	(0.2731)	(0.747)	(0.6669)	(0.2899)
Complete	0.01735	0.02755*	0.01271	0.02018*	0.03333**	0.0132
(p-value)	(0.1121)	(0.0995)	(0.3374)	(0.063)	(0.0446)	(0.3315)
Adj-R^2	0.2606	0.2327	0.1084	0.2512	0.2026	0.1033
Year Dummies	Yes	Yes	Yes	Yes	Yes	Yes
Industry Dummies	Yes	Yes	Yes	Yes	Yes	Yes
Number of Cases	572	284	288	572	284	288

Table 2-37 Cross-sectional Regression of Bidder Announcement CAR on AIV-Bidder and VIV-Bidder with Divergence of Opinion used as Control Variable.

Bidder CAR is equal to the sum of Bidder Abnormal Return ($AR_{i,t}$) estimated over the announcement period [-1,+1]. ARi,t is equal to $ER_{i,t} - (\alpha_i + \beta_i ER_{M,t})$. $ER_{i,t}$ is the bidder company 'i' return on day 't' above the risk free rate on that day. $ER_{M,t}$ is the CRSP Value Weighted Index return on day 't' in excess of the risk free rate on that day. The model's components (α_i, β_i) are obtained by estimating the model $(R_{i,t} = \alpha_i + \beta_i R_{M,t} + e_{i,t})$ over the [-256; -43]. The AIV-Target and VIV-Target are the mean and standard deviation of the Implied Volatilities of Bidder Companies estimated over the runup period [-42,-2]. The divergence of opinion measures are extracted from IBES as the standard deviation of the analysts' forecasts estimated 2 months before the announcement month. Target Size is the logarithm of the target market value of equity 42 days before the announcement and target turnover is the ratio of target volume to share outstanding estimated 42 days before the announcement. Target B/M is constructed as the ratio of the nearest target stock book value divided by the target stock price 42 days before the announcement. Target runup is defined as the ratio of the target price 2 days before the announcement divided by the target price 42 days before the announcement [(P_{-2} / P_{-42}) - 1]. Target markup is defined as the ratio of the offer price divided by the target price 2 days before the announcement [(Offer-Price / P_{-2}) - 1]. NYSE/AMEX, Collar, Tender Offer, Cash-Only, Hostile, Rumor, and Complete are dummy variables that respectively take the value of 1 if the Target is listed on NYSE/AMEX, the deal has a collar, the deal is a tender offer, the deal is financed by Cash only, the deal is hostile, the deal is preceded by a rumor and the deal is completed successfully. Horizontal is a dummy variable that takes a value of 1 if the bidder and target share the same four-digit Standard Industrial Classification (SIC) Code. The Toehold dummy takes a value of one if the bidder own more than 5% of target before the announcement day. Multibid dummy takes a value of 1 if there are multiple Bidders within the same contest (a contest is a 6-Month period from the first bidder's bid). Industry and year dummies corresponding to the target two-digit SIC codes and to the announcement year. The p-values are given underneath and are the White Heteroskedasticity consistent p-values. The *, **, *** indicate significance at 1%, 5%, and 10% respectively.

Deal-Type	All Control Bids	Non-Cash-Only Control Bids	Cash-Only Control Bids
Constant	0.07525	0.18285**	0.11879*
(p-value)	(0.1504)	(0.0161)	(0.0518)
AIV-Bidder	-0.0723**	-0.12449**	0.07382
(p-value)	(0.0459)	(0.0155)	(0.1462)
VIV-Bidder	-0.09081	-0.01599	-0.26063
(p-value)	(0.6056)	(0.9562)	(0.2142)
Divergence of Opinion - Bidder	0.00903	0.02442	0.00668
(p-value)	(0.5025)	(0.547)	(0.5771)
Target Size	-0.00951***	-0.0086*	-0.00627*
(p-value)	(0.0023)	(0.086)	(0.0899)
Target Turnover	-0.000115**	-9.881E-05	-4.709E-05
(p-value)	(0.0287)	(0.2177)	(0.4373)
Target NYSE/Amex	0.00408	-0.0064	-0.0002241
(p-value)	(0.6115)	(0.6438)	(0.9797)
Target B/M	-0.01577*	-0.02982*	-0.00634
(p-value)	(0.0583)	(0.057)	(0.437)
Target Runup	0.00741	0.01995	-0.0046
(p-value)	(0.6521)	(0.4763)	(0.7543)
Target Markup	-0.04631***	-0.03676**	-0.03968***
(p-value)	(<.0001)	(0.0149)	(0.0029)
Collar	-0.02308*	-0.03166**	0.01958
(p-value)	(0.0888)	(0.0383)	(0.3778)
Toehold Exist	0.01051	0.04411	0.0024
(p-value)	(0.5265)	(0.1359)	(0.9279)
Horizontal	0.0072	0.00209	0.01043
(p-value)	(0.3324)	(0.8505)	(0.1873)
Tender Offer	-0.0002155	0.00977	-0.00341
(p-value)	(0.9743)	(0.5742)	(0.6301)
Cash Bid	0.03091***		
(p-value)	(<.0001)		
Hostile	-0.00705	0.02382	-0.03781*
(p-value)	(0.708)	(0.4761)	(0.0518)
Multiple Bidders	0.00477	0.02854	-0.01848
(p-value)	(0.6542)	(0.1858)	(0.1261)
Rumor	0.00181	-0.0004255	-0.01195
(p-value)	(0.8567)	(0.9828)	(0.3097)
Complete	0.01762	0.02757*	0.01394
(p-value)	(0.1048)	(0.0987)	(0.2904)
Adj-R^2	0.2596	0.2289	0.1094
Year Dummies	Yes	Yes	Yes
Industry Dummies	Yes	Yes	Yes
Number of Cases	572	284	288

Table 2-38 Logistic Model Estimation of the Probability that the deal will be a cash-only offer versus a deal being a non-cash-only offer with Divergence of Opinion used as Control Variable.

The AIV-Bidder (Target) and VIV- Bidder (Target) are the mean and standard deviation of the Implied Volatilities of Bidder (Target) Companies estimated over the runup period [-42,-2]. The divergence of opinion measures are extracted from IBES as the standard deviation of the analysts' forecasts estimated two months before the announcement month. Target (Acquirer) Size is the logarithm of the target (acquirer) market value of equity 42 days before the announcement and target (acquirer) turnover is the ratio of the target (acquirer) volume to share outstanding estimated 42 days before the announcement. Target (acquirer) B/M is constructed as the ratio of the nearest target stock book value divided by the target stock price 42 days before the announcement. Relative size is the ratio of the target size divided by the acquirer size (in log terms). NYSE/AMEX, Collar, Tender Offer, Cash-Only, Hostile, Rumor, and Complete are dummy variables that respectively take the value of 1 if the Target (Acquirer) is listed on NYSE/AMEX, the deal has a collar, the deal is a tender offer, the deal is financed by Cash only, the deal is hostile, the deal is preceded by a rumor and the deal is completed successfully. Horizontal is a dummy variable that takes a value of 1 if the bidder and target share the same four-digit Standard Industrial Classification (SIC) Code. The Toehold dummy takes a value of one if the bidder own more than 5% of target before the announcement day. Multibid dummy takes a value of 1 if there are multiple Bidders within the same contest (a contest is a 6-Month period from the first bidder's bid). The p-values are given underneath and are the MLE p-values. The *, **, *** indicate significance at 1%, 5%, and 10% respectively.

Independent Variable	AIV-Target	VIV-Target	AIV-Target and VIV-Target	AIV-Bidder	VIV-Bidder	AIV-Bidder and VIV-Bidder
Constant	0.5471	2.0838	-0.5891	7.0566	4.6829	7.8939
(p-value)	(0.9562)	(0.82)	(0.9539)	(0.4928)	(0.6126)	(0.4472)
AIV-Variable	-4.9182***		-5.6065***	-7.3832***		-9.1393***
(p-value)	(<.0001)		(<.0001)	(<.0001)		(<.0001)
VIV-Variable		-2.8008	4.0127**		-10.9129**	14.8542**
(p-value)		(0.1048)	(0.0474)		(0.0165)	(0.0178)
Divergence of Opinion - Target	-0.7048	-1.3524*	-0.6464			
(p-value)	(0.3282)	(0.0938)	(0.3662)			
Divergence of Opinion - Bidder				1.037	0.6465	1.228*
(p-value)				(0.146)	(0.2897)	(0.0957)
Target Size	-0.8335	0.0782	-0.9313	-0.1196	0.2118	-0.1243
(p-value)	(0.2239)	(0.899)	(0.1846)	(0.8623)	(0.7317)	(0.858)
Target Turnover	0.00207	0.000195	0.002	-0.00005	-0.00087	-0.00007
(p-value)	(0.4341)	(0.9481)	(0.4505)	(0.9871)	(0.7849)	(0.9814)
Target NYSE/Amex	-0.3152	-0.2262	-0.3253	-0.1668	-0.2671	-0.1086
(p-value)	(0.2578)	(0.386)	(0.2431)	(0.5507)	(0.3092)	(0.7004)
Target B/M	0.4112	0.1826	0.3359	0.3384	0.0691	0.3309
(p-value)	(0.2601)	(0.5714)	(0.3721)	(0.3239)	(0.8264)	(0.3484)
Acquirer Size	0.7412	0.1509	0.8267	0.089	0.014	0.0558
(p-value)	(0.2189)	(0.7819)	(0.1809)	(0.8841)	(0.9796)	(0.9278)
Acquirer Turnover	-0.00995	-0.0149	-0.0108	0.00745	-0.0121	0.00736
(p-value)	(0.3896	(0.1257)	(0.361)	(0.5267)	(0.2277)	(0.5146)
Acquirer NYSE/Amex	-0.246	0.0543	-0.2775	-0.309	-0.00655	-0.3222
(p-value)	(0.3093)	(0.8087)	(0.2535)	(0.2023)	(0.9768)	(0.186)
Acquirer B/M	0.8972*	1.0494**	0.8443	0.4726	0.9612*	0.2253
(p-value)	(0.0794)	(0.0287)	(0.1034)	(0.39)	(0.0509)	(0.691)
Relative Size	1.5972	-6.527	3.087	-5.1884	-8.9156	-5.299
(p-value)	(0.884)	(0.5155)	(0.7832)	(0.6463)	(0.3777)	(0.6417)
Collar	-2.5479***	-2.5593***	-2.5453***	-2.572***	-2.4995***	-2.5503***
(p-value)	(0.0002)	(<.0001)	(0.0002)	(0.0001)	(0.0001)	(0.0001)
Toehold Exist	-0.3669	-0.5042	-0.4284	-0.6775	-0.8419	-0.606
(p-value)	(0.6475)	(0.5478)	(0.5993)	(0.3564)	(0.2722)	(0.4143)
Horizontal	-0.696***	-0.7164***	-0.6927**	-0.6823**	-0.7168***	-0.6786**
(p-value)	(0.0096)	(0.0048)	(0.0102)	(0.0117)	(0.0047)	(0.0128)
Tender Offer	1.7962***	1.5519***	1.7946***	1.6043***	1.4795***	1.6173***
(p-value)	(<.0001)	(<.0001)	(<.0001)	(<.0001)	(<.0001)	(<.0001)
Hostile	-0.3066	-0.5046	-0.2596	-0.1256	-0.4439	-0.0445
(p-value)	(0.5919)	(0.3794)	(0.6499)	(0.8299)	(0.4256)	(0.9403)
Multiple Bidders	0.8616**	1.1782***	0.7952**	1.1197***	1.0995***	1.1899***
(p-value)	(0.0186)	(0.0012)	(0.0319)	(0.0033)	(0.0027)	(0.0021)
Rumor	0.515	0.3807	0.5291	0.2698	0.4554	0.2199
(p-value)	(0.2255)	(0.3484)	(0.2157)	(0.5224)	(0.2736)	(0.6006)
Adj-R^2	0.3644	0.2925	0.3691	0.3723	0.2949	0.3799
Year Dummies	No	No	No	No	No	No
Industry Dummies	No	No	No	No	No	No
Number of Cases	572	572	572	572	572	572

Table 2-39 Logistic Model Estimation of the Probability that the deal will be a completed successfully on AIV- (Bidder) Target and VIV- (Bidder) Target with Divergence of Opinion used as Control Variable.

The AIV-Bidder (Target) and VIV- Bidder (Target) are the mean and standard deviation of the Implied Volatilities of Bidder (Target) Companies estimated over the runup period [-42,-2]. The divergence of opinion measures are extracted from IBES as the standard deviation of the analysts' forecasts estimated two months before the announcement month. Target Size is the logarithm of the target (acquirer) market value of equity 42 days before the announcement and target turnover is the ratio of the target volume to share outstanding estimated 42 days before the announcement. Target (acquirer) B/M is constructed as the ratio of the nearest target stock book value divided by the target stock price 42 days before the announcement. Target runup is defined as the ratio of the target (acquirer) price 2 days before the announcement divided by the target (acquirer) price 42 days before the announcement [$(P_{-2} / P_{-42}) - 1$]. Target markup is defined as the ratio of the offer price divided by the target (acquirer) price 2 days before the announcement [(Offer-Price / P_{-2}) - 1]. NYSE/AMEX, Collar, Tender Offer, Cash-Only, Hostile, Rumor, and Complete are dummy variables that respectively take the value of 1 if the Target is listed on NYSE/AMEX, the deal has a collar, the deal is a tender offer, the deal is financed by Cash only, the deal is hostile, the deal is preceded by a rumor and the deal is completed successfully. Horizontal is a dummy variable that takes a value of 1 if the bidder and target share the same four-digit Standard Industrial Classification (SIC) Code. The Toehold dummy takes a value of one if the bidder own more than 5% of target before the announcement day. Multibid dummy takes a value of 1 if there are multiple Bidders within the same contest (a contest is a 6-Month period from the first bidder's bid). The p-values are given underneath and are the MLE p-values. The *, **, *** indicate significance at 1%, 5%, and 10% respectively.

Deal-Type	AIV-Target	VIV-Target	AIV-Target and VIV-Target	AIV-Bidder	VIV-Bidder	AIV-Bidder and VIV-Bidder
Constant	0.8656	-0.4731	0.6534	1.4056	0.3308	1.4105
(p-value)	(0.6988)	(0.8237)	(0.7724)	(0.5143)	(0.872)	(0.5136)
AIV-Variable	-0.7648		-1.0103	-1.6943**		-1.7166*
(p-value)	(0.26)		(0.1657)	(0.0349)		(0.07)
VIV-Variable		1.1523	2.6042		-5.226	0.2806
(p-value)		(0.6712)	(0.393)		(0.2979)	(0.9646)
Divergence of Opinion - Target	-0.2328	-0.2758	-0.2211			
(p-value)	(0.6361)	(0.5831)	(0.6549)			
Divergence of Opinion - Bidder				3.2883**	3.0572*	3.2892**
(p-value)				(0.0428)	(0.0585)	(0.0428)
Target Size	0.1703	0.2318	0.1861	0.1418	0.176	0.1414
(p-value)	(0.2577)	(0.1216)	(0.2223)	(0.3403)	(0.228)	(0.3429)
Target Turnover	0.00107	0.00001	0.000953	-0.00075	-0.00088	-0.00075
(p-value)	(0.797)	(0.9977)	(0.8184)	(0.8452)	(0.8099)	(0.8446)
Target NYSE/Amex	-0.6252*	-0.556	-0.638*	-0.7292**	-0.6572*	-0.7278**
(p-value)	(0.0713)	(0.1051)	(0.068)	(0.0357)	(0.0565)	(0.0368)
Target B/M	-0.6222*	-0.6906*	-0.6481*	-0.7246*	-0.7503**	-0.7254*
(p-value)	(0.0923)	(0.0691)	(0.0803)	(0.0513)	(0.0431)	(0.0514)
Target Runup	0.9759	0.9411	0.8852	0.9788	0.9852	0.9784
(p-value)	(0.1417)	(0.1665)	(0.1875)	(0.129)	(0.1331)	(0.1294)
Target Markup	-0.3905	-0.4276	-0.3757	-0.2764	-0.282	-0.2771
(p-value)	(0.4086)	(0.3735)	(0.4258)	(0.5607)	(0.5627)	(0.5597)
Collar	0.9452	0.9851	0.9621	0.9571	1.0148	0.9568
(p-value)	(0.1955)	(0.1762)	(0.1865)	(0.1873)	(0.1587)	(0.1874)
Toehold Exist	-1.3508*	-1.3753*	-1.4117*	-1.5398**	-1.4794**	-1.5384**
(p-value)	(0.0626)	(0.0597)	(0.0517)	(0.0246)	(0.0303)	(0.0249)
Horizontal	-0.087	-0.0959	-0.0868	-0.0545	-0.0855	-0.0557
(p-value)	(0.7913)	(0.7708)	(0.7923)	(0.8699)	(0.7962)	(0.8675)
Tender Offer	1.4328***	1.2938***	1.4347***	1.3807***	1.366***	1.3795***
(p-value)	(0.0013)	(0.0023)	(0.0014)	(0.0015)	(0.0015)	(0.0016)
Cash Bid	-0.00971	0.087	-0.0364	-0.1463	0.1024	-0.1483
(p-value)	(0.9765)	(0.7828)	(0.9127)	(0.6768)	(0.7486)	(0.6751)
Hostile	-3.7301***	-3.6555***	-3.7571***	-3.7591***	-3.7633***	-3.7573***
(p-value)	(<.0001)	(<.0001)	(<.0001)	(<.0001)	(<.0001)	(<.0001)
Multiple Bidders	-2.8945***	-2.8382***	-2.9492***	-2.8244***	-2.8593***	-2.8225***
(p-value)	(<.0001)	(<.0001)	(<.0001)	(<.0001)	(<.0001)	(<.0001)
Rumor	0.5709	0.5385	0.5644	0.5512	0.6062	0.5499
(p-value)	(0.3787)	(0.4031)	(0.384)	(0.3966)	(0.3476)	(0.3982)
Adj-R^2	0.2137	0.2122	0.2149	0.2245	0.2199	0.2245
Year Dummies	No	No	No	No	No	No
Industry Dummies	No	No	No	No	No	No
Number of Cases	572	284	288	572	284	288

2.11 Appendix D – Tests Performed with Idiosyncratic Volatility being the Main Explanatory Variable

Table 2-40 Cross-sectional Regression of Bidder Announcement CAR on Target and Bidder Idiosyncratic Volatility.

Bidder CAR is equal to the sum of Bidder Abnormal Return ($AR_{i,t}$) estimated over the announcement period [-1,+1]. ARi,t is equal to $ER_{i,t} - (\alpha_i + \beta_i ER_{M,t})$. $ER_{i,t}$ is the bidder company 'i' return on day 't' above the risk free rate on that day. $ER_{M,t}$ is the CRSP Value Weighted Index return on day 't' in excess of the risk free rate on that day. The model's components (α_i, β_i) are obtained by estimating the model $(R_{i,t} = \alpha_i + \beta_i R_{M,t} + e_{i,t})$ over the [-256; -43]. The idiosyncratic volatility is estimated as the standard deviation of the market adjusted residuals of the daily returns measured during the period spanning 256 trading days before the announcement to 2 trading days before the announcement [-256, -2]. Target Size is the logarithm of the target market value of equity 42 days before the announcement and target turnover is the ratio of the target volume to share outstanding estimated 42 days before the announcement. Target B/M is constructed as the ratio of the nearest target stock book value divided by the target stock price 42 days before the announcement. Target runup is defined as the ratio of the target price 2 days before the announcement divided by the target price 42 days before the announcement [(P_{-2} / P_{-42}) - 1]. Target markup is defined as the ratio of the offer price divided by the target price 2 days before the announcement [(Offer-Price / P_{-2}) - 1]. NYSE/AMEX, Collar, Tender Offer, Cash-Only, Hostile, Rumor, and Complete are dummy variables that respectively take the value of 1S if the Target is listed on NYSE/AMEX, the deal has a collar, the deal is a tender offer, the deal is financed by Cash only, the deal is hostile, the deal is preceded by a rumor and the deal is completed successfully. Horizontal is a dummy variable that takes a value of 1 if the bidder and target share the same four-digit Standard Industrial Classification (SIC) Code. The Toehold dummy takes a value of one if the bidder own more than 5% of target before the announcement day. Multibid dummy takes a value of 1 if there are multiple Bidders within the same contest (a contest is a 6-Month period from the first bidder's bid). Industry and year dummies corresponding to the target two-digit SIC codes and to the announcement year. The p-values are given underneath and are the White Heteroscedasticity consistent p-values. The *, **, *** indicate significance at 1%, 5%, and 10% respectively.

The Idiosyncratic Volatility is estimated over the [-256,-2] window						
	Target Idiosyncratic Volatility			Bidder Idiosyncratic Volatility		
Deal-Type	All Control Bids	Non-Cash-Only Control Bids	Cash-Only Control Bids	All Control Bids	Non-Cash-Only Control Bids	Cash-Only Control Bids
Constant	0.12144**	0.04989	0.15096**	0.168***	0.12792*	0.09857
(p-value)	(0.0266)	(0.5388)	(0.0157)	(0.0025)	(0.093)	(0.1373)
Idio_Vol	-0.34094	-0.38618	-0.36382	-1.43079***	-1.94841***	0.60559
(p-value)	(0.2672)	(0.4319)	(0.2327)	(0.0038)	(0.0018)	(0.4316)
Target Size	-0.00972***	-0.01027**	-0.00795**	-0.01048***	-0.01192***	-0.00607*
(p-value)	(0.0011)	(0.0312)	(0.0294)	(0.0003)	(0.0099)	(0.0894)
Target Turnover	-0.0001357***	-0.0001513***	3.157E-05	-0.0001082**	-8.73E-05	-4.11E-07
(p-value)	(0.0069)	(0.0079)	(0.6375)	(0.0315)	(0.2466)	(0.9944)
Target NYSE/Amex	0.00348	-0.000494	-0.00192	0.00229	-0.00646	-0.0009847
(p-value)	(0.6463)	(0.9709)	(0.8115)	(0.7564)	(0.6191)	(0.904)
Target B/M	-0.00787	-0.02321	-0.00453	-0.00623	-0.02241	-0.0063
(p-value)	(0.339)	(0.1358)	(0.5723)	(0.4282)	(0.1494)	(0.4289)
Target Runup	0.00455	0.01579	-0.00356	0.0008297	0.0102	-0.00556
(p-value)	(0.7737)	(0.5561)	(0.7966)	(0.957)	(0.6949)	(0.6785)
Target Markup	-0.03344***	-0.02774*	-0.03481***	-0.03729***	-0.03313**	-0.03514***
(p-value)	(0.0047)	(0.0882)	(0.0045)	(0.0012)	(0.0312)	(0.0046)
Collar	-0.02729*	-0.03625**	0.02409	-0.03093**	-0.03854**	0.02215
(p-value)	(0.0646)	(0.0313)	(0.2988)	(0.027)	(0.0123)	(0.3354)
Toehold Exist	0.01349	0.05569*	-0.0009537	0.00612	0.04412	0.004
(p-value)	(0.437)	(0.0555)	(0.9706)	(0.7215)	(0.1177)	(0.8762)
Horizontal	0.00632	-0.00337	0.01152	0.00885	0.00214	0.01099
(p-value)	(0.3764)	(0.769)	(0.1314)	(0.2115)	(0.8484)	(0.1638)
Tender Offer	0.00196	0.01729	-0.0004246	-0.000518	0.00837	-0.00131
(p-value)	(0.7599)	(0.2856)	(0.9486)	(0.9348)	(0.6058)	(0.8447)
Cash Bid	0.03007***			0.02215***		
(p-value)	(<.0001)			(0.0016)		
Hostile	-0.01062	0.02071	-0.03244*	-0.00749	0.02165	-0.03714*
(p-value)	(0.5876)	(0.5575)	(0.0962)	(0.6854)	(0.5174)	(0.0725)
Multiple Bidders	0.01098	0.03317	-0.01354	0.0135	0.0368*	-0.01643
(p-value)	(0.3104)	(0.1054)	(0.2654)	(0.2241)	(0.0762)	(0.1724)
Rumor	0.00665	0.00969	-0.0051	0.00151	0.0003123	-0.00628
(p-value)	(0.5103)	(0.5738)	(0.6763)	(0.8798)	(0.9857)	(0.6092)
Complete	0.03072***	0.0447***	0.01117	0.02709**	0.03843**	0.01069
(p-value)	(0.0053)	(0.0047)	(0.3959)	(0.0122)	(0.0134)	(0.4108)
Adj-R^2	0.2058	0.1559	0.0731	0.2286	0.2052	0.0729
Year Dummies	Yes	Yes	Yes	Yes	Yes	Yes
Industry Dummies	Yes	Yes	Yes	Yes	Yes	Yes
Number of Cases	572	284	288	572	284	288

Table 2-41 Cross-sectional Regression of Bidder Announcement CAR on Target and Bidder Idiosyncratic Volatility

Bidder CAR is equal to the sum of Bidder Abnormal Return ($AR_{i,t}$) estimated over the announcement period [-1,+1]. ARi,t is equal to $ER_{i,t} - (\alpha_i + \beta_i ER_{M,t})$. $ER_{i,t}$ is the bidder company 'i' return on day 't' above the risk free rate on that day. $ER_{M,t}$ is the CRSP Value Weighted Index return on day 't' in excess of the risk free rate on that day. The model's components (α_i, β_i) are obtained by estimating the model $(R_{i,t} = \alpha_i + \beta_i R_{M,t} + e_{i,t})$ over the [-256; -43]. The idiosyncratic volatility is estimated as the standard deviation of the market adjusted residuals of the daily returns measured during the period spanning 256 trading days before the announcement to 43 trading days before the announcement [-256, -43]. Target Size is the logarithm of the target market value of equity 42 days before the announcement and target turnover is the ratio of target volume to share outstanding estimated 42 days before the announcement. Target B/M is constructed as the ratio of the nearest target stock book value divided by the target stock price 42 days before the announcement. Target runup is defined as the ratio of the target price 2 days before the announcement divided by the target price 42 days before the announcement [(P_{-2} / P_{-42}) - 1]. Target markup is defined as the ratio of the offer price divided by the target price 2 days before the announcement [(Offer-Price / P_{-2}) - 1]. NYSE/AMEX, Collar, Tender Offer, Cash-Only, Hostile, Rumor, and Complete are dummy variables that respectively take the value of 1S if the Target is listed on NYSE/AMEX, the deal has a collar, the deal is a tender offer, the deal is financed by Cash only, the deal is hostile, the deal is preceded by a rumor and the deal is completed successfully. Horizontal is a dummy variable that takes a value of 1 if the bidder and target share the same four-digit Standard Industrial Classification (SIC) Code. The Toehold dummy takes a value of one if the bidder own more than 5% of target before the announcement day. Multibid dummy takes a value of 1 if there are multiple Bidders within the same contest (a contest is a 6-Month period from the first bidder's bid). Industry and year dummies corresponding to the target two-digit SIC codes and to the announcement year. The p-values are given underneath and are the White Heteroscedasticity consistent p-values. The *, **, *** indicate significance at 1%, 5%, and 10% respectively.

The Idiosyncratic Volatility is estimated over the [-256,-43] window

	Target Idiosyncratic Volatility			Bidder Idiosyncratic Volatility		
Deal-Type	All Control Bids	Non-Cash-Only Control Bids	Cash-Only Control Bids	All Control Bids	Non-Cash-Only Control Bids	Cash-Only Control Bids
Constant	0.12266**	0.04787	0.16416**	0.16574***	0.12028	0.10436
(p-value)	(0.0242)	(0.5476)	(0.0116)	(0.0031)	(0.1093)	(0.1133)
Idio_Vol	-0.35098	-0.36283	-0.45367	-1.31265***	-1.79567***	0.4558
(p-value)	(0.2532)	(0.4347)	(0.1407)	(0.0072)	(0.0036)	(0.5401)
Target Size	-0.00982***	-0.01023**	-0.00844**	-0.01049***	-0.01209***	-0.00626*
(p-value)	(0.0009)	(0.0309)	(0.0229)	(0.0003)	(0.0091)	(0.079)
Target Turnover	-0.0001353***	-0.0001516***	0.0000351	-0.0001079**	-8.78E-05	-9.48E-07
(p-value)	(0.0067)	(0.0073)	(0.6021)	(0.0329)	(0.2389)	(0.9873)
Target NYSE/Amex	0.00328	-0.0005023	-0.00249	0.00255	-0.0058	-0.0009572
(p-value)	(0.667)	(0.9704)	(0.7576)	(0.7298)	(0.6569)	(0.9069)
Target B/M	-0.00817	-0.02336	-0.00486	-0.00619	-0.02227	-0.00602
(p-value)	(0.3162)	(0.133)	(0.5415)	(0.4317)	(0.1507)	(0.4526)
Target Runup	0.00406	0.01576	-0.00441	0.0006728	0.00934	-0.00588
(p-value)	(0.7972)	(0.5572)	(0.7458)	(0.9652)	(0.7214)	(0.6614)
Target Markup	-0.03361***	-0.02801*	-0.03494***	-0.03734***	-0.03364**	-0.03557***
(p-value)	(0.0045)	(0.0835)	(0.0045)	(0.0013)	(0.0302)	(0.004)
Collar	-0.02719*	-0.03613**	0.02484	-0.03046**	-0.03808**	0.02266
(p-value)	(0.0655)	(0.0322)	(0.2844)	(0.0296)	(0.0136)	(0.3292)
Toehold Exist	0.01324	0.05497*	-0.0008661	0.00657	0.04518	0.00388
(p-value)	(0.4418)	(0.0565)	(0.9729)	(0.7037)	(0.1112)	(0.878)
Horizontal	0.00646	-0.0035	0.01173	0.00858	0.00167	0.01116
(p-value)	(0.3667)	(0.7605)	(0.1229)	(0.2259)	(0.8821)	(0.1611)
Tender Offer	0.00172	0.0172	-0.0005048	-0.0005584	0.00892	-0.00123
(p-value)	(0.7872)	(0.2875)	(0.9387)	(0.9299)	(0.5822)	(0.855)
Cash Bid	0.0299***			0.02284***		
(p-value)	(<.0001)			(0.0012)		
Hostile	-0.01023	0.02058	-0.03128	-0.00769	0.02205	-0.03619*
(p-value)	(0.6005)	(0.56)	(0.1088)	(0.6785)	(0.5128)	(0.0794)
Multiple Bidders	0.01035	0.03301	-0.01477	0.01347	0.03668*	-0.01599
(p-value)	(0.3379)	(0.1075)	(0.2248)	(0.2254)	(0.078)	(0.1852)
Rumor	0.00676	0.00965	-0.00426	0.00144	0.0004951	-0.00632
(p-value)	(0.5036)	(0.5749)	(0.7281)	(0.8846)	(0.9774)	(0.6085)
Complete	0.03078***	0.04476***	0.011	0.02744**	0.03949**	0.01078
(p-value)	(0.0052)	(0.0046)	(0.4007)	(0.0116)	(0.0113)	(0.41)
Adj-R^2	0.2059	0.1558	0.0745	0.226	0.1997	0.0716
Year Dummies	Yes	Yes	Yes	Yes	Yes	Yes
Industry Dummies	Yes	Yes	Yes	Yes	Yes	Yes
Number of Cases	572	284	288	572	284	288

Table 2-42 Cross-sectional Regression of Bidder Announcement CAR on Target and Bidder Idiosyncratic Volatility

Bidder CAR is equal to the sum of Bidder Abnormal Return ($AR_{i,t}$) estimated over the announcement period [-1,+1]. ARi,t is equal to $ER_{i,t} - (\alpha_i + \beta_i ER_{M,t})$. $ER_{i,t}$ is the bidder company 'i' return on day 't' above the risk free rate on that day. $ER_{M,t}$ is the CRSP Value Weighted Index return on day 't' in excess of the risk free rate on that day. The model's components (α_i, β_i) are obtained by estimating the model $(R_{i,t} = \alpha_i + \beta_i R_{M,t} + e_{i,t})$ over the [-256; -43]. The idiosyncratic volatility is estimated as the standard deviation of the market adjusted residuals of the daily returns measured during the period spanning 43 trading days before the announcement to 2 trading days before the announcement [-43, -2]. Target Size is the logarithm of the target market value of equity 42 days before the announcement and target turnover is the ratio of the target volume to share outstanding estimated 42 days before the announcement. Target B/M is constructed as the ratio of the nearest target stock book value divided by the target stock price 42 days before the announcement. Target runup is defined as the ratio of the target price 2 days before the announcement divided by the target price 42 days before the announcement [(P_{-2} / P_{-42}) - 1]. Target markup is defined as the ratio of the offer price divided by the target price 2 days before the announcement [(Offer-Price / P_{-2}) - 1]. NYSE/AMEX, Collar, Tender Offer, Cash-Only, Hostile, Rumor, and Complete are dummy variables that respectively take the value of 1S if the Target is listed on NYSE/AMEX, the deal has a collar, the deal is a tender offer, the deal is financed by Cash only, the deal is hostile, the deal is preceded by a rumor and the deal is completed successfully. Horizontal is a dummy variable that takes a value of 1 if the bidder and target share the same four-digit Standard Industrial Classification (SIC) Code. The Toehold dummy takes a value of one if the bidder own more than 5% of target before the announcement day. Multibid dummy takes a value of 1 if there are multiple Bidders within the same contest (a contest is a 6-Month period from the first bidder's bid). Industry and year dummies corresponding to the target two-digit SIC codes and to the announcement year. The p-values are given underneath and are the White Heteroscedasticity consistent p-values. The *, **, *** indicate significance at 1%, 5%, and 10% respectively.

The Idiosyncratic Volatility is estimated over the [-43,-2] window						
	Target Idiosyncratic Volatility			Bidder Idiosyncratic Volatility		
Deal-Type	All Control Bids	Non-Cash-Only Control Bids	Cash-Only Control Bids	All Control Bids	Non-Cash-Only Control Bids	Cash-Only Control Bids
Constant	0.10457*	0.05151	0.12292**	0.13768***	0.11233	0.09219
(p-value)	(0.0415)	(0.5419)	(0.0254)	(0.0067)	(0.1733)	(0.1064)
Idio_Vol	-0.14716	-0.3821	-0.05033	-1.24018***	-1.88335***	0.88318*
(p-value)	(0.4328)	(0.3688)	(0.7493)	(0.0023)	(0.0002)	(0.0784)
Target Size	-0.00902***	-0.01006**	-0.00685**	-0.00931***	-0.00949**	-0.00571*
(p-value)	(0.0018)	(0.0353)	(0.044)	(0.0012)	(0.0397)	(0.0917)
Target Turnover	-0.0001474***	-0.0001546***	6.96E-06	-0.0001374***	-1.30E-04*	4.27E-06
(p-value)	(0.0018)	(0.0074)	(0.9126)	(0.0044)	(0.0646)	(0.9411)
Target NYSE/Amex	0.00468	0.0003518	-0.0008171	0.00283	-0.0047	-0.0007736
(p-value)	(0.5327)	(0.9788)	(0.9202)	(0.6985)	(0.7105)	(0.9239)
Target B/M	-0.00744	-0.02232	-0.00478	-0.00578	-0.02262	-0.0081
(p-value)	(0.3663)	(0.1534)	(0.5467)	(0.4885)	(0.1576)	(0.3061)
Target Runup	0.00452	0.01622	-0.00535	0.00275	0.01876	-0.0023
(p-value)	(0.7774)	(0.5454)	(0.6955)	(0.859)	(0.4629)	(0.8649)
Target Markup	-0.03328***	-0.0263	-0.03593***	-0.03453***	-0.02618*	-0.03389***
(p-value)	(0.0046)	(0.1117)	(0.0034)	(0.002)	(0.0821)	(0.0051)
Collar	-0.02734*	-0.03721**	0.0233	-0.03018**	-0.03891**	0.01853
(p-value)	(0.0652)	(0.0264)	(0.3235)	(0.0348)	(0.0132)	(0.4033)
Toehold Exist	0.01347	0.05795*	0.00177	0.00874	0.04708*	0.00225
(p-value)	(0.4386)	(0.0562)	(0.943)	(0.5996)	(0.0928)	(0.9326)
Horizontal	0.00586	-0.00319	0.01173	0.00867	0.0012	0.01083
(p-value)	(0.4124)	(0.7782)	(0.1277)	(0.2237)	(0.9141)	(0.1532)
Tender Offer	0.00228	0.01836	-0.00112	0.0009444	0.01069	-0.00217
(p-value)	(0.7254)	(0.2665)	(0.8672)	(0.882)	(0.5125)	(0.7432)
Cash Bid	0.0307***			0.02453***		
(p-value)	(<.0001)			(0.0004)		
Hostile	-0.01115	0.0212	-0.03393*	-0.00812	0.01953	-0.03945**
(p-value)	(0.5731)	(0.5487)	(0.0865)	(0.6687)	(0.5543)	(0.0473)
Multiple Bidders	0.01166	0.03404*	-0.01381	0.01233	0.0366*	-0.01662
(p-value)	(0.2901)	(0.0978)	(0.2676)	(0.264)	(0.08)	(0.1643)
Rumor	0.00582	0.01005	-0.00678	0.00353	0.0011	-0.00721
(p-value)	(0.564)	(0.5641)	(0.5818)	(0.7264)	(0.9494)	(0.5535)
Complete	0.03051***	0.04393***	0.01062	0.02771***	0.0371**	0.00925
(p-value)	(0.0058)	(0.0057)	(0.4219)	(0.0095)	(0.0146)	(0.4694)
Adj-R^2	0.2047	0.1565	0.0696	0.2255	0.2104	0.0795
Year Dummies	Yes	Yes	Yes	Yes	Yes	Yes
Industry Dummies	Yes	Yes	Yes	Yes	Yes	Yes
Number of Cases	572	284	288	572	284	288

Table 2-43 Logistic Model Estimation of the Probability that the Deal will be a Cash-Only Offer Versus a Being a Non-Cash-Only Offer using Idiosyncratic Volatility

The idiosyncratic volatility is estimated as the standard deviation of the market adjusted residuals of the daily returns. Target (Acquirer) Size is the logarithm of the target (acquirer) market value of equity 42 days before the announcement and target (acquirer) turnover is the ratio of the target (acquirer) volume to share outstanding estimated 42 days before the announcement. Target (acquirer) B/M is constructed as the ratio of the nearest target stock book value divided by the target stock price 42 days before the announcement. Relative size is the ratio of the target size divided by the acquirer size (in log terms). NYSE/AMEX, Collar, Tender Offer, Cash-Only, Hostile, Rumor, and Complete are dummy variables that respectively take the value of 1 if the Target (Acquirer) is listed on NYSE/AMEX, the deal has a collar, the deal is a tender offer, the deal is financed by Cash only, the deal is hostile, the deal is preceded by a rumor and the deal is completed successfully. Horizontal is a dummy variable that takes a value of 1 if the bidder and target share the same four-digit Standard Industrial Classification (SIC) Code. The Toehold dummy takes a value of one if the bidder own more than 5% of target before the announcement day. Multibid dummy takes a value of 1 if there are multiple Bidders within the same contest (a contest is a 6-Month period from the first bidder's bid). The p-values are given underneath and are the MLE p-values. The *, **, *** indicate significance at 1%, 5%, and 10% respectively.

	Estimated over [-256,-2] Interval		Estimated over [-256,-43] Interval		Estimated over [-43,-2] Interval	
Independent Variable	Target	Acquirer	Target	Acquirer	Target	Acquirer
Constant	-2.6937	5.3212	-3.3727	5.2806	0.5642	2.6699
(p-value)	0.7866	(0.5541)	(0.7396)	(0.5578)	(0.9493)	(0.7606)
Idiosyncratic Volatility	-68.846***	-123***	-77.1284***	-115.3***	-27.0137***	-94.3296***
(p-value)	(<.0001)	(<.0001)	(<.0001)	(<.0001)	(<.0001)	(<.0001)
Target Size	-0.7536	-0.1625	-0.8722	-0.1484	-0.1534	-0.0997
(p-value)	(0.2775)	(0.7899)	(0.2184)	(0.8079)	(0.8008)	(0.8665)
Target Turnover	0.00248	0.00194	0.00312	0.00214	0.000409	-0.00051
(p-value)	(0.3527)	(0.5271)	(0.2504)	(0.4822)	(0.8833)	(0.8695)
Target NYSE/Amex	-0.3797	-0.1449	-0.4184	-0.1445	-0.1867	-0.1458
(p-value)	(0.1462)	(0.5819)	(0.112)	(0.5812)	(0.4569)	(0.5729)
Target B/M	0.3663	0.3987	0.3309	0.4016	0.267	0.3317
(p-value)	(0.2826)	(0.2354)	(0.3268)	(0.234)	(0.4047)	(0.2998)
Acquirer Size	0.7828	0.1228	0.8621	0.1181	0.3427	0.1849
(p-value)	(0.1984)	(0.8194)	(0.1651)	(0.8265)	(0.5224)	(0.7244)
Acquirer Turnover	-0.00805	0.00438	-0.00744	0.00366	-0.0132	-0.00085
(p-value)	(0.4333)	(0.6817)	(0.4711)	(0.7315)	(0.1817)	(0.932)
Acquirer NYSE/Amex	-0.2009	-0.2009	-0.1941	-0.204	-0.123	-0.1166
(p-value)	(0.3742)	(0.3801)	(0.3931)	(0.3709)	(0.5728)	(0.6026)
Acquirer B/M	0.8088*	0.2064	0.7362	0.2073	0.8731	0.5166
(p-value)	(0.0942)	(0.6879)	(0.1315)	(0.685)	(0.0602)	(0.2884)
Relative Size	2.5643	-3.4112	4.0763	-3.6412	-4.0259	-3.3661
(p-value)	(0.8166)	(0.7292)	(0.7181)	(0.7121)	(0.6802)	(0.7257)
Collar	-2.2275***	-2.3491***	-2.2123***	-2.3623***	-2.3923	-2.303***
(p-value)	(0.0008)	(0.0004)	(0.0009)	(0.0003)	(0.0002)	(0.0004)
Toehold Exist	-0.3382	-0.8568	-0.7832	-0.8875	-0.3574	-0.6643
(p-value)	(0.6568)	(0.2583)	(0.3374)	(0.2479)	(0.6317)	(0.352)
Horizontal	-0.5894**	-0.5155**	-0.5323**	-0.5245**	-0.6992	-0.5337**
(p-value)	(0.0211)	(0.0457)	(0.0386)	(0.0413)	(0.0046)	(0.036)
Tender Offer	1.6148***	1.5982***	1.6314***	1.5716***	1.5667	1.6045***
(p-value)	(<.0001)	(<.0001)	(<.0001)	(<.0001)	(<.0001)	(<.0001)
Hostile	-0.3615	0.0201	-0.245	0.0327	-0.4897	-0.231
(p-value)	(0.5487)	(0.9747)	(0.6862)	(0.9586)	(0.3953)	(0.6982)
Multiple Bidders	1.1164***	1.1317***	0.9469***	1.1276***	1.1827	1.0587***
(p-value)	(0.002)	(0.002)	(0.0095)	(0.0021)	(0.0008)	(0.0031)
Rumor	0.4708	0.0622	0.4889	0.0669	0.3934	0.1913
(p-value)	(0.2587)	(0.8819)	(0.2437)	(0.8732)	(0.3302)	(0.6415)
Adj-R^2	0.3385	0.3629	0.3475	0.3582	0.2954	0.3380
Year Dummies	No	No	No	No	No	No
Industry Dummies	No	No	No	No	No	No
Number of Cases	572	572	572	572	572	572

Table 2-44 Logistic Model Estimation of the Probability that the Deal Will be completed successfully using Target and Bidder Idiosyncratic Volatility.

The idiosyncratic volatility is estimated as the standard deviation of the market adjusted residuals of the daily returns. Target Size is the logarithm of the target (acquirer) market value of equity 42 days before the announcement and target turnover is the ratio of the target volume to share outstanding estimated 42 days before the announcement. Target (acquirer) B/M is constructed as the ratio of the nearest target stock book value divided by the target stock price 42 days before the announcement. Target runup is defined as the ratio of the target (acquirer) price 2 days before the announcement divided by the target (acquirer) price 42 days before the announcement [$(P_{-2} / P_{-42}) - 1$]. Target markup is defined as the ratio of the offer price divided by the target (acquirer) price 2 days before the announcement [(Offer-Price / P_{-2}) - 1]. NYSE/AMEX, Collar, Tender Offer, Cash-Only, Hostile, Rumor, and Complete are dummy variables that respectively take the value of 1 if the Target is listed on NYSE/AMEX, the deal has a collar, the deal is a tender offer, the deal is financed by Cash only, the deal is hostile, the deal is preceded by a rumor and the deal is completed successfully. Horizontal is a dummy variable that takes a value of 1 if the bidder and target share the same four-digit Standard Industrial Classification (SIC) Code. The Toehold dummy takes a value of one if the bidder own more than 5% of target before the announcement day. Multibid dummy takes a value of 1 if there are multiple Bidders within the same contest (a contest is a 6-Month period from the first bidder's bid). The p-values are given underneath and are the MLE p-values. The *, **, *** indicate significance at 1%, 5%, and 10% respectively.

	Estimated over [-256,-2] Interval		Estimated over [-256,-43] Interval		Estimated over [-43,-2] Interval	
Deal-Type	Target	Acquirer	Target	Acquirer	Target	Acquirer
Constant	-0.3711	0.1952	-0.5862	0.1469	-0.223	-0.1019
(p-value)	(0.8579)	(0.9227)	(0.7806)	(0.9419)	(0.9089)	(0.9585)
Idiosyncratic Volatility	-3.4002	-20.1813	-0.4961	-18.2215	-6.4328	-19.4344*
(p-value)	(0.742)	(0.1001)	(0.9646)	(0.131)	(0.3236)	(0.0926)
Target Size	0.2359	0.2266	0.2449*	0.2262	0.2296	0.2431*
(p-value)	(0.0982)	(0.108)	(0.0879)	(0.1089)	(0.0989)	(0.0821)
Target Turnover	-0.00007	0.000208	-0.00029	0.000219	0.000196	-0.00021
(p-value)	(0.9849)	(0.9543)	(0.9349)	(0.9518)	(0.9571)	(0.9534)
Target NYSE/Amex	-0.5784	-0.6577**	-0.555*	-0.6457	-0.5982	-0.653**
(p-value)	(0.0827)	(0.0466)	(0.0974)	(0.0503)	(0.066)	(0.0474)
Target B/M	-0.723	-0.6636*	-0.7334**	-0.6674	-0.6908	-0.6604*
(p-value)	(0.0439)	(0.0681)	(0.0424)	(0.067)	(0.0496)	(0.0641)
Target Runup	0.8161	0.7599	0.8012	0.7626	0.8806	0.7621
(p-value)	(0.1941)	(0.2163)	(0.2032)	(0.2158)	(0.1633)	(0.215)
Target Markup	-0.4219	-0.4422	-0.4272	-0.4443	-0.4082	-0.4127
(p-value)	(0.3426)	(0.319)	(0.3383)	(0.3172)	(0.3564)	(0.3515)
Collar	0.7525	0.7303	0.7537	0.7343	0.7286	0.7276
(p-value)	(0.243)	(0.2599)	(0.2428)	(0.2571)	(0.2574)	(0.2605)
Toehold Exist	-1.4165	-1.5399**	-1.4347**	-1.5285	-1.3398	-1.5221**
(p-value)	(0.0425)	(0.0285)	(0.0391)	(0.0297)	(0.0601)	(0.0293)
Horizontal	-0.0969	-0.0417	-0.1005	-0.0469	-0.1093	-0.0516
(p-value)	(0.7604)	(0.8961)	(0.7522)	(0.8831)	(0.7303)	(0.8713)
Tender Offer	1.3969	1.4098***	1.3773***	1.4036	1.4476	1.4277***
(p-value)	(0.001)	(0.0009)	(0.0012)	(0.0009)	(0.0008)	(0.0008)
Cash Bid	0.119	-0.0714	0.1413	-0.0511	0.1102	-0.0418
(p-value)	(0.7004)	(0.829)	(0.6519)	(0.8766)	(0.714)	(0.897)
Hostile	-3.6474	-3.6656***	-3.6359***	-3.6588	-3.6738	-3.6817***
(p-value)	(<.0001)	(<.0001)	(<.0001)	(<.0001)	(<.0001)	(<.0001)
Multiple Bidders	-2.7511	-2.7172***	-2.7533***	-2.7184	-2.7127	-2.7245***
(p-value)	(<.0001)	(<.0001)	(<.0001)	(<.0001)	(<.0001)	(<.0001)
Rumor	0.5036	0.4409	0.4982	0.4434	0.5116	0.4549
(p-value)	(0.429)	(0.4905)	(0.4347)	(0.4879)	(0.4222)	(0.4767)
Adj-R^2	0.1987	0.2021	0.1985	0.1469	0.1999	0.2022
Year Dummies	No	No	No	No	No	No
Industry Dummies	No	No	No	No	No	No
Number of Cases	572	284	288	572	284	288

2.12 Appendix E – Tests Performed with AIV and VIV as main explanatory Variables with idiosyncratic volatility as Control

Table 2-45 Cross-sectional Regression of Bidder Announcement CAR on AIV-Bidder (Target) and VIV-Bidder (Target) while controlling for Idiosyncratic Volatility.

Bidder CAR is equal to the sum of Bidder Abnormal Return ($AR_{i,t}$) estimated over the announcement period [-1,+1]. ARi,t is equal to $ER_{i,t} - (\alpha_i + \beta_i ER_{M,t})$. $ER_{i,t}$ is the bidder company 'i' return on day 't' above the risk free rate on that day. $ER_{M,t}$ is the CRSP Value Weighted Index return on day 't' in excess of the risk free rate on that day. The model's components (α_i, β_i) are obtained by estimating the model $(R_{i,t} = \alpha_i + \beta_i R_{M,t} + e_{i,t})$ over the [-256; -43]. The idiosyncratic volatility is estimated as the standard deviation of the market adjusted residuals of the daily returns measured during the period spanning 43 trading days before the announcement to 2 trading days before the announcement [-43, -2]. . Target Size is the logarithm of the target market value of equity 42 days before the announcement and target turnover is the ratio of the target volume to share outstanding estimated 42 days before the announcement. Target B/M is constructed as the ratio of the nearest target stock book value divided by the target stock price 42 days before the announcement. Target runup is defined as the ratio of the target price 2 days before the announcement divided by the target price 42 days before the announcement $[(P_{-2} / P_{-42}) - 1]$. Target markup is defined as the ratio of the offer price divided by the target price 2 days before the announcement [(Offer-Price / P_{-2}) - 1]. NYSE/AMEX, Collar, Tender Offer, Cash-Only, Hostile, Rumor, and Complete are dummy variables that respectively take the value of 1S if the Target is listed on NYSE/AMEX, the deal has a collar, the deal is a tender offer, the deal is financed by Cash only, the deal is hostile, the deal is preceded by a rumor and the deal is completed successfully. Horizontal is a dummy variable that takes a value of 1 if the bidder and target share the same four-digit Standard Industrial Classification (SIC) Code. The Toehold dummy takes a value of one if the bidder own more than 5% of target before the announcement day. Multibid dummy takes a value of 1 if there are multiple Bidders within the same contest (a contest is a 6-Month period from the first bidder's bid). Industry and year dummies corresponding to the target two-digit SIC codes and to the announcement year. The p-values are given underneath and are the White Heteroscedasticity consistent p-values. The *, **, *** indicate significance at 1%, 5%, and 10% respectively.

The Idiosyncratic Volatility is estimated over the [-43,-2] window						
	Target AIV Related Tests			Target VIV Related Tests		
Deal-Type	All Control Bids	Non-Cash-Only Control Bids	Cash-Only Control Bids	All Control Bids	Non-Cash-Only Control Bids	Cash-Only Control Bids
Constant	0.133**	0.08489	0.08676	0.10896**	0.0559	0.12303**
(p-value)	(0.0167)	(0.3483)	(0.1421)	(0.0391)	(0.5088)	(0.0253)
AIV-Variable	-0.02937	-0.04062	0.03328			
(p-value)	(0.1884)	(0.2302)	(0.1891)			
VIV-Variable				-0.02803	-0.04422	-0.00115
(p-value)				(0.5177)	(0.5407)	(0.9816)
Idio_Vol	0.05077	0.04268	-0.21017	-0.12164	-0.3329	-0.04947
(p-value)	(0.8274)	(0.9386)	(0.2891)	(0.5125)	(0.4301)	(0.7594)
Target Size	-0.01059***	-0.01142**	-0.00472	-0.00928***	-0.01031**	-0.00686**
(p-value)	(0.0008)	(0.0214)	(0.2027)	(0.0019)	(0.0342)	(0.0441)
Target Turnover	-0.0001366***	-0.0001458***	-2.30E-05	-0.0001456***	-0.0001518***	0.0000071
(p-value)	(0.0072)	(0.0144)	(0.7168)	(0.0022)	(0.0088)	(0.9116)
Target NYSE/Amex	0.00372	-0.0006353	0.0004186	0.00472	0.0007064	-0.0008256
(p-value)	(0.6209)	(0.9616)	(0.9598)	(0.5289)	(0.9576)	(0.9198)
Target B/M	-0.00759	-0.02075	-0.00518	-0.00708	-0.02105	-0.00476
(p-value)	(0.3551)	(0.1903)	(0.5183)	(0.3891)	(0.1796)	(0.5508)
Target Runup	0.00231	0.01292	-0.00397	0.00485	0.0155	-0.00528
(p-value)	(0.8867)	(0.6376)	(0.7751)	(0.7621)	(0.5638)	(0.709)
Target Markup	-0.03294***	-0.02723	-0.03854***	-0.03359***	-0.02721	-0.03589***
(p-value)	(0.0058)	(0.1047)	(0.0018)	(0.0042)	(0.1057)	(0.0044)
Collar	-0.02833*	-0.0374**	0.02225	-0.02764*	-0.03692**	0.0233
(p-value)	(0.0549)	(0.0242)	(0.327)	(0.0629)	(0.0262)	(0.3236)
Toehold Exist	0.01289	0.05159*	0.00102	0.01364	0.0584*	0.00176
(p-value)	(0.4426)	(0.0877)	(0.9681)	(0.4344)	(0.0558)	(0.9437)
Horizontal	0.00623	-0.00297	0.01205	0.00585	-0.00306	0.01173
(p-value)	(0.3823)	(0.7934)	(0.1196)	(0.4128)	(0.7871)	(0.1284)
Tender Offer	0.00259	0.01933	-0.00212	0.00243	0.01987	-0.00112
(p-value)	(0.6917)	(0.239)	(0.7528)	(0.7093)	(0.242)	(0.8664)
Cash Bid	0.02919***			0.03036***		
(p-value)	(<.0001)			(<.0001)		
Hostile	-0.01044	0.01745	-0.03634*	-0.01098	0.02034	-0.0339*
(p-value)	(0.5954)	(0.6174)	(0.0648)	(0.5792)	(0.5645)	(0.0884)
Multiple Bidders	0.009	0.03084	-0.01165	0.01198	0.03412*	-0.01378
(p-value)	(0.4182)	(0.1426)	(0.3459)	(0.279)	(0.0965)	(0.2675)
Rumor	0.00645	0.01037	-0.00812	0.00565	0.00928	-0.00678
(p-value)	(0.5259)	(0.5511)	(0.5172)	(0.5754)	(0.5962)	(0.581)
Complete	0.03042***	0.04395***	0.00988	0.0307***	0.04399***	0.01065
(p-value)	(0.0055)	(0.0053)	(0.4497)	(0.0054)	(0.0053)	(0.4206)
Adj-R^2	0.2055	0.1565	0.0698	0.2035	0.1534	0.0654
Year Dummies	Yes	Yes	Yes	Yes	Yes	Yes
Industry Dummies	Yes	Yes	Yes	Yes	Yes	Yes
Number of Cases	515	258	257	515	258	257

Table 2-46 Cross-sectional Regression of Bidder Announcement CAR on AIV-Bidder (Target) and VIV-Bidder (Target) while controlling for Idiosyncratic Volatility

Bidder CAR is equal to the sum of Bidder Abnormal Return ($AR_{i,t}$) estimated over the announcement period [-1,+1]. ARi,t is equal to $ER_{i,t} - (\alpha_i + \beta_i ER_{M,t})$. $ER_{i,t}$ is the bidder company 'i' return on day 't' above the risk free rate on that day. $ER_{M,t}$ is the CRSP Value Weighted Index return on day 't' in excess of the risk free rate on that day. The model's components (α_i, β_i) are obtained by estimating the model $(R_{i,t} = \alpha_i + \beta_i R_{M,t} + e_{i,t})$ over the [-256; -43]. The idiosyncratic volatility is estimated as the standard deviation of the market adjusted residuals of the daily returns measured during the period spanning 43 trading days before the announcement to 2 trading days before the announcement [-43, -2]. . Target Size is the logarithm of the target market value of equity 42 days before the announcement and target turnover is the ratio of the target volume to share outstanding estimated 42 days before the announcement. Target B/M is constructed as the ratio of the nearest target stock book value divided by the target stock price 42 days before the announcement. Target runup is defined as the ratio of the target price 2 days before the announcement divided by the target price 42 days before the announcement [(P_{-2} / P_{-42}) - 1]. Target markup is defined as the ratio of the offer price divided by the target price 2 days before the announcement [(Offer-Price / P_{-2}) - 1]. NYSE/AMEX, Collar, Tender Offer, Cash-Only, Hostile, Rumor, and Complete are dummy variables that respectively take the value of 1S if the Target is listed on NYSE/AMEX, the deal has a collar, the deal is a tender offer, the deal is financed by Cash only, the deal is hostile, the deal is preceded by a rumor and the deal is completed successfully. Horizontal is a dummy variable that takes a value of 1 if the bidder and target share the same four-digit Standard Industrial Classification (SIC) Code. The Toehold dummy takes a value of one if the bidder own more than 5% of target before the announcement day. Multibid dummy takes a value of 1 if there are multiple Bidders within the same contest (a contest is a 6-Month period from the first bidder's bid). Industry and year dummies corresponding to the target two-digit SIC codes and to the announcement year. The p-values are given underneath and are the White Heteroscedasticity consistent p-values. The *, **, *** indicate significance at 1%, 5%, and 10% respectively.

The Idiosyncratic Volatility is estimated over the [-43,-2] window						
	Bidder AIV Related Tests			Bidder VIV Related Tests		
Deal-Type	All Control Bids	Non-Cash-Only Control Bids	Cash-Only Control Bids	All Control Bids	Non-Cash-Only Control Bids	Cash-Only Control Bids
Constant	0.15388***	0.13707*	0.08554	0.13585***	0.10367	0.09899*
(p-value)	(0.0034)	(0.0783)	(0.1622)	(0.007)	(0.2011)	(0.0818)
AIV-Variable	-0.05947	-0.0991**	0.02415			
(p-value)	(0.1233)	(0.0492)	(0.6589)			
VIV-Variable				-0.19278	-0.19016	-0.29049
(p-value)				(0.2361)	(0.419)	(0.1026)
Idio_Vol	-0.54767	-0.72679	0.63484	-0.97193**	-1.62218***	1.25859**
(p-value)	(0.3365)	(0.2991)	(0.3212)	(0.0423)	(0.0082)	(0.0251)
Target Size	-0.00996***	-0.01092**	-0.00552	-0.00911***	-0.00887*	-0.00603*
(p-value)	(0.0006)	(0.019)	(0.107)	(0.0013)	(0.0519)	(0.0723)
Target Turnover	-0.0001248**	-0.0001071	4.72E-06	-0.0001311***	-0.0001211	2.44E-06
(p-value)	(0.0149)	(0.1747)	(0.9344)	(0.0089)	(0.1045)	(0.9659)
Target NYSE/Amex	0.00261	-0.00683	-0.00105	0.00222	-0.00611	-0.0008628
(p-value)	(0.7239)	(0.5962)	(0.8966)	(0.7608)	(0.6256)	(0.9161)
Target B/M	-0.00602	-0.02278	-0.00792	-0.00557	-0.02193	-0.00751
(p-value)	(0.4578)	(0.1443)	(0.3174)	(0.502)	(0.1675)	(0.3323)
Target Runup	0.00165	0.01513	-0.00252	0.00288	0.01785	3.772E-05
(p-value)	(0.9145)	(0.5474)	(0.8521)	(0.8515)	(0.4821)	(0.9978)
Target Markup	-0.03397***	-0.02629*	-0.03435***	-0.03425***	-0.02672*	-0.03076***
(p-value)	(0.0029)	(0.0829)	(0.0042)	(0.0025)	(0.076)	(0.0107)
Collar	-0.03197**	-0.04165***	0.01832	-0.03016**	-0.03739**	0.01657
(p-value)	(0.0239)	(0.0061)	(0.4045)	(0.0307)	(0.0154)	(0.4472)
Toehold Exist	0.0076	0.04423	0.00214	0.00766	0.04632	0.00106
(p-value)	(0.6523)	(0.126)	(0.9368)	(0.6476)	(0.1006)	(0.967)
Horizontal	0.00938	0.00309	0.01058	0.00971	0.00259	0.01175
(p-value)	(0.1873)	(0.779)	(0.1679)	(0.1672)	(0.8139)	(0.124)
Tender Offer	0.0007164	0.01031	-0.00219	0.0007024	0.01185	-0.00314
(p-value)	(0.9106)	(0.5335)	(0.74)	(0.9119)	(0.466)	(0.6328)
Cash Bid	0.02238***			0.024***		
(p-value)	(0.0014)			(0.0005)		
Hostile	-0.00759	0.02253	-0.03967**	-0.00855	0.01726	-0.03659*
(p-value)	(0.6886)	(0.4871)	(0.0459)	(0.6537)	(0.6085)	(0.0674)
Multiple Bidders	0.01277	0.03603*	-0.0171	0.01202	0.03616*	-0.0171
(p-value)	(0.2512)	(0.0857)	(0.1499)	(0.2747)	(0.082)	(0.1449)
Rumor	0.00341	-0.000493	-0.00761	0.00349	0.00128	-0.00562
(p-value)	(0.7329)	(0.9768)	(0.5281)	(0.7276)	(0.9396)	(0.6419)
Complete	0.02717**	0.03653***	0.00941	0.02834***	0.03784**	0.01037
(p-value)	(0.012)	(0.0202)	(0.4605)	(0.0077)	(0.013)	(0.4121)
Adj-R^2	0.228	0.2189	0.0762	0.2273	0.2097	0.0833
Year Dummies	Yes	Yes	Yes	Yes	Yes	Yes
Industry Dummies	Yes	Yes	Yes	Yes	Yes	Yes
Number of Cases	515	258	257	515	258	257

Table 2-47 Cross-sectional Regression of Bidder Announcement CAR on AIV-Bidder and VIV-Bidder while controlling for Idiosyncratic Volatility

Bidder CAR is equal to the sum of Bidder Abnormal Return ($AR_{i,t}$) estimated over the announcement period [-1,+1]. ARi,t is equal to $ER_{i,t} - (\alpha_i + \beta_i ER_{M,t})$. $ER_{i,t}$ is the bidder company 'i' return on day 't' above the risk free rate on that day. $ER_{M,t}$ is the CRSP Value Weighted Index return on day 't' in excess of the risk free rate on that day. The model's components (α_i, β_i) are obtained by estimating the model $(R_{i,t} = \alpha_i + \beta_i R_{M,t} + e_{i,t})$ over the [-256; -43]. The idiosyncratic volatility is estimated as the standard deviation of the market adjusted residuals of the daily returns measured during the period spanning 43 trading days before the announcement to 2 trading days before the announcement [-43, -2]. . Target Size is the logarithm of the target market value of equity 42 days before the announcement and target turnover is the ratio of the target volume to share outstanding estimated 42 days before the announcement. Target B/M is constructed as the ratio of the nearest target stock book value divided by the target stock price 42 days before the announcement. Target runup is defined as the ratio of the target price 2 days before the announcement divided by the target price 42 days before the announcement [(P_{-2} / P_{-42}) - 1]. Target markup is defined as the ratio of the offer price divided by the target price 2 days before the announcement [(Offer-Price / P_{-2}) - 1]. NYSE/AMEX, Collar, Tender Offer, Cash-Only, Hostile, Rumor, and Complete are dummy variables that respectively take the value of 1S if the Target is listed on NYSE/AMEX, the deal has a collar, the deal is a tender offer, the deal is financed by Cash only, the deal is hostile, the deal is preceded by a rumor and the deal is completed successfully. Horizontal is a dummy variable that takes a value of 1 if the bidder and target share the same four-digit Standard Industrial Classification (SIC) Code. The Toehold dummy takes a value of one if the bidder own more than 5% of target before the announcement day. Multibid dummy takes a value of 1 if there are multiple Bidders within the same contest (a contest is a 6-Month period from the first bidder's bid). Industry and year dummies corresponding to the target two-digit SIC codes and to the announcement year. The p-values are given underneath and are the White Heteroscedasticity consistent p-values. The *, **, *** indicate significance at 1%, 5%, and 10% respectively.

The Idiosyncratic Volatility is estimated over the [-43,-2] window

Deal-Type	All Control Bids	Non-Cash-Only Control Bids	Cash-Only Control Bids
Constant	0.14877***	0.13393*	0.08337
(p-value)	(0.0041)	(0.0866)	(0.174)
AIV-Bidder	-0.04516	-0.09453*	0.06568
(p-value)	(0.2776)	(0.0872)	(0.2699)
VIV-Bidder	-0.12768	-0.04374	-0.3967**
(p-value)	(0.4692)	(0.8641)	(0.0486)
Idio_Vol	-0.5366	-0.72004	0.72047
(p-value)	(0.3514)	(0.3088)	(0.2627)
Target Size	-0.00968***	-0.01071**	-0.00563*
(p-value)	(0.0007)	(0.0219)	(0.0963)
Target Turnover	-0.0001237**	-0.0001061	3.02E-06
(p-value)	(0.0173)	(0.1822)	(0.9573)
Target NYSE/Amex	0.00226	-0.00706	-0.00165
(p-value)	(0.7591)	(0.5798)	(0.8399)
Target B/M	-0.00582	-0.02261	-0.00681
(p-value)	(0.4731)	(0.1458)	(0.3788)
Target Runup	0.002	0.01509	0.0003003
(p-value)	(0.896)	(0.5483)	(0.9825)
Target Markup	-0.03392***	-0.02641*	-0.03088**
(p-value)	(0.003)	(0.0816)	(0.0102)
Collar	-0.03153**	-0.04118***	0.01529
(p-value)	(0.0233)	(0.0068)	(0.4709)
Toehold Exist	0.00716	0.04419	0.0003084
(p-value)	(0.6715)	(0.1263)	(0.9906)
Horizontal	0.00989	0.00332	0.01142
(p-value)	(0.1597)	(0.7604)	(0.1315)
Tender Offer	0.0006109	0.0106	-0.00356
(p-value)	(0.9236)	(0.5196)	(0.5853)
Cash Bid	0.02254***		
(p-value)	(0.0012)		
Hostile	-0.008	0.02187	-0.03613*
(p-value)	(0.6741)	(0.5042)	(0.0677)
Multiple Bidders	0.01246	0.03595*	-0.01858
(p-value)	(0.2605)	(0.0852)	(0.1069)
Rumor	0.00341	-0.0003779	-0.00614
(p-value)	(0.7322)	(0.9822)	(0.6079)
Complete	0.02771***	0.03673**	0.0112
(p-value)	(0.0096)	(0.0185)	(0.3698)
Adj-R^2	0.2277	0.2154	0.0844
Year Dummies	Yes	Yes	Yes
Industry Dummies	Yes	Yes	Yes
Number of Cases	572	284	288

Table 2-48 Logistic Model Estimation of the Probability that the deal will be a cash-only offer versus a deal being a non-cash-only offer while controlling for idiosyncratic volatility

The AIV-Bidder (Target) and VIV- Bidder (Target) are the mean and standard deviation of the Implied Volatilities of Bidder (Target) Companies estimated over the runup period [-42,-2].]. The idiosyncratic volatility is estimated as the standard deviation of the market adjusted residuals of the daily returns measured during the period spanning 43 trading days before the announcement to 2 trading days before the announcement [-43, -2]. Target (Acquirer) Size is the logarithm of the target (acquirer) market value of equity 42 days before the announcement and target (acquirer) turnover is the ratio of the target (acquirer) volume to share outstanding estimated 42 days before the announcement. Target (acquirer) B/M is constructed as the ratio of the nearest target stock book value divided by the target stock price 42 days before the announcement. Relative size is the ratio of the target size divided by the acquirer size (in log terms). NYSE/AMEX, Collar, Tender Offer, Cash-Only, Hostile, Rumor, and Complete are dummy variables that respectively take the value of 1 if the Target (Acquirer) is listed on NYSE/AMEX, the deal has a collar, the deal is a tender offer, the deal is financed by Cash only, the deal is hostile, the deal is preceded by a rumor and the deal is completed successfully. Horizontal is a dummy variable that takes a value of 1 if the bidder and target share the same four-digit Standard Industrial Classification (SIC) Code. The Toehold dummy takes a value of one if the bidder own more than 5% of target before the announcement day. Multibid dummy takes a value of 1 if there are multiple Bidders within the same contest (a contest is a 6-Month period from the first bidder's bid). The p-values are given underneath and are the MLE p-values. The *, **, *** indicate significance at 1%, 5%, and 10% respectively.

The Idiosyncratic Volatility is estimated over the [-43,-2] window

Independent Variable	AIV-Target	VIV-Target	AIV-Target and VIV-Target	AIV-Bidder	VIV-Bidder	AIV-Bidder and VIV-Bidder
Constant	2.9585	0.9923	2.4955	4.5831	2.7647	5.6867
(p-value)	(0.7601)	(0.9107)	(0.8011)	(0.6058)	(0.7526)	(0.5227)
AIV-Variable	-5.7043***		-6.4589***	-6.9595***		-8.2771***
(p-value)	(<.0001)		(<.0001)	(<.0001)		(<.0001)
VIV-Variable		-1.7358	3.5327*		1.2925	11.7156**
(p-value)		(0.2995)	(0.064)		(0.7769)	(0.0327)
Idiosyncratic Volatility	9.2219	-25.9565***	11.7525	-19.83	-95.8608***	-20.3058
(p-value)	(0.3095)	(<.0001)	(0.2158)	(0.3261)	(<.0001)	(0.318)
Target Size	-0.7023	-0.16	-0.7549	-0.2216	-0.0928	-0.1924
(p-value)	(0.2949)	(0.7913)	(0.2709)	(0.7134)	(0.8759)	(0.7496)
Target Turnover	0.00195	0.000513	1.90E-03	0.000222	-0.00052	0.000268
(p-value)	(0.4596)	(0.8541)	(0.4696)	(0.9434)	(0.8675)	(0.9311)
Target NYSE/Amex	-0.3002	-0.1918	-0.291	-0.1241	-0.1402	-0.0686
(p-value)	(0.2531)	(0.4446)	(0.2664)	(0.638)	(0.5888)	(0.7965)
Target B/M	0.3653	0.2938	0.2934	0.4307	0.3282	0.419
(p-value)	(0.2915)	(0.3583)	(0.4129)	(0.1892)	(0.3053)	(0.2105)
Acquirer Size	0.6175	0.3362	0.6622	0.1989	0.178	0.147
(p-value)	(0.2938)	(0.5285)	(0.271)	(0.7088)	(0.7347)	(0.7828)
Acquirer Turnover	-0.00916	-0.0129	-0.00927	0.0124	-0.00122	0.0119
(p-value)	(0.4082)	(0.1942)	(0.4085)	(0.2732)	(0.9035)	(0.2744)
Acquirer NYSE/Amex	-0.2491	-0.123	-0.2639	-0.247	-0.1143	-0.2489
(p-value)	(0.2815)	(0.5738)	(0.2546)	(0.2855)	(0.6102)	(0.284)
Acquirer B/M	0.9254*	0.9048*	0.871*	0.5417	0.502	0.3961
(p-value)	(0.058)	(0.0519)	(0.0772)	(0.2879)	(0.305)	(0.4455)
Relative Size	-0.8628	-4.2279	-0.1507	-2.6634	-3.4728	-3.3337
(p-value)	(0.9357)	(0.6637)	(0.989)	(0.7842)	(0.7178)	(0.7315)
Collar	-2.5363***	-2.4032***	-2.5477***	-2.4917***	-2.2961***	-2.4726***
(p-value)	(0.0002)	(0.0002)	(0.0002)	(0.0002)	(0.0004)	(0.0002)
Toehold Exist	-0.7168			-0.6352		
(p-value)	(0.3512)			(0.3755)		
Horizontal	-0.5821**	-0.7055***	-0.5621**	-0.5368**	-0.5346**	-0.5418**
(p-value)	(0.0236)	(0.0043)	(0.0292)	(0.0391)	(0.0357)	(0.0381)
Tender Offer	1.7746***	1.5746***	1.7866***	1.6636***	1.6078***	1.7031***
(p-value)	(<.0001)	(<.0001)	(<.0001)	(<.0001)	(<.0001)	(<.0001)
Hostile	-0.1873	-0.4997	-0.1387	-0.0539	-0.2305	-0.0115
(p-value)	(0.7444)	(0.3867)	(0.8097)	(0.9289)	(0.6992)	(0.985)
Multiple Bidders	0.6696*	1.1949***	0.5963	1.0173*	1.0621***	1.0436***
(p-value)	(0.0675)	(0.0007)	(0.1077)	(0.0052)	(0.003)	(0.0043)
Rumor	0.5082	0.3973	0.5186	0.1988	0.1856	0.1543
(p-value)	(0.2323)	(0.3257)	(0.2253)	(0.6313)	(0.6517)	(0.7091)
Adj-R^2	0.3549	0.2967	0.3587	0.3658	0.3381	0.3714
Year Dummies	No	No	No	No	No	No
Industry Dummies	No	No	No	No	No	No
Number of Cases	572	572	572	572	572	572

Table 2-49 Logistic Model Estimation of the Probability that the deal will be a completed successfully on AIV- (Bidder) Target and VIV- (Bidder) Target with Idiosyncratic Volatility used as Control Variable.

The AIV-Bidder (Target) and VIV- Bidder (Target) are the mean and standard deviation of the Implied Volatilities of Bidder (Target) Companies estimated over the runup period [-42,-2]. The idiosyncratic volatility is estimated as the standard deviation of the market adjusted residuals of the daily returns measured during the period spanning 43 trading days before the announcement to 2 trading days before the announcement [-43, -2]. Target Size is the logarithm of the target (acquirer) market value of equity 42 days before the announcement and target turnover is the ratio of the target volume to share outstanding estimated 42 days before the announcement. Target (acquirer) B/M is constructed as the ratio of the nearest target stock book value divided by the target stock price 42 days before the announcement. Target runup is defined as the ratio of the target (acquirer) price 2 days before the announcement divided by the target (acquirer) price 42 days before the announcement [$(P_{-2} / P_{-42}) - 1$]. Target markup is defined as the ratio of the offer price divided by the target (acquirer) price 2 days before the announcement [(Offer-Price / P_{-2}) - 1]. NYSE/AMEX, Collar, Tender Offer, Cash-Only, Hostile, Rumor, and Complete are dummy variables that respectively take the value of 1 if the Target is listed on NYSE/AMEX, the deal has a collar, the deal is a tender offer, the deal is financed by Cash only, the deal is hostile, the deal is preceded by a rumor and the deal is completed successfully. Horizontal is a dummy variable that takes a value of 1 if the bidder and target share the same four-digit Standard Industrial Classification (SIC) Code. The Toehold dummy takes a value of one if the bidder own more than 5% of target before the announcement day. Multibid dummy takes a value of 1 if there are multiple Bidders within the same contest (a contest is a 6-Month period from the first bidder's bid). The p-values are given underneath and are the MLE p-values. The *, **, *** indicate significance at 1%, 5%, and 10% respectively.

The Idiosyncratic Volatility is estimated over the [-43,-2] window

Deal-Type	AIV-Target	VIV-Target	AIV-Target and VIV-Target	AIV-Bidder	VIV-Bidder	AIV-Bidder and VIV-Bidder
Constant	0.3288	-0.667	0.0642	0.2928	-0.0999	0.3174
(p-value)	(0.8792)	(0.742)	(0.9766)	(0.8852)	(0.9593)	(0.8761)
AIV-Variable	-0.5234		-0.8323	-1.1565		-1.3077
(p-value)	(0.5594)		(0.3746)	(0.433)		(0.4066)
VIV-Variable		2.3648	3.0311		-0.1035	1.6524
(p-value)		(0.3915)	(0.2919)		(0.9854)	(0.7867)
Idiosyncratic Volatility	-3.074	-7.528	-2.454	-5.3666	-19.3246	-5.2974
(p-value)	(0.7214)	(0.2601)	(0.7772)	(0.8038)	(0.138)	(0.8064)
Target Size	0.2047	0.254*	0.2229	0.2283	0.2431*	0.2265
(p-value)	(0.1587)	(0.0755)	(0.1299)	(0.1068)	(0.0821)	(0.111)
Target Turnover	0.000511	-0.00003	3.95E-04	0.000055	-0.00021	0.000054
(p-value)	(0.8941)	(0.9944)	(0.9182)	(0.9882)	(0.9539)	(0.9883)
Target NYSE/Amex	-0.6291*	-0.5842*	-0.6331*	-0.6717**	-0.6535**	-0.6645**
(p-value)	(0.0568)	(0.0738)	(0.0573)	(0.0422)	(0.0483)	(0.0451)
Target B/M	-0.6773*	-0.7234**	-0.7099**	-0.6528*	-0.66*	-0.6579*
(p-value)	(0.0541)	(0.041)	(0.0442)	(0.0714)	(0.0648)	(0.0699)
Target Runup	0.8185	0.8356	0.7191	0.7541	0.7621	0.7537
(p-value)	(0.1983)	(0.1883)	(0.2634)	(0.2174)	(0.2149)	(0.2189)
Target Markup	-0.3839	-0.395	-0.3511	-0.3927	-0.4128	-0.3884
(p-value)	(0.3866)	(0.3725)	(0.4294)	(0.3755)	(0.3514)	(0.3808)
Collar	0.737	0.7445	0.7625	0.7092	0.7278	0.7035
(p-value)	(0.2537)	(0.2459)	(0.237)	(0.2753)	(0.2604)	(0.28)
Toehold Exist	-1.3798*	-1.3701*	-1.44**	-1.5303**	-1.5229**	-1.5182**
(p-value)	(0.0519)	(0.0551)	(0.0425)	(0.0292)	(0.0296)	(0.0309)
Horizontal	-0.0952	-0.108	-0.0872	-0.0195	-0.051	-0.0258
(p-value)	(0.7649)	(0.734)	(0.7848)	(0.9517)	(0.8735)	(0.9363)
Tender Offer	1.492***	1.4271***	1.4867***	1.4311***	1.4278***	1.4286***
(p-value)	(0.0007)	(0.001)	(0.0007)	(0.0008)	(0.0008)	(0.0008)
Cash Bid	0.0611			-0.0876		
(p-value)	(0.8457)			(0.7897)		
Hostile	-3.7017***	-3.675***	-3.7184***	-3.6674***	-3.682***	-3.6599***
(p-value)	(<.0001)	(<.0001)	(<.0001)	(<.0001)	(<.0001)	(<.0001)
Multiple Bidders	-2.7726***	-2.7378***	-2.8394***	-2.7302***	-2.7249***	-2.7231***
(p-value)	(<.0001)	(<.0001)	(<.0001)	(<.0001)	(<.0001)	(<.0001)
Rumor	0.5308	0.4997	0.5276	0.4499	0.4552	0.4439
(p-value)	(0.4069)	(0.4323)	(0.4095)	(0.4809)	(0.4765)	(0.487)
Adj-R^2	0.2003	0.2010	0.2021	0.2031	0.2022	0.2032
Year Dummies	No	No	No	No	No	No
Industry Dummies	No	No	No	No	No	No
Number of Cases	572	284	288	572	284	288

2.13 Appendix F – Tests Performed with AIV and VIV as main explanatory Variables while being orthogonalizedd for the idiosyncratic volatility – Original Sample

Table 2-50 Cross-sectional Regression of Bidder Announcement CAR on AIV-Bidder (Target) and VIV-Bidder (Target) while controlling for Idiosyncratic Volatility

Bidder CAR is equal to the sum of Bidder Abnormal Return ($AR_{i,t}$) estimated over the announcement period [-1,+1]. ARi,t is equal to $ER_{i,t} - (\alpha_i + \beta_i ER_{M,t})$. $ER_{i,t}$ is the bidder company 'i' return on day 't' above the risk free rate on that day. $ER_{M,t}$ is the CRSP Value Weighted Index return on day 't' in excess of the risk free rate on that day. The model's components (α_i, β_i) are obtained by estimating the model $(R_{i,t} = \alpha_i + \beta_i R_{M,t} + e_{i,t})$ over the [-256; -43]. The idiosyncratic volatility is estimated as the standard deviation of the market adjusted residuals of the daily returns measured during the period spanning 43 trading days before the announcement to 2 trading days before the announcement [-43, -2]. The AIV (and VIV) used in our regressions are the residuals obtain after regressing the AIV (and VIV) on the corresponding idiosyncratic volatility. Target Size is the logarithm of the target market value of equity 42 days before the announcement and target turnover is the ratio of the target volume to share outstanding estimated 42 days before the announcement. Target B/M is constructed as the ratio of the nearest target stock book value divided by the target stock price 42 days before the announcement. Target runup is defined as the ratio of the target price 2 days before the announcement divided by the target price 42 days before the announcement [(P_{-2} / P_{-42}) - 1]. Target markup is defined as the ratio of the offer price divided by the target price 2 days before the announcement [(Offer-Price / P_{-2}) - 1]. NYSE/AMEX, Collar, Tender Offer, Cash-Only, Hostile, Rumor, and Complete are dummy variables that respectively take the value of 1S if the Target is listed on NYSE/AMEX, the deal has a collar, the deal is a tender offer, the deal is financed by Cash only, the deal is hostile, the deal is preceded by a rumor and the deal is completed successfully. Horizontal is a dummy variable that takes a value of 1 if the bidder and target share the same four-digit Standard Industrial Classification (SIC) Code. The Toehold dummy takes a value of one if the bidder own more than 5% of target before the announcement day. Multibid dummy takes a value of 1 if there are multiple Bidders within the same contest (a contest is a 6-Month period from the first bidder's bid). Industry and year dummies corresponding to the target two-digit SIC codes and to the announcement year. The p-values are given underneath and are the White Heteroscedasticity consistent p-values. The *, **, *** indicate significance at 1%, 5%, and 10% respectively.

The Idiosyncratic Volatility is estimated over the [-43,-2] window						
	Target AIV Related Tests			Target VIV Related Tests		
Deal-Type	All Control Bids	Non-Cash-Only Control Bids	Cash-Only Control Bids	All Control Bids	Non-Cash-Only Control Bids	Cash-Only Control Bids
Constant	0.12386**	0.07605	0.09824*	0.10786**	0.05438	0.12298**
(p-value)	(0.02)	(0.3882)	(0.0804)	(0.0392)	(0.5182)	(0.0252)
AIV-Variable	-0.02937	-0.04062	0.03328			
(p-value)	(0.1884)	(0.2302)	(0.1891)			
VIV-Variable				-0.02803	-0.04422	-0.00115
(p-value)				(0.5177)	(0.5407)	(0.9816)
Idio_Vol	-0.18878	-0.45726	-0.02115	-0.14859	-0.38122	-0.05051
(p-value)	(0.3226)	(0.285)	(0.896)	(0.4287)	(0.3701)	(0.7489)
Target Size	-0.01059***	-0.01142**	-0.00472	-0.00928***	-0.01031**	-0.00686**
(p-value)	(0.0008)	(0.0214)	(0.2027)	(0.0019)	(0.0342)	(0.0441)
Target Turnover	-0.0001366***	-0.0001458**	-2.296E-05	-0.0001456***	-0.0001518***	0.0000071
(p-value)	(0.0072)	(0.0144)	(0.7168)	(0.0022)	(0.0088)	(0.9116)
Target NYSE/Amex	0.00372	-0.0006353	0.0004186	0.00472	0.0007064	-0.0008256
(p-value)	(0.6209)	(0.9616)	(0.9598)	(0.5289)	(0.9576)	(0.9198)
Target B/M	-0.00759	-0.02075	-0.00518	-0.00708	-0.02105	-0.00476
(p-value)	(0.3551)	(0.1903)	(0.5183)	(0.3891)	(0.1796)	(0.5508)
Target Runup	0.00231	0.01292	-0.00397	0.00485	0.0155	-0.00528
(p-value)	(0.8867)	(0.6376)	(0.7751)	(0.7621)	(0.5638)	(0.709)
Target Markup	-0.03294***	-0.02723	-0.03854***	-0.03359***	-0.02721	-0.03589***
(p-value)	(0.0058)	(0.1047)	(0.0018)	(0.0042)	(0.1057)	(0.0044)
Collar	-0.02833*	-0.0374**	0.02225	-0.02764*	-0.03692**	0.0233
(p-value)	(0.0549)	(0.0242)	(0.327)	(0.0629)	(0.0262)	(0.3236)
Toehold Exist	0.01289	0.05159*	0.00102	0.01364	0.0584*	0.00176
(p-value)	(0.4426)	(0.0877)	(0.9681)	(0.4344)	(0.0558)	(0.9437)
Horizontal	0.00623	-0.00297	0.01205	0.00585	-0.00306	0.01173
(p-value)	(0.3823)	(0.7934)	(0.1196)	(0.4128)	(0.7871)	(0.1284)
Tender Offer	0.00259	0.01933	-0.00212	0.00243	0.01987	-0.00112
(p-value)	(0.6917)	(0.239)	(0.7528)	(0.7093)	(0.242)	(0.8664)
Cash Bid	0.02919***			0.03036***		
(p-value)	(<.0001)			(<.0001)		
Hostile	-0.01044	0.01745	-0.03634*	-0.01098	0.02034	-0.0339*
(p-value)	(0.5954)	(0.6174)	(0.0648)	(0.5792)	(0.5645)	(0.0884)
Multiple Bidders	0.009	0.03084	-0.01165	0.01198	0.03412*	-0.01378
(p-value)	(0.4182)	(0.1426)	(0.3459)	(0.279)	(0.0965)	(0.2675)
Rumor	0.00645	0.01037	-0.00812	0.00565	0.00928	-0.00678
(p-value)	(0.5259)	(0.5511)	(0.5172)	(0.5754)	(0.5962)	(0.581)
Complete	0.03042***	0.04395***	0.00988	0.0307***	0.04399***	0.01065
(p-value)	(0.0055)	(0.0053)	(0.4497)	(0.0054)	(0.0053)	(0.4206)
Adj-R^2	0.2055	0.1565	0.0698	0.2035	0.1534	0.0654
Year Dummies	Yes	Yes	Yes	Yes	Yes	Yes
Industry Dummies	Yes	Yes	Yes	Yes	Yes	Yes
Number of Cases	515	258	257	515	258	257

Table 2-51 Cross-sectional Regression of Bidder Announcement CAR on AIV-Bidder (Target) and VIV-Bidder (Target) while controlling for Idiosyncratic Volatility

Bidder CAR is equal to the sum of Bidder Abnormal Return ($AR_{i,t}$) estimated over the announcement period [-1,+1]. ARi,t is equal to $ER_{i,t} - (\alpha_i + \beta_i ER_{M,t})$. $ER_{i,t}$ is the bidder company 'i' return on day 't' above the risk free rate on that day. $ER_{M,t}$ is the CRSP Value Weighted Index return on day 't' in excess of the risk free rate on that day. The model's components (α_i, β_i) are obtained by estimating the model $(R_{i,t} = \alpha_i + \beta_i R_{M,t} + e_{i,t})$ over the [-256; -43]. The idiosyncratic volatility is estimated as the standard deviation of the market adjusted residuals of the daily returns measured during the period spanning 43 trading days before the announcement to 2 trading days before the announcement [-43, -2]. The AIV (and VIV) used in our regressions are the residuals obtain after regressing the AIV (and VIV) on the corresponding idiosyncratic volatility. Target Size is the logarithm of the target market value of equity 42 days before the announcement and target turnover is the ratio of the target volume to share outstanding estimated 42 days before the announcement. Target B/M is constructed as the ratio of the nearest target stock book value divided by the target stock price 42 days before the announcement. Target runup is defined as the ratio of the target price 2 days before the announcement divided by the target price 42 days before the announcement [(P_{-2} / P_{-42}) - 1]. Target markup is defined as the ratio of the offer price divided by the target price 2 days before the announcement [(Offer-Price / P_{-2}) - 1]. NYSE/AMEX, Collar, Tender Offer, Cash-Only, Hostile, Rumor, and Complete are dummy variables that respectively take the value of 1S if the Target is listed on NYSE/AMEX, the deal has a collar, the deal is a tender offer, the deal is financed by Cash only, the deal is hostile, the deal is preceded by a rumor and the deal is completed successfully. Horizontal is a dummy variable that takes a value of 1 if the bidder and target share the same four-digit Standard Industrial Classification (SIC) Code. The Toehold dummy takes a value of one if the bidder own more than 5% of target before the announcement day. Multibid dummy takes a value of 1 if there are multiple Bidders within the same contest (a contest is a 6-Month period from the first bidder's bid). Industry and year dummies corresponding to the target two-digit SIC codes and to the announcement year. The p-values are given underneath and are the White Heteroscedasticity consistent p-values. The *, **, *** indicate significance at 1%, 5%, and 10% respectively.

The Idiosyncratic Volatility is estimated over the [-43,-2] window

	Bidder AIV Related Tests			Bidder VIV Related Tests		
Deal-Type	All Control Bids	Non-Cash-Only Control Bids	Cash-Only Control Bids	All Control Bids	Non-Cash-Only Control Bids	Cash-Only Control Bids
Constant	0.14618***	0.1221	0.08874	0.13331***	0.10159	0.09468*
(p-value)	(0.0044)	(0.1156)	(0.1314)	(0.008)	(0.2118)	(0.0968)
AIV-Variable	-0.05947	-0.0991**	0.02415			
(p-value)	(0.1233)	(0.0492)	(0.6589)			
VIV-Variable				-0.19278	-0.19016	-0.29049
(p-value)				(0.2361)	(0.419)	(0.1026)
Idio_Vol	-1.34058***	-2.01706***	0.93008*	-1.21793***	-1.87584***	0.90417*
(p-value)	(0.0015)	(0.0002)	(0.0864)	(0.0031)	(0.0003)	(0.0693)
Target Size	-0.00996***	-0.01092**	-0.00552	-0.00911***	-0.00887*	-0.00603*
(p-value)	(0.0006)	(0.019)	(0.107)	(0.0013)	(0.0519)	(0.0723)
Target Turnover	-0.0001248**	-0.0001071	4.72E-06	-0.0001311***	-0.0001211	2.44E-06
(p-value)	(0.0149)	(0.1747)	(0.9344)	(0.0089)	(0.1045)	(0.9659)
Target NYSE/Amex	0.00261	-0.00683	-0.00105	0.00222	-0.00611	-0.0008628
(p-value)	(0.7239)	(0.5962)	(0.8966)	(0.7608)	(0.6256)	(0.9161)
Target B/M	-0.00602	-0.02278	-0.00792	-0.00557	-0.02193	-0.00751
(p-value)	(0.4578)	(0.1443)	(0.3174)	(0.502)	(0.1675)	(0.3323)
Target Runup	0.00165	0.01513	-0.00252	0.00288	0.01785	3.772E-05
(p-value)	(0.9145)	(0.5474)	(0.8521)	(0.8515)	(0.4821)	(0.9978)
Target Markup	-0.03397***	-0.02629*	-0.03435***	-0.03425***	-0.02672*	-0.03076**
(p-value)	(0.0029)	(0.0829)	(0.0042)	(0.0025)	(0.076)	(0.0107)
Collar	-0.03197**	-0.04165***	0.01832	-0.03016**	-0.03739**	0.01657
(p-value)	(0.0239)	(0.0061)	(0.4045)	(0.0307)	(0.0154)	(0.4472)
Toehold Exist	0.0076	0.04423	0.00214	0.00766	0.04632	0.00106
(p-value)	(0.6523)	(0.126)	(0.9368)	(0.6476)	(0.1006)	(0.967)
Horizontal	0.00938	0.00309	0.01058	0.00971	0.00259	0.01175
(p-value)	(0.1873)	(0.779)	(0.1679)	(0.1672)	(0.8139)	(0.124)
Tender Offer	0.0007164	0.01031	-0.00219	0.0007024	0.01185	-0.00314
(p-value)	(0.9106)	(0.5335)	(0.74)	(0.9119)	(0.466)	(0.6328)
Cash Bid	0.02238***			0.024***		
(p-value)	(0.0014)			(0.0005)		
Hostile	-0.00759	0.02253	-0.03967**	-0.00855	0.01726	-0.03659*
(p-value)	(0.6886)	(0.4871)	(0.0459)	(0.6537)	(0.6085)	(0.0674)
Multiple Bidders	0.01277	0.03603*	-0.0171	0.01202	0.03616*	-0.0171
(p-value)	(0.2512)	(0.0857)	(0.1499)	(0.2747)	(0.082)	(0.1449)
Rumor	0.00341	-0.000493	-0.00761	0.00349	0.00128	-0.00562
(p-value)	(0.7329)	(0.9768)	(0.5281)	(0.7276)	(0.9396)	(0.6419)
Complete	0.02717**	0.03653**	0.00941	0.02834***	0.03784***	0.01037
(p-value)	(0.012)	(0.0202)	(0.4605)	(0.0077)	(0.013)	(0.4121)
Adj-R^2	0.228	0.2189	0.0762	0.2273	0.2097	0.0833
Year Dummies	Yes	Yes	Yes	Yes	Yes	Yes
Industry Dummies	Yes	Yes	Yes	Yes	Yes	Yes
Number of Cases	515	258	257	515	258	257

Table 2-52 Cross-sectional Regression of Bidder Announcement CAR on AIV-Bidder and VIV-Bidder while controlling for Idiosyncratic Volatility

Bidder CAR is equal to the sum of Bidder Abnormal Return ($AR_{i,t}$) estimated over the announcement period [-1,+1]. ARi,t is equal to $ER_{i,t} - (\alpha_i + \beta_i ER_{M,t})$. $ER_{i,t}$ is the bidder company 'i' return on day 't' above the risk free rate on that day. $ER_{M,t}$ is the CRSP Value Weighted Index return on day 't' in excess of the risk free rate on that day. The model's components (α_i, β_i) are obtained by estimating the model $(R_{i,t} = \alpha_i + \beta_i R_{M,t} + e_{i,t})$ over the [-256; -43]. The idiosyncratic volatility is estimated as the standard deviation of the market adjusted residuals of the daily returns measured during the period spanning 43 trading days before the announcement to 2 trading days before the announcement [-43, -2]. The AIV (and VIV) used in our regressions are the residuals obtain after regressing the AIV (and VIV) on the corresponding idiosyncratic volatility. Target Size is the logarithm of the target market value of equity 42 days before the announcement and target turnover is the ratio of the target volume to share outstanding estimated 42 days before the announcement. Target B/M is constructed as the ratio of the nearest target stock book value divided by the target stock price 42 days before the announcement. Target runup is defined as the ratio of the target price 2 days before the announcement divided by the target price 42 days before the announcement [(P_{-2} / P_{-42}) - 1]. Target markup is defined as the ratio of the offer price divided by the target price 2 days before the announcement [(Offer-Price / P_{-2}) - 1]. NYSE/AMEX, Collar, Tender Offer, Cash-Only, Hostile, Rumor, and Complete are dummy variables that respectively take the value of 1S if the Target is listed on NYSE/AMEX, the deal has a collar, the deal is a tender offer, the deal is financed by Cash only, the deal is hostile, the deal is preceded by a rumor and the deal is completed successfully. Horizontal is a dummy variable that takes a value of 1 if the bidder and target share the same four-digit Standard Industrial Classification (SIC) Code. The Toehold dummy takes a value of one if the bidder own more than 5% of target before the announcement day. Multibid dummy takes a value of 1 if there are multiple Bidders within the same contest (a contest is a 6-Month period from the first bidder's bid). Industry and year dummies corresponding to the target two-digit SIC codes and to the announcement year. The p-values are given underneath and are the White Heteroscedasticity consistent p-values. The *, **, *** indicate significance at 1%, 5%, and 10% respectively.

The Idiosyncratic Volatility is estimated over the [-43,-2] window

Deal-Type	All Control Bids	Non-Cash-Only Control Bids	Cash-Only Control Bids
Constant	0.14124***	0.11918	0.08618
(p-value)	(0.0055)	(0.126)	(0.1453)
AIV-Bidder	-0.04516	-0.09453*	0.06568
(p-value)	(0.2776)	(0.0872)	(0.2699)
VIV-Bidder	(-0.12768)	-0.04374	-0.3967**
(p-value)	(0.4692)	(0.8641)	(0.0486)
Idio_Vol	-1.30169***	-2.00917***	1.03937*
(p-value)	(0.0025)	(0.0002)	(0.0577)
Target Size	-0.00968***	-0.01071**	-0.00563*
(p-value)	(0.0007)	(0.0219)	(0.0963)
Target Turnover	-0.0001237**	-0.0001061	3.02E-06
(p-value)	(0.0173)	(0.1822)	(0.9573)
Target NYSE/Amex	0.00226	-0.00706	-0.00165
(p-value)	(0.7591)	(0.5798)	(0.8399)
Target B/M	-0.00582	-0.02261	-0.00681
(p-value)	(0.4731)	(0.1458)	(0.3788)
Target Runup	0.002	0.01509	0.0003003
(p-value)	(0.896)	(0.5483)	(0.9825)
Target Markup	-0.03392***	-0.02641*	-0.03088**
(p-value)	(0.003)	(0.0816)	(0.0102)
Collar	-0.03153**	-0.04118***	0.01529
(p-value)	(0.0233)	(0.0068)	(0.4709)
Toehold Exist	0.00716	0.04419	0.0003084
(p-value)	(0.6715)	(0.1263)	(0.9906)
Horizontal	0.00989	0.00332	0.01142
(p-value)	(0.1597)	(0.7604)	(0.1315)
Tender Offer	0.0006109	0.0106	-0.00356
(p-value)	(0.9236)	(0.5196)	(0.5853)
Cash Bid	0.02254***		
(p-value)	(0.0012)		
Hostile	-0.008	0.02187	-0.03613*
(p-value)	(0.6741)	(0.5042)	(0.0677)
Multiple Bidders	0.01246	0.03595*	-0.01858
(p-value)	(0.2605)	(0.0852)	(0.1069)
Rumor	0.00341	-0.0003779	-0.00614
(p-value)	(0.7322)	(0.9822)	(0.6079)
Complete	0.02771***	0.03673**	0.0112
(p-value)	(0.0096)	(0.0185)	(0.3698)
Adj-R^2	0.2277	0.2154	0.0844
Year Dummies	Yes	Yes	Yes
Industry Dummies	Yes	Yes	Yes
Number of Cases	572	284	288

Table 2-53 Logistic Model Estimation of the Probability that the deal will be a cash-only offer versus a deal being a non-cash-only offer while controlling for idiosyncratic volatility

The AIV-Bidder (Target) and VIV- Bidder (Target) are the mean and standard deviation of the Implied Volatilities of Bidder (Target) Companies estimated over the runup period [-42,-2].]. The idiosyncratic volatility is estimated as the standard deviation of the market adjusted residuals of the daily returns measured during the period spanning 43 trading days before the announcement to 2 trading days before the announcement [-43, -2]. The AIV (and VIV) used in our regressions are the residuals obtain after regressing the AIV (and VIV) on the corresponding idiosyncratic volatility. Target (Acquirer) Size is the logarithm of the target (acquirer) market value of equity 42 days before the announcement and target (acquirer) turnover is the ratio of the target (acquirer) volume to share outstanding estimated 42 days before the announcement. Target (acquirer) B/M is constructed as the ratio of the nearest target stock book value divided by the target stock price 42 days before the announcement. Relative size is the ratio of the target size divided by the acquirer size (in log terms). NYSE/AMEX, Collar, Tender Offer, Cash-Only, Hostile, Rumor, and Complete are dummy variables that respectively take the value of 1 if the Target (Acquirer) is listed on NYSE/AMEX, the deal has a collar, the deal is a tender offer, the deal is financed by Cash only, the deal is hostile, the deal is preceded by a rumor and the deal is completed successfully. Horizontal is a dummy variable that takes a value of 1 if the bidder and target share the same four-digit Standard Industrial Classification (SIC) Code. The Toehold dummy takes a value of one if the bidder own more than 5% of target before the announcement day. Multibid dummy takes a value of 1 if there are multiple Bidders within the same contest (a contest is a 6-Month period from the first bidder's bid). The p-values are given underneath and are the MLE p-values. The *, **, *** indicate significance at 1%, 5%, and 10% respectively.

The Idiosyncratic Volatility is estimated over the [-43,-2] window

Independent Variable	AIV-Target	VIV-Target	AIV-Target and VIV-Target	AIV-Bidder	VIV-Bidder	AIV-Bidder and VIV-Bidder
Constant	1.4957	1.0363	1.0171	3.7988	2.8821	4.812
(p-value)	(0.8782)	(0.907)	(0.9189)	(0.6691)	(0.743)	(0.5889)
AIV-Variable	-5.7522***		-6.5606***	-7.0012***		-8.3265***
(p-value)	(<.0001)		(<.0001)	(<.0001)		(<.0001)
VIV-Variable		-1.7029	3.7205*		1.2961	11.8127**
(p-value)		(0.3095)	(0.0526)		(0.7762)	(0.0316)
Idiosyncratic Volatility	-37.9519***	-27.8418***	-38.3624***	-113.3***	-94.3393***	-116.6***
(p-value)	(<.0001)	(<.0001)	(<.0001)	(<.0001)	(<.0001)	(<.0001)
Target Size	-0.7008	-0.1564	-0.755	-0.2232	-0.0929	-0.1995
(p-value)	(0.2995)	(0.7967)	(0.2752)	(0.7118)	(0.876)	(0.7412)
Target Turnover	0.002	0.000527	0.00197	0.000194	-0.00055	0.000242
(p-value)	(0.4476)	(0.8501)	(0.4541)	(0.9511)	(0.8616)	(0.9385)
Target NYSE/Amex	-0.3192	-0.202	-0.3126	-0.1432	-0.1521	-0.0891
(p-value)	(0.2261)	(0.4224)	(0.2341)	(0.589)	(0.5591)	(0.7389)
Target B/M	0.3417	0.2825	0.2608	0.4169	0.3145	0.4037
(p-value)	(0.3237)	(0.3787)	(0.4664)	(0.2013)	(0.3266)	(0.2246)
Acquirer Size	0.6229	0.34	0.6691	0.2072	0.1832	0.1604
(p-value)	(0.2929)	(0.5252)	(0.2701)	(0.6977)	(0.7277)	(0.7641)
Acquirer Turnover	-0.00887	-0.0128	-0.00885	0.0128	-0.00107	0.0123
(p-value)	(0.4254)	(0.1985)	(0.4324)	(0.2584)	(0.9151)	(0.2585)
Acquirer NYSE/Amex	-0.2434	-0.1192	-0.2578	-0.2401	-0.1098	-0.242
(p-value)	(0.2934)	(0.5858)	(0.2665)	(0.2997)	(0.6245)	(0.2982)
Acquirer B/M	0.9257*	0.9025*	0.8688*	0.5442	0.5012	0.3958
(p-value)	(0.0583)	(0.0524)	(0.0786)	(0.2863)	(0.3059)	(0.4466)
Relative Size	-0.9808	-4.2789	-0.2924	-2.6286	-3.4691	-3.2018
(p-value)	(0.9275)	(0.6611)	(0.9789)	(0.7872)	(0.7186)	(0.7421)
Collar	-2.4836***	-2.3758***	-2.4809***	-2.4557***	-2.2778***	-2.4331***
(p-value)	(0.0002)	(0.0002)	(0.0003)	(0.0002)	(0.0005)	(0.0002)
Toehold Exist	-0.7689	-0.3786	-0.8055	-0.6702	-0.6876	-0.6135
(p-value)	(0.3186)	(0.6113)	(0.3047)	(0.3503)	(0.3369)	(0.3964)
Horizontal	-0.589**	-0.7087***	-0.5691**	-0.5398**	-0.5395**	-0.544**
(p-value)	(0.0225)	(0.0042)	(0.0277)	(0.0383)	(0.0344)	(0.0376)
Tender Offer	1.808***	1.5914***	1.8258***	1.6929***	1.6251***	1.7339***
(p-value)	(<.0001)	(<.0001)	(<.0001)	(<.0001)	(<.0001)	(<.0001)
Hostile	-0.3691	-0.6051	-0.347	-0.1915	-0.3348	-0.1528
(p-value)	(0.5405)	(0.3181)	(0.565)	(0.761)	(0.5911)	(0.8101)
Multiple Bidders	0.5372	1.1182***	0.434	0.9041**	0.9829**	0.9263**
(p-value)	(0.17)	(0.003)	(0.2755)	(0.0207)	(0.0101)	(0.0178)
Rumor	0.5197	0.4013	0.5331	0.2127	0.194	0.1686
(p-value)	(0.2242)	(0.3217)	(0.2153)	(0.6091)	(0.6382)	(0.6849)
Complete	-0.3252	-0.1847	-0.3835	-0.2694	-0.1963	-0.2833
(p-value)	(0.3441)	(0.573)	(0.2704)	(0.4365)	(0.5615)	(0.4148)
Adj-R^2	0.3559	0.2971	0.36	0.3665	0.3385	0.3722
Year Dummies	No	No	No	No	No	No
Industry Dummies	No	No	No	No	No	No
Number of Cases	572	572	572	572	572	572

Table 2-54 Logistic Model Estimation of the Probability that the deal will be a completed successfully on AIV- (Bidder) Target and VIV- (Bidder) Target with Idiosyncratic Volatility used as Control Variable.

The AIV-Bidder (Target) and VIV- Bidder (Target) are the mean and standard deviation of the Implied Volatilities of Bidder (Target) Companies estimated over the runup period [-42,-2]. The idiosyncratic volatility is estimated as the standard deviation of the market adjusted residuals of the daily returns measured during the period spanning 43 trading days before the announcement to 2 trading days before the announcement [-43, -2]. The AIV (and VIV) used in our regressions are the residuals obtain after regressing the AIV (and VIV) on the corresponding idiosyncratic volatility. Target Size is the logarithm of the target (acquirer) market value of equity 42 days before the announcement and target turnover is the ratio of the target volume to share outstanding estimated 42 days before the announcement. Target (acquirer) B/M is constructed as the ratio of the nearest target stock book value divided by the target stock price 42 days before the announcement. Target runup is defined as the ratio of the target (acquirer) price 2 days before the announcement divided by the target (acquirer) price 42 days before the announcement [(P_{-2} / P_{-42}) - 1]. Target markup is defined as the ratio of the offer price divided by the target (acquirer) price 2 days before the announcement [(Offer-Price / P_{-2}) - 1]. NYSE/AMEX, Collar, Tender Offer, Cash-Only, Hostile, Rumor, and Complete are dummy variables that respectively take the value of 1 if the Target is listed on NYSE/AMEX, the deal has a collar, the deal is a tender offer, the deal is financed by Cash only, the deal is hostile, the deal is preceded by a rumor and the deal is completed successfully. Horizontal is a dummy variable that takes a value of 1 if the bidder and target share the same four-digit Standard Industrial Classification (SIC) Code. The Toehold dummy takes a value of one if the bidder own more than 5% of target before the announcement day. Multibid dummy takes a value of 1 if there are multiple Bidders within the same contest (a contest is a 6-Month period from the first bidder's bid). The p-values are given underneath and are the MLE p-values. The *, **, *** indicate significance at 1%, 5%, and 10% respectively.

The Idiosyncratic Volatility is estimated over the [-43,-2] window

Deal-Type	AIV-Target	VIV-Target	AIV-Target and VIV-Target	AIV-Bidder	VIV-Bidder	AIV-Bidder and VIV-Bidder
Constant	0.1659	-0.5744	-0.0762	0.143	-0.1013	0.1698
(p-value)	(0.9357)	(0.7744)	(0.9708)	(0.9427)	(0.9587)	(0.9322)
AIV-Variable	-0.5234		-0.8323	-1.1565		-1.3077
(p-value)	(0.5594)		(0.3746)	(0.433)		(0.4066)
VIV-Variable		2.3648	3.0311		-0.1035	1.6524
(p-value)		(0.3915)	(0.2919)		(0.9854)	(0.7867)
Idiosyncratic Volatility	-7.3427	-5.2546	-6.3279	-20.7863*	-19.4567*	-20.6235*
(p-value)	(0.2662)	(0.4319)	(0.3407)	(0.0756)	(0.094)	(0.0787)
Target Size	0.2047	0.254*	0.2229	0.2283	0.2431*	0.2265
(p-value)	(0.1587)	(0.0755)	(0.1299)	(0.1068)	(0.0821)	(0.111)
Target Turnover	0.000511	-0.00003	0.000395	0.000055	-0.00021	0.000054
(p-value)	(0.8941)	(0.9944)	(0.9182)	(0.9882)	(0.9539)	(0.9883)
Target NYSE/Amex	-0.6291*	-0.5842*	-0.6331*	-0.6717**	-0.6535**	-0.6645**
(p-value)	(0.0568)	(0.0738)	(0.0573)	(0.0422)	(0.0483)	(0.0451)
Target B/M	-0.6773*	-0.7234**	-0.7099**	-0.6528*	-0.66*	-0.6579*
(p-value)	(0.0541)	(0.041)	(0.0442)	(0.0714)	(0.0648)	(0.0699)
Target Runup	0.8185	0.8356	0.7191	0.7541	0.7621	0.7537
(p-value)	(0.1983)	(0.1883)	(0.2634)	(0.2174)	(0.2149)	(0.2189)
Target Markup	-0.3839	-0.395	-0.3511	-0.3927	-0.4128	-0.3884
(p-value)	(0.3866)	(0.3725)	(0.4294)	(0.3755)	(0.3514)	(0.3808)
Collar	0.737	0.7445	0.7625	0.7092	0.7278	0.7035
(p-value)	(0.2537)	(0.2459)	(0.237)	(0.2753)	(0.2604)	(0.28)
Toehold Exist	-1.3798*	-1.3701*	-1.44**	-1.5303**	-1.5229**	-1.5182**
(p-value)	(0.0519)	(0.0551)	(0.0425)	(0.0292)	(0.0296)	(0.0309)
Horizontal	-0.0952	-0.108	-0.0872	-0.0195	-0.051	-0.0258
(p-value)	(0.7649)	(0.734)	(0.7848)	(0.9517)	(0.8735)	(0.9363)
Tender Offer	1.492***	1.4271***	1.4867***	1.4311***	1.4278***	1.4286***
(p-value)	(0.0007)	(0.001)	(0.0007)	(0.0008)	(0.0008)	(0.0008)
Cash Bid	0.0611	0.1175	0.0411	-0.0876	-0.0415	-0.0982
(p-value)	(0.8457)	(0.6967)	(0.8965)	(0.7897)	(0.8978)	(0.7664)
Hostile	-3.7017***	-3.675***	-3.7184***	-3.6674***	-3.682***	-3.6599***
(p-value)	(<.0001)	(<.0001)	(<.0001)	(<.0001)	(<.0001)	(<.0001)
Multiple Bidders	-2.7726***	-2.7378***	-2.8394***	-2.7302***	-2.7249***	-2.7231***
(p-value)	(<.0001)	(<.0001)	(<.0001)	(<.0001)	(<.0001)	(<.0001)
Rumor	0.5308	0.4997	0.5276	0.4499	0.4552	0.4439
(p-value)	(0.4069)	(0.4323)	(0.4095)	(0.4809)	(0.4765)	(0.487)
Adj-R^2	0.2003	0.201	0.2021	0.2031	0.2022	0.2032
Year Dummies	No	No	No	No	No	No
Industry Dummies	No	No	No	No	No	No
Number of Cases	572	284	288	572	284	288

2.14 Appendix G – Tests Performed with AIV and VIV as main explanatory Variables in the Expanded Sample

Table 2-55 Cross-sectional Regression of Bidder Announcement CAR CAR on AIV-Bidder (Target) and VIV-Bidder (Target) (Expanded Sample)

Bidder CAR is equal to the sum of Bidder Abnormal Return ($AR_{i,t}$) estimated over the announcement period [-1,+1]. ARi,t is equal to $ER_{i,t} - (\alpha_i + \beta_i ER_{M,t})$. $ER_{i,t}$ is the bidder company 'i' return on day 't' above the risk free rate on that day. $ER_{M,t}$ is the CRSP Value Weighted Index return on day 't' in excess of the risk free rate on that day. The model's components (α_i, β_i) are obtained by estimating the model $(R_{i,t} = \alpha_i + \beta_i R_{M,t} + e_{i,t})$ over the [-256; -43]. Target Size is the logarithm of the target market value of equity 42 days before the announcement and target turnover is the ratio of the target volume to share outstanding estimated 42 days before the announcement. Target B/M is constructed as the ratio of the nearest target stock book value divided by the target stock price 42 days before the announcement. Target runup is defined as the ratio of the target price 2 days before the announcement divided by the target price 42 days before the announcement [$(P_{-2} / P_{-42}) - 1$]. Target markup is defined as the ratio of the offer price divided by the target price 2 days before the announcement [$(Offer\text{-}Price / P_{-2}) - 1$]. NYSE/AMEX, Collar, Tender Offer, Cash-Only, Hostile, Rumor, and Complete are dummy variables that respectively take the value of 1S if the Target is listed on NYSE/AMEX, the deal has a collar, the deal is a tender offer, the deal is financed by Cash only, the deal is hostile, the deal is preceded by a rumor and the deal is completed successfully. Horizontal is a dummy variable that takes a value of 1 if the bidder and target share the same four-digit Standard Industrial Classification (SIC) Code. The Toehold dummy takes a value of one if the bidder own more than 5% of target before the announcement day. Multibid dummy takes a value of 1 if there are multiple Bidders within the same contest (a contest is a 6-Month period from the first bidder's bid). Industry and year dummies corresponding to the target two-digit SIC codes and to the announcement year. The p-values are given underneath and are the White Heteroscedasticity consistent p-values. The *, **, *** indicate significance at 1%, 5%, and 10% respectively.

	Target AIV Related Tests			Target VIV Related Tests		
Deal-Type	All Control Bids	Non-Cash-Only Control Bids	Cash-Only Control Bids	All Control Bids	Non-Cash-Only Control Bids	Cash-Only Control Bids
Constant	0.10549	0.06523	0.14995*	0.06456	0.05178	0.13563*
(p-value)	(0.2696)	(0.6336)	(0.0899)	(0.4367)	(0.6751)	(0.0551)
AIV-Variable	-0.01876	-0.00891	-0.00392			
(p-value)	(0.3994)	(0.7697)	(0.8482)			
VIV-Variable				-0.00715	-0.02507	0.01296
(p-value)				(0.9152)	(0.8133)	(0.7946)
Target Size	-0.0096**	-0.00833	-0.0068*	-0.00818**	-0.00789	-0.00626*
(p-value)	(0.0185)	(0.1654)	(0.0637)	(0.0288)	(0.1618)	(0.0506)
Target Turnover	-0.0002885	-0.0002814	-6.78E-05	-0.00037	-0.000327	-8.69E-05
(p-value)	(0.3207)	(0.5221)	(0.8372)	(0.1707)	(0.4167)	(0.778)
Target NYSE/Amex	0.00625	0.00881	-0.00266	0.00727	0.00933	-0.0026
(p-value)	(0.4815)	(0.5956)	(0.7107)	(0.4165)	(0.5717)	(0.716)
Target B/M	-0.01268***	-0.01362***	-0.0061	-0.01282***	-0.01376***	-0.00617
(p-value)	(<.0001)	(<.0001)	(0.5138)	(<.0001)	(<.0001)	(0.5073)
Target Runup	-0.0091	0.0009137	-0.00572	-0.00985	0.000753	-0.00704
(p-value)	(0.606)	(0.97)	(0.6552)	(0.585)	(0.9752)	(0.6026)
Target Markup	-0.03178**	-0.04016	-0.02229**	-0.03339**	-0.04072	-0.02322**
(p-value)	(0.0446)	(0.1276)	(0.0307)	(0.0282)	(0.1159)	(0.0212)
Collar	0.02067	0.02221	0.01433	0.02196	0.02254	0.01444
(p-value)	(0.2413)	(0.2945)	(0.4842)	(0.2053)	(0.2795)	(0.478)
Toehold Exist	0.02464*	0.05391*	0.02341	0.02395*	0.05503*	0.0235
(p-value)	(0.0755)	(0.052)	(0.1186)	(0.0821)	(0.0508)	(0.1208)
Horizontal	0.0006698	-0.01541	0.01784**	0.0005347	-0.01561	0.01804**
(p-value)	(0.9369)	(0.2179)	(0.0193)	(0.949)	(0.2086)	(0.0176)
Tender Offer	0.00913	0.03056*	-5.78E-05	0.009	0.03158**	-0.0002657
(p-value)	(0.1662)	(0.0508)	(0.9928)	(0.1713)	(0.0493)	(0.9662)
Cash Bid	0.02729***			0.02861***		
(p-value)	(0.0001)			(<.0001)		
Hostile	-0.00973	0.0026	-0.042***	-0.00905	0.00319	-0.04255***
(p-value)	(0.51)	(0.9331)	(0.0019)	(0.5436)	(0.9178)	(0.0017)
Multiple Bidders	0.00527	0.01594	-0.01529*	0.00542	0.01635	-0.0156*
(p-value)	(0.6541)	(0.4782)	(0.0668)	(0.644)	(0.4671)	(0.0547)
Rumor	0.02192	0.05193*	-0.00804	0.02077	0.05183*	-0.00845
(p-value)	(0.1183)	(0.0714)	(0.4783)	(0.1335)	(0.0698)	(0.4503)
Complete	0.02969**	0.03779*	0.00342	0.02994**	0.03757*	0.00312
(p-value)	(0.0211)	(0.0575)	(0.7535)	(0.0201)	(0.0551)	(0.7737)
Adj-R^2	0.1568	0.1058	0.1445	0.1558	0.1058	0.1446
Year Dummies	Yes	Yes	Yes	Yes	Yes	Yes
Industry Dummies	Yes	Yes	Yes	Yes	Yes	Yes
Number of Cases	743	407	336	743	407	336

Table 2-56 Cross-sectional Regression of Bidder Announcement CAR on AIV-Bidder (Target) and VIV-Bidder (Target) (Expanded Sample)

Bidder CAR is equal to the sum of Bidder Abnormal Return ($AR_{i,t}$) estimated over the announcement period [-1,+1]. ARi,t is equal to $ER_{i,t} - (\alpha_i + \beta_i ER_{M,t})$. $ER_{i,t}$ is the bidder company 'i' return on day 't' above the risk free rate on that day. $ER_{M,t}$ is the CRSP Value Weighted Index return on day 't' in excess of the risk free rate on that day. The model's components (α_i, β_i) are obtained by estimating the model $(R_{i,t} = \alpha_i + \beta_i R_{M,t} + e_{i,t})$ over the [-256; -43]. Target Size is the logarithm of the target market value of equity 42 days before the announcement and target turnover is the ratio of the target volume to share outstanding estimated 42 days before the announcement. Target B/M is constructed as the ratio of the nearest target stock book value divided by the target stock price 42 days before the announcement. Target runup is defined as the ratio of the target price 2 days before the announcement divided by the target price 42 days before the announcement $[(P_{-2} / P_{-42}) - 1]$. Target markup is defined as the ratio of the offer price divided by the target price 2 days before the announcement $[(\text{Offer-Price} / P_{-2}) - 1]$. NYSE/AMEX, Collar, Tender Offer, Cash-Only, Hostile, Rumor, and Complete are dummy variables that respectively take the value of 1S if the Target is listed on NYSE/AMEX, the deal has a collar, the deal is a tender offer, the deal is financed by Cash only, the deal is hostile, the deal is preceded by a rumor and the deal is completed successfully. Horizontal is a dummy variable that takes a value of 1 if the bidder and target share the same four-digit Standard Industrial Classification (SIC) Code. The Toehold dummy takes a value of one if the bidder own more than 5% of target before the announcement day. Multibid dummy takes a value of 1 if there are multiple Bidders within the same contest (a contest is a 6-Month period from the first bidder's bid). Industry and year dummies corresponding to the target two-digit SIC codes and to the announcement year. The p-values are given underneath and are the White Heteroscedasticity consistent p-values. The *, **, *** indicate significance at 1%, 5%, and 10% respectively.

	Bidder AIV Related Tests			Bidder VIV Related Tests		
Deal-Type	All Control Bids	Non-Cash-Only Control Bids	Cash-Only Control Bids	All Control Bids	Non-Cash-Only Control Bids	Cash-Only Control Bids
Constant	0.13551***	0.21302***	0.0486	0.0732**	0.11802**	0.04
(p-value)	(<.0001)	(0.0001)	(0.1841)	(0.0119)	(0.0198)	(0.246)
AIV-Variable	-0.08579***	-0.10741***	-0.02236			
(p-value)	(<.0001)	(<.0001)	(0.2638)			
VIV-Variable				-0.17192***	-0.22454**	-0.1001*
(p-value)				(0.0032)	(0.0289)	(0.0723)
Target Size	-0.00808***	-0.01242***	-0.00208	-0.00622***	-0.00963***	-0.00202
(p-value)	(<.0001)	(<.0001)	(0.2281)	(<.0001)	(<.0001)	(0.2471)
Target Turnover	-0.0001317	-2.956E-05	-2.10E-04	-0.0003762	-0.0004135	-2.44E-04
(p-value)	(0.5555)	(0.9304)	(0.3466)	(0.1027)	(0.2341)	(0.2871)
Target NYSE/Amex	0.000729	0.01037	-0.01067**	0.00296	0.01382*	-0.01065**
(p-value)	(0.877)	(0.1651)	(0.0422)	(0.5293)	(0.0651)	(0.0427)
Target B/M	0.00306	-0.0005705	0.00487*	0.00174	-0.00345	0.00456*
(p-value)	(0.3)	(0.9401)	(0.0733)	(0.5708)	(0.666)	(0.0899)
Target Runup	0.0061	0.00734	0.00724	0.0076	0.01004	0.00713
(p-value)	(0.1852)	(0.2506)	(0.2156)	(0.1316)	(0.1608)	(0.229)
Target Markup	-0.01482**	-0.02079	-0.00678	-0.01402**	-0.02355*	-0.00589
(p-value)	(0.0165)	(0.1004)	(0.2274)	(0.0247)	(0.0673)	(0.291)
Collar	-0.00216	-0.00379	-0.01354	-0.00172	-0.00311	-0.01746
(p-value)	(0.7746)	(0.6465)	(0.4291)	(0.8233)	(0.713)	(0.3302)
Toehold Exist	0.01629*	0.03892***	0.01041	0.02116**	0.04699***	0.01112
(p-value)	(0.0571)	(0.0055)	(0.3535)	(0.0157)	(0.0008)	(0.3307)
Horizontal	0.00642	-0.0009243	0.01232**	0.00332	-0.00542	0.01185**
(p-value)	(0.1699)	(0.8919)	(0.0322)	(0.4714)	(0.4212)	(0.0378)
Tender Offer	0.00308	-0.00271	3.50E-03	0.0031	0.00171	0.00302
(p-value)	(0.4869)	(0.8173)	(0.443)	(0.4881)	(0.885)	(0.5112)
Cash Bid	0.02055***			0.02737***		
(p-value)	(<.0001)			(<.0001)		
Hostile	0.01197	0.05063**	-0.0247**	0.01427	0.05468**	-0.02499**
(p-value)	(0.3257)	(0.0383)	(0.0384)	(0.2583)	(0.03)	(0.0346)
Multiple Bidders	0.00551	0.01574	-0.01133*	0.00499	0.01384	-0.01117*
(p-value)	(0.326)	(0.1194)	(0.0544)	(0.3713)	(0.1609)	(0.056)
Rumor	0.01639	0.03614*	-0.00523	0.0178	0.04094**	-0.00522
(p-value)	(0.1448)	(0.0878)	(0.6473)	(0.1111)	(0.0446)	(0.6462)
Complete	0.01734**	0.027**	-0.0007647	0.02149***	0.03327***	-6.711E-05
(p-value)	(0.0281)	(0.0186)	(0.9287)	(0.0069)	(0.0038)	(0.9937)
Adj-R^2	0.1854	0.1716	0.1083	0.1622	0.1325	0.1114
Year Dummies	Yes	Yes	Yes	Yes	Yes	Yes
Industry Dummies	Yes	Yes	Yes	Yes	Yes	Yes
Number of Cases	1342	677	665	1342	677	665

Table 2-57 Cross-sectional Regression of Bidder Announcement CAR on AIV-Bidder and VIV-Bidder (Expanded Sample)

Bidder CAR is equal to the sum of Bidder Abnormal Return ($AR_{i,t}$) estimated over the announcement period [-1,+1]. ARi,t is equal to $ER_{i,t} - (\alpha_i + \beta_i ER_{M,t})$. $ER_{i,t}$ is the bidder company 'i' return on day 't' above the risk free rate on that day. $ER_{M,t}$ is the CRSP Value Weighted Index return on day 't' in excess of the risk free rate on that day. The model's components (α_i, β_i) are obtained by estimating the model $(R_{i,t} = \alpha_i + \beta_i R_{M,t} + e_{i,t})$ over the [-256; -43].. Target Size is the logarithm of the target market value of equity 42 days before the announcement and target turnover is the ratio of the target volume to share outstanding estimated 42 days before the announcement. Target B/M is constructed as the ratio of the nearest target stock book value divided by the target stock price 42 days before the announcement. Target runup is defined as the ratio of the target price 2 days before the announcement divided by the target price 42 days before the announcement $[(P_{-2} / P_{-42}) - 1]$. Target markup is defined as the ratio of the offer price divided by the target price 2 days before the announcement $[(\text{Offer-Price} / P_{-2}) - 1]$. NYSE/AMEX, Collar, Tender Offer, Cash-Only, Hostile, Rumor, and Complete are dummy variables that respectively take the value of 1S if the Target is listed on NYSE/AMEX, the deal has a collar, the deal is a tender offer, the deal is financed by Cash only, the deal is hostile, the deal is preceded by a rumor and the deal is completed successfully. Horizontal is a dummy variable that takes a value of 1 if the bidder and target share the same four-digit Standard Industrial Classification (SIC) Code. The Toehold dummy takes a value of one if the bidder own more than 5% of target before the announcement day. Multibid dummy takes a value of 1 if there are multiple Bidders within the same contest (a contest is a 6-Month period from the first bidder's bid). Industry and year dummies corresponding to the target two-digit SIC codes and to the announcement year. The p-values are given underneath and are the White Heteroscedasticity consistent p-values. The *, **, *** indicate significance at 1%, 5%, and 10% respectively.

Deal-Type	All Control Bids	Non-Cash-Only Control Bids	Cash-Only Control Bids
Constant	0.13623***	0.21704***	0.04392
(p-value)	(<.0001)	(<.0001)	(0.2334)
AIV-Bidder	-0.08788***	-0.11591***	-0.00579
(p-value)	(<.0001)	(<.0001)	(0.7933)
VIV-Bidder	(0.01545)	(0.07638)	(-0.09078)
(p-value)	(0.8128)	(0.546)	(0.1403)
Target Size	-0.00808***	-0.01251***	-0.00214
(p-value)	(<.0001)	(<.0001)	(0.2173)
Target Turnover	-0.0001304	-3.533E-05	-0.0002361
(p-value)	(0.5597)	(0.9156)	(0.2936)
Target NYSE/Amex	0.0007424	0.01067	-0.01072**
(p-value)	(0.8748)	(0.1537)	(0.0419)
Target B/M	0.00308	-0.0004736	0.00464*
(p-value)	(0.297)	(0.9504)	(0.0855)
Target Runup	0.00614	0.0074	0.00701
(p-value)	(0.1824)	(0.2431)	(0.2289)
Target Markup	-0.01487**	-0.02038	-0.00608
(p-value)	(0.0165)	(0.1064)	(0.268)
Collar	-0.00219	-0.00416	-0.01681
(p-value)	(0.7715)	(0.6148)	(0.3471)
Toehold Exist	0.01617*	0.03846***	0.01101
(p-value)	(0.0578)	(0.0052)	(0.3329)
Horizontal	0.00644	-0.0008299	0.01199**
(p-value)	(0.1698)	(0.9032)	(0.0373)
Tender Offer	0.00313	-0.00268	0.00313
(p-value)	(0.4815)	(0.8201)	(0.4941)
Cash Bid	0.02047***		
(p-value)	(<.0001)		
Hostile	0.01196	0.0507**	-0.02493**
(p-value)	(0.326)	(0.0368)	(0.0354)
Multiple Bidders	0.00547	0.01572	-0.0111*
(p-value)	(0.3299)	(0.1221)	(0.0595)
Rumor	0.01634	0.03577*	-0.00518
(p-value)	(0.1461)	(0.0906)	(0.649)
Complete	0.01723***	0.02661**	-0.0002598
(p-value)	(0.0293)	(0.0205)	(0.9757)
Adj-R^2	0.1848	0.1709	0.11
Year Dummies	Yes	Yes	Yes
Industry Dummies	Yes	Yes	Yes
Number of Cases	1342	677	665

Table 2-58 Logistic Model Estimation of the Probability that the deal will be a cash-only offer versus a deal being a non-cash-only offer (Expanded Sample)

The AIV-Bidder (Target) and VIV- Bidder (Target) are the mean and standard deviation of the Implied Volatilities of Bidder (Target) Companies estimated over the runup period [-42,-2].]. Target (Acquirer) Size is the logarithm of the target (acquirer) market value of equity 42 days before the announcement and target (acquirer) turnover is the ratio of the target (acquirer) volume to share outstanding estimated 42 days before the announcement. Target (acquirer) B/M is constructed as the ratio of the nearest target stock book value divided by the target stock price 42 days before the announcement. Relative size is the ratio of the target size divided by the acquirer size (in log terms). NYSE/AMEX, Collar, Tender Offer, Cash-Only, Hostile, Rumor, and Complete are dummy variables that respectively take the value of 1 if the Target (Acquirer) is listed on NYSE/AMEX, the deal has a collar, the deal is a tender offer, the deal is financed by Cash only, the deal is hostile, the deal is preceded by a rumor and the deal is completed successfully. Horizontal is a dummy variable that takes a value of 1 if the bidder and target share the same four-digit Standard Industrial Classification (SIC) Code. The Toehold dummy takes a value of one if the bidder own more than 5% of target before the announcement day. Multibid dummy takes a value of 1 if there are multiple Bidders within the same contest (a contest is a 6-Month period from the first bidder's bid). The p-values are given underneath and are the MLE p-values. The *, **, *** indicate significance at 1%, 5%, and 10% respectively.

Independent Variable	AIV-Target	VIV-Target	AIV-Target and VIV-Target	AIV-Bidder	VIV-Bidder	AIV-Bidder and VIV-Bidder
Constant	-2.8763	-1.1652	-4.5941	20.1771	13.7781	19.8543**
(p-value)	(0.843)	(0.933)	(0.7521)	(0.044)	(0.1568)	(0.0477)
AIV-Variable	-5.8493***		-6.5159***	-4.8635***		-6.3021***
(p-value)	(<.0001)		(<.0001)	(<.0001)		(<.0001)
VIV-Variable		-3.5363**	3.9603**		-1.4028	9.8956***
(p-value)		(0.0158)	(0.0209)		(0.3906)	(<.0001)
Target Size	-1.3582**	-0.2104	-1.4527**	0.4895	0.5597	0.4417
(p-value)	(0.0471)	(0.7416)	(0.0343)	(0.3309)	(0.2538)	(0.3809)
Target Turnover	0.0098	-0.0138	0.0126	-0.00857	-0.0174**	-0.00771
(p-value)	(0.3314)	(0.1266)	(0.2171)	(0.2652)	(0.0171)	(0.3219)
Target NYSE/Amex	-0.5836**	-0.496**	-0.5763**	-0.366**	-0.3566**	-0.3402*
(p-value)	(0.0168)	(0.0289)	(0.018)	(0.0398)	(0.0377)	(0.0586)
Target B/M	0.0408	0.00252	0.0124	0.0625	-0.0252	0.0862
(p-value)	(0.8207)	(0.9837)	(0.939)	(0.57)	(0.8224)	(0.4338)
Acquirer Size	1.044*	0.3509	1.1298*	-0.4724	-0.3504	-0.4472
(p-value)	(0.0972)	(0.5543)	(0.0737)	(0.2799)	(0.4111)	(0.307)
Acquirer Turnover	-0.00967	-0.0237**	-0.00845	0.0122	-0.0144*	0.0155*
(p-value)	(0.4505)	(0.0242)	(0.5144)	(0.1801)	(0.0622)	(0.0884)
Acquirer NYSE/Amex	-0.00147	0.0663	0.0322	-0.1863	0.1708	-0.1645
(p-value)	(0.995)	(0.7583)	(0.8918)	(0.2753)	(0.2863)	(0.34)
Acquirer B/M	0.675*	0.7335**	0.6049	0.7051**	0.6973***	0.6043**
(p-value)	(0.08)	(0.0394)	(0.1231)	(0.0117)	(0.0062)	(0.0305)
Relative Size	10.9683	-2.5326	12.9558	-19.6779*	-19.1421*	-18.7088*
(p-value)	(0.4755)	(0.8626)	(0.4003)	(0.0829)	(0.0832)	(0.0994)
Collar	-2.8844***	-2.7551***	-2.8966***	-2.9102***	-2.984***	-2.8915***
(p-value)	(<.0001)	(<.0001)	(<.0001)	(<.0001)	(<.0001)	(<.0001)
Toehold Exist	0.6158	0.6018	0.6579	-0.3087	-0.2803	-0.3382
(p-value)	(0.2771)	(0.2825)	(0.2471)	(0.4235)	(0.465)	(0.3863)
Horizontal	-0.5492**	-0.6314***	-0.53**	-0.4504***	-0.5377***	-0.4395**
(p-value)	(0.0184)	(0.0035)	(0.0235)	(0.008)	(0.0009)	(0.0108)
Tender Offer	2.0667***	1.7735***	2.0755***	2.1123***	1.9772***	2.1815***
(p-value)	(<.0001)	(<.0001)	(<.0001)	(<.0001)	(<.0001)	(<.0001)
Hostile	0.4932	0.5821	0.4754	0.2741	0.1868	0.3019
(p-value)	(0.3643)	(0.2839)	(0.3821)	(0.5715)	(0.6931)	(0.537)
Multiple Bidders	0.5529*	0.6485**	0.4994	0.3137	0.3334	0.3067
(p-value)	(0.0684)	(0.0214)	(0.105)	(0.1466)	(0.1087)	(0.1593)
Rumor	0.7801**	0.5906	0.7755**	0.5714	0.6317*	0.5181
(p-value)	(0.0443)	(0.1046)	(0.0468)	(0.1213)	(0.0784)	(0.1612)
Complete	-0.1485	0.0418	-0.1943	-0.2511	-0.1674	-0.2677
(p-value)	(0.6284)	(0.8826)	(0.5318)	(0.2798)	(0.4549)	(0.2531)
Adj-R^2	0.3908	0.2999	0.3951	0.3432	0.2935	0.3542
Year Dummies	No	No	No	No	No	No
Industry Dummies	No	No	No	No	No	No
Number of Cases	743	743	743	1342	1342	1342

Table 2-59 Logistic Model Estimation of the Probability that the deal will be a completed successfully on AIV- (Bidder) Target and VIV- (Bidder) Target (Expanded Sample)

Table 52. Logistic Model Estimation of the Probability that the deal will be a completed successfully on AIV- (Bidder) Target and VIV- (Bidder) Target (Expanded Sample)

The AIV-Bidder (Target) and VIV- Bidder (Target) are the mean and standard deviation of the Implied Volatilities of Bidder (Target) Companies estimated over the runup period [-42,-2]. Target Size is the logarithm of the target (acquirer) market value of equity 42 days before the announcement and target turnover is the ratio of the target volume to share outstanding estimated 42 days before the announcement. Target (acquirer) B/M is constructed as the ratio of the nearest target stock book value divided by the target stock price 42 days before the announcement. Target runup is defined as the ratio of the target (acquirer) price 2 days before the announcement divided by the target (acquirer) price 42 days before the announcement [$(P_{-2} / P_{-42}) - 1$]. Target markup is defined as the ratio of the offer price divided by the target (acquirer) price 2 days before the announcement [(Offer-Price / P_{-2}) - 1]. NYSE/AMEX, Collar, Tender Offer, Cash-Only, Hostile, Rumor, and Complete are dummy variables that respectively take the value of 1 if the Target is listed on NYSE/AMEX, the deal has a collar, the deal is a tender offer, the deal is financed by Cash only, the deal is hostile, the deal is preceded by a rumor and the deal is completed successfully. Horizontal is a dummy variable that takes a value of 1 if the bidder and target share the same four-digit Standard Industrial Classification (SIC) Code. The Toehold dummy takes a value of one if the bidder own more than 5% of target before the announcement day. Multibid dummy takes a value of 1 if there are multiple Bidders within the same contest (a contest is a 6-Month period from the first bidder's bid). The p-values are given underneath and are the MLE p-values. The *, **, *** indicate significance at 1%, 5%, and 10% respectively.

Deal-Type	AIV-Target	VIV-Target	AIV-Target and VIV-Target	AIV-Bidder	VIV-Bidder	AIV-Bidder and VIV-Bidder
Constant	-2.6624	-3.2926	-2.668	5.3464***	4.0952***	5.3835***
(p-value)	(0.3053)	(0.1683)	(0.3045)	(0.0004)	(0.0044)	(0.0004)
AIV-Variable	-0.324		-0.361	-1.3774***		-1.5796***
(p-value)	(0.5588)		(0.5486)	(0.0033)		(0.0051)
VIV-Variable		-0.1551	0.3342		-2.1296	1.6671
(p-value)		(0.9366)	(0.8757)		(0.2855)	(0.5316)
Target Size	0.2605**	0.2831**	0.2607**	-0.1098	-0.0744	-0.1105
(p-value)	(0.0314)	(0.0144)	(0.0313)	(0.1376)	(0.3029)	(0.1358)
Target Turnover	-0.00505	-0.00649	-0.00491	0.000506	-0.00474	0.000681
(p-value)	(0.5677)	(0.4422)	(0.5813)	(0.956)	(0.5832)	(0.9411)
Target NYSE/Amex	-0.645**	-0.6169**	-0.6437**	-0.3681	-0.2999	-0.3611
(p-value)	(0.0239)	(0.0287)	(0.0244)	(0.1187)	(0.1979)	(0.1265)
Target B/M	-0.3399	-0.3656	-0.3426	-0.2044	-0.251*	-0.2006
(p-value)	(0.24)	(0.2054)	(0.2369)	(0.1776)	(0.0916)	(0.1873)
Target Runup	0.6191	0.6085	0.6168	0.5736	0.6393*	0.5925
(p-value)	(0.1812)	(0.1929)	(0.1833)	(0.1133)	(0.0902)	(0.1045)
Target Markup	-0.1784	-0.2166	-0.1745	-0.0894	-0.0861	-0.0951
(p-value)	(0.6837)	(0.6166)	(0.6911)	(0.7683)	(0.7764)	(0.7543)
Collar	0.5962	0.6127	0.596	0.1621	0.1533	0.1561
(p-value)	(0.2559)	(0.2439)	(0.2558)	(0.6511)	(0.668)	(0.6631)
Toehold Exist	-0.9326*	-0.9364*	-0.9338*	-0.9842**	-0.8944**	-0.9934**
(p-value)	(0.0983)	(0.0965)	(0.0977)	(0.0247)	(0.0409)	(0.0233)
Horizontal	0.2949	0.2981	0.2964	0.1092	0.0496	0.1093
(p-value)	(0.2958)	(0.2913)	(0.2937)	(0.6294)	(0.8249)	(0.629)
Tender Offer	1.2224***	1.2031***	1.2186***	1.1191***	1.0884***	1.122***
(p-value)	(0.0014)	(0.0016)	(0.0015)	(0.0001)	(0.0002)	(0.0001)
Cash Bid	0.3032	0.3565	0.3002	0.0964	0.2811	0.0762
(p-value)	(0.2786)	(0.1759)	(0.2847)	(0.6646)	(0.1805)	(0.7346)
Hostile	-3.6386***	-3.6297***	-3.6372***	-2.7225***	-2.7084***	-2.7159***
(p-value)	(<.0001)	(<.0001)	(<.0001)	(<.0001)	(<.0001)	(<.0001)
Multiple Bidders	-2.2344***	-2.2294***	-2.239***	-2.0238***	-2.0341***	-2.0251***
(p-value)	(<.0001)	(<.0001)	(<.0001)	(<.0001)	(<.0001)	(<.0001)
Rumor	0.3969	0.3747	0.3919	0.3876	0.4772	0.3739
(p-value)	(0.4442)	(0.4688)	(0.4505)	(0.4646)	(0.3686)	(0.4812)
Adj-R^2	0.1871	0.1867	0.1871	0.1303	0.1255	0.1305
Year Dummies	No	No	No	No	No	No
Industry Dummies	No	No	No	No	No	No
Number of Cases	743	743	743	1342	1342	1342

2.15 Appendix H – Tests Performed with Idiosyncratic Volatility being the Main Explanatory Variable in the Expanded Sample

Table 2-60 Cross-sectional Regression of Bidder Announcement CAR on Target and Bidder Idiosyncratic (Expanded Sample)

Bidder CAR is equal to the sum of Bidder Abnormal Return ($AR_{i,t}$) estimated over the announcement period [-1,+1]. ARi,t is equal to $ER_{i,t} - (\alpha_i + \beta_i ER_{M,t})$. $ER_{i,t}$ is the bidder company 'i' return on day 't' above the risk free rate on that day. $ER_{M,t}$ is the CRSP Value Weighted Index return on day 't' in excess of the risk free rate on that day. The model's components (α_i, β_i) are obtained by estimating the model $(R_{i,t} = \alpha_i + \beta_i R_{M,t} + e_{i,t})$ over the [-256; -43]. The idiosyncratic volatility is estimated as the standard deviation of the market adjusted residuals of the daily returns measured during the period spanning 256 trading days before the announcement to 2 trading days before the announcement [-256, -2]. . Target Size is the logarithm of the target market value of equity 42 days before the announcement and target turnover is the ratio of the target volume to share outstanding estimated 42 days before the announcement. Target B/M is constructed as the ratio of the nearest target stock book value divided by the target stock price 42 days before the announcement. Target runup is defined as the ratio of the target price 2 days before the announcement divided by the target price 42 days before the announcement [(P_{-2} / P_{-42}) - 1]. Target markup is defined as the ratio of the offer price divided by the target price 2 days before the announcement [(Offer-Price / P_{-2}) - 1]. NYSE/AMEX, Collar, Tender Offer, Cash-Only, Hostile, Rumor, and Complete are dummy variables that respectively take the value of 1S if the Target is listed on NYSE/AMEX, the deal has a collar, the deal is a tender offer, the deal is financed by Cash only, the deal is hostile, the deal is preceded by a rumor and the deal is completed successfully. Horizontal is a dummy variable that takes a value of 1 if the bidder and target share the same four-digit Standard Industrial Classification (SIC) Code. The Toehold dummy takes a value of one if the bidder own more than 5% of target before the announcement day. Multibid dummy takes a value of 1 if there are multiple Bidders within the same contest (a contest is a 6-Month period from the first bidder's bid). Industry and year dummies corresponding to the target two-digit SIC codes and to the announcement year. The p-values are given underneath and are the White Heteroscedasticity consistent p-values. The *, **, *** indicate significance at 1%, 5%, and 10% respectively.

The Idiosyncratic Volatility is estimated over the [-256,-2] window						
	Target Tests			Bidder Tests		
Deal-Type	All Control Bids	Non-Cash-Only Control Bids	Cash-Only Control Bids	All Control Bids	Non-Cash-Only Control Bids	Cash-Only Control Bids
Constant	0.07762	0.02259	0.18629**	0.12349***	0.20959***	0.04184
(p-value)	(0.3944)	(0.8651)	(0.0348)	(<.0001)	(<.0001)	(0.2542)
Idio_Vol	-0.11722	0.18028	-0.27466	-1.26266***	-1.58278***	-0.28191
(p-value)	(0.7268)	(0.7271)	(0.3554)	(<.0001)	(<.0001)	(0.4241)
Target Size	(-0.00857)**	(-0.00691)	(-0.00761)**	(-0.00783)***	(-0.01224)****	(-0.00184)
(p-value)	(0.0239)	(0.2316)	(0.0276)	(<.0001)	(<.0001)	(0.2831)
Target Turnover	-0.0003235	-0.0004084	3.34E-05	-0.000164	-9.56E-05	-0.0002136
(p-value)	(0.2888)	(0.4057)	(0.9212)	(0.4582)	(0.7756)	(0.3327)
Target NYSE/Amex	0.00682	0.01051	-0.00291	0.0008216	0.00985	-0.01047**
(p-value)	(0.4407)	(0.5232)	(0.6816)	(0.8617)	(0.1906)	(0.0459)
Target B/M	-0.01292***	-0.01371***	-0.00661	0.00347	0.0003684	0.00486*
(p-value)	(<.0001)	(<.0001)	(0.4825)	(0.2536)	(0.9613)	(0.0791)
Target Runup	-0.0091	-0.00021	-0.00347	0.00615	0.00783	0.00747
(p-value)	(0.6158)	(0.9934)	(0.7954)	(0.1904)	(0.2209)	(0.2055)
Target Markup	-0.03315**	-0.04077	-0.021**	-0.01702***	-0.02373*	-0.00695
(p-value)	(0.0302)	(0.1149)	(0.0352)	(0.0066)	(0.0622)	(0.2093)
Collar	0.02159	0.02328	0.01354	-0.0008713	-0.00257	-0.01345
(p-value)	(0.2127)	(0.2679)	(0.4998)	(0.9085)	(0.7569)	(0.4267)
Toehold Exist	0.02475*	0.05465**	0.02427	0.01664**	0.03847***	0.01066
(p-value)	(0.0813)	(0.0492)	(0.1121)	(0.0477)	(0.003)	(0.3454)
Horizontal	0.0006616	-0.01593	0.01772**	0.00609	-0.00155	0.01231**
(p-value)	(0.9377)	(0.2034)	(0.0204)	(0.1957)	(0.8202)	(0.036)
Tender Offer	0.00884	0.03174**	0.0003192	0.00345	-0.00322	0.00349
(p-value)	(0.1795)	(0.0444)	(0.9595)	(0.4368)	(0.7853)	(0.447)
Cash Bid	0.0284***			0.02043***		
(p-value)	(<.0001)			(<.0001)		
Hostile	-0.00921	0.00411	-0.04224***	0.01352	0.05226**	-0.02445**
(p-value)	(0.5357)	(0.8942)	(0.0016)	(0.266)	(0.0339)	(0.0401)
Multiple Bidders	0.00567	0.0155	-0.01459*	0.00543	0.01758*	-0.01163**
(p-value)	(0.6301)	(0.4908)	(0.0761)	(0.3298)	(0.0776)	(0.0476)
Rumor	0.02115	0.05075*	-0.00713	0.01479	0.03431*	-0.00565
(p-value)	(0.1297)	(0.0728)	(0.5217)	(0.1835)	(0.0946)	(0.6216)
Complete	0.03012**	0.03733*	0.0031	0.017**	0.02711**	-0.0007559
(p-value)	(0.0198)	(0.0621)	(0.7759)	(0.0312)	(0.0168)	(0.9305)
Adj-R^2	0.1559	0.1059	0.1464	0.1795	0.1648	0.1071
Year Dummies	Yes	Yes	Yes	Yes	Yes	Yes
Industry Dummies	Yes	Yes	Yes	Yes	Yes	Yes
Number of Cases	743	407	336	1342	677	665

Table 2-61 Cross-sectional Regression of Bidder Announcement CAR on Target and Bidder Idiosyncratic Volatility (Expanded Sample)

Bidder CAR is equal to the sum of Bidder Abnormal Return ($AR_{i,t}$) estimated over the announcement period [-1,+1]. ARi,t is equal to $ER_{i,t} - (\alpha_i + \beta_i ER_{M,t})$. $ER_{i,t}$ is the bidder company 'i' return on day 't' above the risk free rate on that day. $ER_{M,t}$ is the CRSP Value Weighted Index return on day 't' in excess of the risk free rate on that day. The model's components (α_i, β_i) are obtained by estimating the model $(R_{i,t} = \alpha_i + \beta_i R_{M,t} + e_{i,t})$ over the [-256; -43]. The idiosyncratic volatility is estimated as the standard deviation of the market adjusted residuals of the daily returns measured during the period spanning 256 trading days before the announcement to 43 trading days before the announcement [-256, -43]. . Target Size is the logarithm of the target market value of equity 42 days before the announcement and target turnover is the ratio of the target volume to share outstanding estimated 42 days before the announcement. Target B/M is constructed as the ratio of the nearest target stock book value divided by the target stock price 42 days before the announcement. Target runup is defined as the ratio of the target price 2 days before the announcement divided by the target price 42 days before the announcement [(P_{-2} / P_{-42}) - 1]. Target markup is defined as the ratio of the offer price divided by the target price 2 days before the announcement [(Offer-Price / P_{-2}) - 1]. NYSE/AMEX, Collar, Tender Offer, Cash-Only, Hostile, Rumor, and Complete are dummy variables that respectively take the value of 1S if the Target is listed on NYSE/AMEX, the deal has a collar, the deal is a tender offer, the deal is financed by Cash only, the deal is hostile, the deal is preceded by a rumor and the deal is completed successfully. Horizontal is a dummy variable that takes a value of 1 if the bidder and target share the same four-digit Standard Industrial Classification (SIC) Code. The Toehold dummy takes a value of one if the bidder own more than 5% of target before the announcement day. Multibid dummy takes a value of 1 if there are multiple Bidders within the same contest (a contest is a 6-Month period from the first bidder's bid). Industry and year dummies corresponding to the target two-digit SIC codes and to the announcement year. The p-values are given underneath and are the White Heteroscedasticity consistent p-values. The *, **, *** indicate significance at 1%, 5%, and 10% respectively.

The Idiosyncratic Volatility is estimated over the [-256,-43] window						
	Target Tests			Bidder Tests		
Deal-Type	All Control Bids	Non-Cash-Only Control Bids	Cash-Only Control Bids	All Control Bids	Non-Cash-Only Control Bids	Cash-Only Control Bids
Constant	0.06059	0.00343	0.18689**	0.11796***	0.20314***	0.0385
(p-value)	(0.5118)	(0.9793)	(0.0278)	(0.0002)	(0.0002)	(0.2934)
Idio_Vol	0.0142	0.33362	-0.27851	-1.15158***	-1.46629***	-0.20353
(p-value)	(0.9686)	(0.5358)	(0.3176)	(<.0001)	(<.0001)	(0.5458)
Target Size	(-0.00804)**	(-0.00632)	(-0.00772)**	(-0.00766)***	(-0.01207)***	(-0.00171)
(p-value)	(0.0333)	(0.2661)	(0.0236)	(<.0001)	(<.0001)	(0.3182)
Target Turnover	-0.0003766	-0.0004908	3.95E-05	-0.0001887	-1.33E-04	-0.0002201
(p-value)	(0.241)	(0.3343)	(0.907)	(0.3967)	(0.6939)	(0.3201)
Target NYSE/Amex	0.00737	0.01125	-0.00313	0.00102	0.01008	-0.01041**
(p-value)	(0.409)	(0.4984)	(0.6604)	(0.8288)	(0.1805)	(0.0472)
Target B/M	-0.01286***	-0.01349***	-0.00669	0.00351	0.0001046	0.00481*
(p-value)	(<.0001)	(0.0001)	(0.4722)	(0.2489)	(0.989)	(0.0811)
Target Runup	-0.01001	0.0003373	-0.00524	0.00622	0.00794	0.00764
(p-value)	(0.5683)	(0.989)	(0.6828)	(0.1874)	(0.2149)	(0.1974)
Target Markup	-0.03346**	-0.04037	-0.02132**	-0.01687***	-0.02366*	-0.00672
(p-value)	(0.0275)	(0.1169)	(0.032)	(0.0073)	(0.0645)	(0.2255)
Collar	0.0221	0.02362	0.01426	-0.0008936	-0.00272	-0.01398
(p-value)	(0.2008)	(0.2578)	(0.4807)	(0.9066)	(0.7434)	(0.4116)
Toehold Exist	0.02389*	0.05508**	0.02462	0.01716**	0.0395***	0.01071
(p-value)	(0.0869)	(0.0491)	(0.1043)	(0.0406)	(0.0021)	(0.3445)
Horizontal	0.0005876	-0.01582	0.01766**	0.0058	-0.00196	0.01216**
(p-value)	(0.9446)	(0.2028)	(0.0211)	(0.2182)	(0.7739)	(0.0383)
Tender Offer	0.00894	0.0324**	0.000195	0.00341	-0.00298	0.00339
(p-value)	(0.1746)	(0.0405)	(0.9751)	(0.4443)	(0.8023)	(0.4614)
Cash Bid	0.02876***			0.02106**		
(p-value)	(<.0001)			(<.0001)		
Hostile	-0.00907	0.00473	-0.04183***	0.01399	0.05292**	-0.02456**
(p-value)	(0.5421)	(0.8782)	(0.0017)	(0.2505)	(0.0319)	(0.0393)
Multiple Bidders	0.00526	0.01546	-0.01551*	0.00527	0.01757*	-0.01174**
(p-value)	(0.6535)	(0.4906)	(0.0631)	(0.3443)	(0.0783)	(0.045)
Rumor	0.0206	0.0507*	-0.007	0.01489	0.03468*	-0.00563
(p-value)	(0.144)	(0.0754)	(0.5302)	(0.1795)	(0.0898)	(0.6226)
Complete	0.02992**	0.03665*	0.00288	0.01734**	0.02781**	-0.0006186
(p-value)	(0.0198)	(0.0647)	(0.7913)	(0.0287)	(0.0146)	(0.9431)
Adj-R^2	0.1558	0.1066	0.1464	0.1767	0.1613	0.1066
Year Dummies	Yes	Yes	Yes	Yes	Yes	Yes
Industry Dummies	Yes	Yes	Yes	Yes	Yes	Yes
Number of Cases	743	407	336	1342	677	665

Table 2-62 Cross-sectional Regression of Bidder Announcement CAR on Target and Bidder Idiosyncratic Volatility (Expanded Sample)

Bidder CAR is equal to the sum of Bidder Abnormal Return ($AR_{i,t}$) estimated over the announcement period [-1,+1]. ARi,t is equal to $ER_{i,t} - (\alpha_i + \beta_i ER_{M,t})$. $ER_{i,t}$ is the bidder company 'i' return on day 't' above the risk free rate on that day. $ER_{M,t}$ is the CRSP Value Weighted Index return on day 't' in excess of the risk free rate on that day. The model's components (α_i, β_i) are obtained by estimating the model $(R_{i,t} = \alpha_i + \beta_i R_{M,t} + e_{i,t})$ over the [-256; -43]. The idiosyncratic volatility is estimated as the standard deviation of the market adjusted residuals of the daily returns measured during the period spanning 43 trading days before the announcement to 2 trading days before the announcement [-256, -2]. . Target Size is the logarithm of the target market value of equity 42 days before the announcement and target turnover is the ratio of the target volume to share outstanding estimated 42 days before the announcement. Target B/M is constructed as the ratio of the nearest target stock book value divided by the target stock price 42 days before the announcement. Target runup is defined as the ratio of the target price 2 days before the announcement divided by the target price 42 days before the announcement [(P_{-2} / P_{-42}) - 1]. Target markup is defined as the ratio of the offer price divided by the target price 2 days before the announcement [(Offer-Price / P_{-2}) - 1]. NYSE/AMEX, Collar, Tender Offer, Cash-Only, Hostile, Rumor, and Complete are dummy variables that respectively take the value of 1S if the Target is listed on NYSE/AMEX, the deal has a collar, the deal is a tender offer, the deal is financed by Cash only, the deal is hostile, the deal is preceded by a rumor and the deal is completed successfully. Horizontal is a dummy variable that takes a value of 1 if the bidder and target share the same four-digit Standard Industrial Classification (SIC) Code. The Toehold dummy takes a value of one if the bidder own more than 5% of target before the announcement day. Multibid dummy takes a value of 1 if there are multiple Bidders within the same contest (a contest is a 6-Month period from the first bidder's bid). Industry and year dummies corresponding to the target two-digit SIC codes and to the announcement year. The p-values are given underneath and are the White Heteroscedasticity consistent p-values. The *, **, *** indicate significance at 1%, 5%, and 10% respectively.

	The Idiosyncratic Volatility is estimated over the [-43,-2] window					
	Target Tests			Bidder Tests		
Deal-Type	All Control Bids	Non-Cash-Only Control Bids	Cash-Only Control Bids	All Control Bids	Non-Cash-Only Control Bids	Cash-Only Control Bids
Constant	0.07671	0.04975	0.14883**	0.11337***	0.18304***	0.04708
(p-value)	(0.3415)	(0.681)	(0.0471)	(0.0002)	(0.0005)	(0.1931)
Idio_Vol	-0.12294	-0.03988	-0.04867	-1.10281***	-1.32489***	-0.42224
(p-value)	(0.4578)	(0.883)	(0.7134)	(<.0001)	(<.0001)	(0.1753)
Target Size	(-0.00854)**	(-0.00779)	(-0.00659)**	(-0.0072)***	(-0.01135)***	(-0.00197)
(p-value)	(0.0163)	(0.1556)	(0.0392)	(<.0001)	(<.0001)	(0.2495)
Target Turnover	-0.0003473	-0.0003155	-6.92E-05	-0.0002172	-1.86E-04	-0.000207
(p-value)	(0.2048)	(0.4474)	(0.8237)	(0.32)	(0.5732)	(0.3523)
Target NYSE/Amex	0.00684	0.00926	-0.0025	0.00179	0.01243	-0.01063**
(p-value)	(0.4413)	(0.5716)	(0.7275)	(0.7054)	(0.1006)	(0.0431)
Target B/M	-0.01279***	-0.01378***	-0.00619	0.0026	-0.0005655	0.00482*
(p-value)	(<.0001)	(<.0001)	(0.5123)	(0.3901)	(0.9427)	(0.0702)
Target Runup	-0.00723	0.00143	-0.00448	0.00742	0.0089	0.00728
(p-value)	(0.7034)	(0.9555)	(0.7486)	(0.1283)	(0.1909)	(0.2175)
Target Markup	-0.03236**	-0.0405	-0.02195**	-0.01581**	-0.0226*	-0.00723
(p-value)	(0.0372)	(0.1206)	(0.034)	(0.0107)	(0.0699)	(0.1957)
Collar	0.02134	0.02241	0.01401	-0.001	-0.00239	-0.01224
(p-value)	(0.2174)	(0.2865)	(0.4892)	(0.8949)	(0.7755)	(0.4703)
Toehold Exist	0.02544*	0.05486*	0.02323	0.01744**	0.04003***	0.0105
(p-value)	(0.0755)	(0.0507)	(0.1244)	(0.0374)	(0.0029)	(0.343)
Horizontal	0.0007769	-0.01544	0.01787**	0.00543	-0.0025	0.01251**
(p-value)	(0.9272)	(0.2248)	(0.019)	(0.2468)	(0.7139)	(0.0311)
Tender Offer	0.0091	0.0307*	-2.086E-05	0.00392	-0.0006087	0.00369
(p-value)	(0.1663)	(0.0501)	(0.9974)	(0.3754)	(0.9581)	(0.4203)
Cash Bid	0.02832***			0.02238***		
(p-value)	(<.0001)			(<.0001)		
Hostile	-0.00965	0.0036	-0.04243***	0.01239	0.05173**	-0.02438**
(p-value)	(0.5159)	(0.9075)	(0.0017)	(0.3168)	(0.0348)	(0.0417)
Multiple Bidders	0.0064	0.01609	-0.01471*	0.00529	0.01533	-0.01122*
(p-value)	(0.5928)	(0.4773)	(0.0702)	(0.3434)	(0.1222)	(0.0575)
Rumor	0.02166	0.05173*	-0.00809	0.01589	0.03627*	-0.00548
(p-value)	(0.1202)	(0.0689)	(0.4679)	(0.1596)	(0.0829)	(0.6327)
Complete	0.02982**	0.03783*	0.00341	0.01787**	0.02763**	-0.0005624
(p-value)	(0.021)	(0.0575)	(0.7543)	(0.0228)	(0.0139)	(0.948)
Adj-R^2	0.1564	0.1057	0.1447	0.1776	0.1582	0.1095
Year Dummies	Yes	Yes	Yes	Yes	Yes	Yes
Industry Dummies	Yes	Yes	Yes	Yes	Yes	Yes
Number of Cases	743	407	336	1342	677	665

Table 2-63 Logistic Model Estimation of the Probability that the Deal will be a Cash-Only Offer Versus a Being a Non-Cash-Only Offer using Idiosyncratic Volatility (Expanded Sample)

The idiosyncratic volatility is estimated as the standard deviation of the market adjusted residuals of the daily returns. Target (Acquirer) Size is the logarithm of the target (acquirer) market value of equity 42 days before the announcement and target (acquirer) turnover is the ratio of the target (acquirer) volume to share outstanding estimated 42 days before the announcement. Target (acquirer) B/M is constructed as the ratio of the nearest target stock book value divided by the target stock price 42 days before the announcement. Relative size is the ratio of the target size divided by the acquirer size (in log terms). NYSE/AMEX, Collar, Tender Offer, Cash-Only, Hostile, Rumor, and Complete are dummy variables that respectively take the value of 1 if the Target (Acquirer) is listed on NYSE/AMEX, the deal has a collar, the deal is a tender offer, the deal is financed by Cash only, the deal is hostile, the deal is preceded by a rumor and the deal is completed successfully. Horizontal is a dummy variable that takes a value of 1 if the bidder and target share the same four-digit Standard Industrial Classification (SIC) Code. The Toehold dummy takes a value of one if the bidder own more than 5% of target before the announcement day. Multibid dummy takes a value of 1 if there are multiple Bidders within the same contest (a contest is a 6-Month period from the first bidder's bid). The p-values are given underneath and are the MLE p-values. The *, **, *** indicate significance at 1%, 5%, and 10% respectively.

	Estimated over [-256,-43] Interval		Estimated over [-256,-2] Interval		Estimated over [-43,-2] Interval	
Independent Variable	Target	Acquirer	Target	Acquirer	Target	Acquirer
Constant	-8.6899	21.2268**	-8.3731	22.9321**	-4.7199	23.1545**
(p-value)	(0.5245)	(0.0381)	(0.5396)	(0.0259)	(0.731)	(0.0225)
Idiosyncratic Volatility	-79.658***	-89.3175***	-75.1827***	-93.86***	-27.3817***	-69.595***
(p-value)	(<.0001)	(<.0001)	(<.0001)	(<.0001)	(<.0001)	(<.0001)
Target Size	(-1.332)**	(0.4726)	(-1.286)**	(0.5313)	(-0.5778)	(0.7017)
(p-value)	(0.04)	(0.3566)	(0.047)	(0.3024)	(0.3647)	(0.1686)
Target Turnover	0.0205**	-0.00685	0.0169	-0.00639	-0.00604	-0.0107
(p-value)	(0.0483)	(0.3882)	(0.1008)	(0.4242)	(0.5156)	(0.163)
Target NYSE/Amex	-0.6159**	-0.3336*	-0.6017**	-0.3306*	-0.5177**	-0.3381*
(p-value)	(0.0105)	(0.0621)	(0.0123)	(0.0656)	(0.0254)	(0.0579)
Target B/M	-0.0528	0.1486	-0.0195	0.1319	0.0298	0.0295
(p-value)	(0.7567)	(0.1917)	(0.9152)	(0.2435)	(0.8305)	(0.7862)
Acquirer Size	1.1141*	-0.5087	1.0859*	-0.5707	0.6203	-0.6308
(p-value)	(0.0614)	(0.2542)	(0.0679)	(0.2031)	(0.2938)	(0.1546)
Acquirer Turnover	-0.0137	0.0158*	-0.013	0.0165*	-0.0186*	0.00198
(p-value)	(0.28)	(0.0852)	(0.298)	(0.0759)	(0.0936)	(0.818)
Acquirer NYSE/Amex	-0.0305	-0.2177	-0.0186	-0.2263	0.08	-0.0745
(p-value)	(0.8947)	(0.2089)	(0.9358)	(0.1932)	(0.7163)	(0.6589)
Acquirer B/M	0.459	0.4295	0.49	0.4085	0.6121*	0.5223*
(p-value)	(0.2279)	(0.1162)	(0.1955)	(0.1423)	(0.0873)	(0.0604)
Relative Size	14.003	-19.5985*	13.2374	-21.1389*	3.4764	-24.2433**
(p-value)	(0.3342)	(0.0903)	(0.3609)	(0.0691)	(0.8109)	(0.0349)
Collar	-2.6912***	-2.7954***	-2.6092***	-2.7704***	-2.7293***	-2.8126***
(p-value)	(<.0001)	(<.0001)	(<.0001)	(<.0001)	(<.0001)	(<.0001)
Toehold Exist	0.9536	-0.2082	1.1163*	-0.2222	1.0055*	-0.2854
(p-value)	(0.1018)	(0.5909)	(0.0547)	(0.5659)	(0.0872)	(0.4551)
Horizontal	-0.5907**	-0.4456***	-0.6168***	-0.4442***	-0.6489***	-0.4679***
(p-value)	(0.011)	(0.0093)	(0.0079)	(0.0099)	(0.0035)	(0.0061)
Tender Offer	1.8757***	2.1418***	1.8826***	2.153***	1.8357***	2.1218***
(p-value)	(<.0001)	(<.0001)	(<.0001)	(<.0001)	(<.0001)	(<.0001)
Hostile	0.7562	0.4738	0.6239	0.4489	0.4506	0.2421
(p-value)	(0.1799)	(0.3437)	(0.27)	(0.3704)	(0.4189)	(0.6227)
Multiple Bidders	0.759**	0.3523	0.8921***	0.3661*	0.855***	0.382*
(p-value)	(0.0129)	(0.1053)	(0.0032)	(0.0942)	(0.003)	(0.0793)
Rumor	0.6306*	0.4794	0.6665*	0.4653	0.6736*	0.492
(p-value)	(0.0941)	(0.1988)	(0.078)	(0.2114)	(0.0669)	(0.1772)
Complete	0.0982	-0.1937	0.0281	-0.2059	-0.0241	-0.2559
(p-value)	(0.7468)	(0.4085)	(0.9259)	(0.3812)	(0.9335)	(0.2727)
Adj-R^2	0.3764	0.3558	0.3727	0.3599	0.3255	0.3462
Year Dummies	No	No	No	No	No	No
Industry Dummies	No	No	No	No	No	No
Number of Cases	743	1342	743	1342	743	1342

Table 2-64 Logistic Model Estimation of the Probability that the Deal Will be completed successfully on Target and Bidder Divergence of Opinion (Expanded Sample)

The idiosyncratic volatility is estimated as the standard deviation of the market adjusted residuals of the daily returns. Target Size is the logarithm of the target (acquirer) market value of equity 42 days before the announcement and target turnover is the ratio of the target volume to share outstanding estimated 42 days before the announcement. Target (acquirer) B/M is constructed as the ratio of the nearest target stock book value divided by the target stock price 42 days before the announcement. Target runup is defined as the ratio of the target (acquirer) price 2 days before the announcement divided by the target (acquirer) price 42 days before the announcement [(P_{-2} / P_{-42}) - 1]. Target markup is defined as the ratio of the offer price divided by the target (acquirer) price 2 days before the announcement [(Offer-Price / P_{-2}) - 1]. NYSE/AMEX, Collar, Tender Offer, Cash-Only, Hostile, Rumor, and Complete are dummy variables that respectively take the value of 1 if the Target is listed on NYSE/AMEX, the deal has a collar, the deal is a tender offer, the deal is financed by Cash only, the deal is hostile, the deal is preceded by a rumor and the deal is completed successfully. Horizontal is a dummy variable that takes a value of 1 if the bidder and target share the same four-digit Standard Industrial Classification (SIC) Code. The Toehold dummy takes a value of one if the bidder own more than 5% of target before the announcement day. Multibid dummy takes a value of 1 if there are multiple Bidders within the same contest (a contest is a 6-Month period from the first bidder's bid). The p-values are given underneath and are the MLE p-values. The *, **, *** indicate significance at 1%, 5%, and 10% respectively.

	Estimated over [-256,-2 Interval		Estimated over [-256,-43] Interval		Estimated over [-43,-2] Interval	
Deal-Type	Target	Acquirer	Target	Acquirer	Target	Acquirer
Constant	-4.371*	5.4858***	-5.1217*	5.4482***	-2.97	4.9085***
(p-value)	(0.0918)	(0.0004)	(0.0528)	(0.0004)	(0.2145)	(0.0009)
Idiosyncratic Volatility	8.7049	-22.837***	14.8377	-21.9368***	-3.3758	-17.74**
(p-value)	(0.3292)	(0.0027)	(0.1228)	(0.0032)	(0.4821)	(0.0114)
Target Size	(0.3229)***	(-0.1178)	(0.351)***	(-0.1172)	(0.2713)**	(-0.0971)
(p-value)	(0.0081)	(0.1147)	(0.0046)	(0.1172)	(0.0189)	(0.1836)
Target Turnover	-0.0103	0.000894	-0.0133	0.000679	-0.0056	-0.00113
(p-value)	(0.2641)	(0.9224)	(0.1558)	(0.941)	(0.5138)	(0.9)
Target NYSE/Amex	-0.5587*	-0.3689	-0.5291*	-0.3657	-0.6394**	-0.3382
(p-value)	(0.0507)	(0.1183)	(0.0635)	(0.1212)	(0.0238)	(0.1494)
Target B/M	-0.411	-0.1917	-0.4334	-0.1912	-0.3461	-0.2134
(p-value)	(0.1631)	(0.2118)	(0.1458)	(0.2131)	(0.2279)	(0.1543)
Target Runup	0.5518	0.585	0.5938	0.5966	0.67	0.5865
(p-value)	(0.2508)	(0.1087)	(0.2151)	(0.1037)	(0.1535)	(0.1061)
Target Markup	-0.2359	-0.1541	-0.2392	-0.1536	-0.1993	-0.124
(p-value)	(0.5865)	(0.6116)	(0.5812)	(0.6129)	(0.6455)	(0.6821)
Collar	0.6325	0.2082	0.6356	0.2084	0.5998	0.182
(p-value)	(0.2318)	(0.5647)	(0.2304)	(0.5648)	(0.2532)	(0.611)
Toehold Exist	-0.9886*	-0.9846**	-0.9538*	-0.9743**	-0.8848	-0.9779**
(p-value)	(0.0794)	(0.0243)	(0.0918)	(0.0259)	(0.123)	(0.0249)
Horizontal	0.3117	0.1074	0.3147	0.1096	0.2927	0.0691
(p-value)	(0.2717)	(0.6344)	(0.2671)	(0.6278)	(0.2986)	(0.7579)
Tender Offer	1.1818***	1.1261***	1.1768***	1.1261***	1.2191***	1.1112***
(p-value)	(0.0018)	(0.0001)	(0.0019)	(0.0001)	(0.0014)	(0.0001)
Cash Bid	0.439	0.0578	0.4973*	0.0656	0.3278	0.1221
(p-value)	(0.1094)	(0.7986)	(0.0716)	(0.7714)	(0.2198)	(0.5829)
Hostile	-3.6325***	-2.7058***	-3.6488***	-2.7005***	-3.6393***	-2.7143***
(p-value)	(<.0001)	(<.0001)	(<.0001)	(<.0001)	(<.0001)	(<.0001)
Multiple Bidders	-2.2609***	-2.02***	-2.2564***	-2.0237***	-2.204***	-2.0125***
(p-value)	(<.0001)	(<.0001)	(<.0001)	(<.0001)	(<.0001)	(<.0001)
Rumor	0.3465	0.3678	0.3438	0.3749	0.4003	0.3832
(p-value)	(0.502)	(0.4893)	(0.5068)	(0.4809)	(0.44)	(0.4712)
Adj-R^2	0.1878	0.1304	0.1895	0.1302	0.1872	0.1288
Year Dummies	No	No	No	No	No	No
Industry Dummies	No	No	No	No	No	No
Number of Cases	743	1342	743	1342	743	1342

2.16 Appendix I – Tests Performed with AIV and VIV as main explanatory Variables with idiosyncratic volatility as Control in the Expanded Sample

Table 2-65 Cross-sectional Regression of Bidder Announcement CAR on AIV-Bidder (Target) and VIV-Bidder (Target) while controlling for Idiosyncratic Volatility (Expanded Sample)

Bidder CAR is equal to the sum of Bidder Abnormal Return ($AR_{i,t}$) estimated over the announcement period [-1,+1]. ARi,t is equal to $ER_{i,t} - (\alpha_i + \beta_i ER_{M,t})$. $ER_{i,t}$ is the bidder company 'i' return on day 't' above the risk free rate on that day. $ER_{M,t}$ is the CRSP Value Weighted Index return on day 't' in excess of the risk free rate on that day. The model's components (α_i, β_i) are obtained by estimating the model $(R_{i,t} = \alpha_i + \beta_i R_{M,t} + e_{i,t})$ over the [-256; -43]. The idiosyncratic volatility is estimated as the standard deviation of the market adjusted residuals of the daily returns measured during the period spanning 43 trading days before the announcement to 2 trading days before the announcement [-43, -2]. . Target Size is the logarithm of the target market value of equity 42 days before the announcement and target turnover is the ratio of the target volume to share outstanding estimated 42 days before the announcement. Target B/M is constructed as the ratio of the nearest target stock book value divided by the target stock price 42 days before the announcement. Target runup is defined as the ratio of the target price 2 days before the announcement divided by the target price 42 days before the announcement [(P_{-2} / P_{-42}) - 1]. Target markup is defined as the ratio of the offer price divided by the target price 2 days before the announcement [(Offer-Price / P_{-2}) - 1]. NYSE/AMEX, Collar, Tender Offer, Cash-Only, Hostile, Rumor, and Complete are dummy variables that respectively take the value of 1S if the Target is listed on NYSE/AMEX, the deal has a collar, the deal is a tender offer, the deal is financed by Cash only, the deal is hostile, the deal is preceded by a rumor and the deal is completed successfully. Horizontal is a dummy variable that takes a value of 1 if the bidder and target share the same four-digit Standard Industrial Classification (SIC) Code. The Toehold dummy takes a value of one if the bidder own more than 5% of target before the announcement day. Multibid dummy takes a value of 1 if there are multiple Bidders within the same contest (a contest is a 6-Month period from the first bidder's bid). Industry and year dummies corresponding to the target two-digit SIC codes and to the announcement year. The p-values are given underneath and are the White Heteroscedasticity consistent p-values. The *, **, *** indicate significance at 1%, 5%, and 10% respectively.

The Idiosyncratic Volatility is estimated over the [-43,-2] window						
	Target AIV Related Tests			Target VIV Related Tests		
Deal-Type	All Control Bids	Non-Cash-Only Control Bids	Cash-Only Control Bids	All Control Bids	Non-Cash-Only Control Bids	Cash-Only Control Bids
Constant	0.10326	0.06535	0.14953*	0.07576	0.05326	0.14528*
(p-value)	(0.2787)	(0.6314)	(0.0929)	(0.3752)	(0.6738)	(0.0556)
AIV-Variable	-0.01502	-0.00924	-0.0003794			
(p-value)	(0.5383)	(0.7795)	(0.988)			
VIV-Variable				0.00477	-0.0231	0.01643
(p-value)				(0.9413)	(0.8225)	(0.7483)
Idio_Vol	-0.05483	0.0055	-0.0472	-0.12683	-0.01731	-0.05838
(p-value)	(0.7639)	(0.9855)	(0.7716)	(0.4094)	(0.9462)	(0.6705)
Target Size	-0.0095**	-0.00834	-0.00662*	-0.0085**	-0.00794	-0.00637**
(p-value)	(0.0194)	(0.1623)	(0.077)	(0.0257)	(0.1674)	(0.0488)
Target Turnover	-0.0002946	-0.0002813	-0.000068	-0.0003466	-0.0003218	-6.755E-05
(p-value)	(0.3123)	(0.5218)	(0.8368)	(0.202)	(0.4361)	(0.8277)
Target NYSE/Amex	0.00625	0.00881	-0.0025	0.00686	0.00923	-0.00249
(p-value)	(0.4815)	(0.5939)	(0.7289)	(0.4397)	(0.5722)	(0.7285)
Target B/M	-0.01269***	-0.01362***	-0.0062	-0.01282***	-0.01374***	-0.00649
(p-value)	(<.0001)	(<.0001)	(0.5117)	(<.0001)	(<.0001)	(0.4954)
Target Runup	-0.00805	0.0008382	-0.00449	-0.00724	0.001	-0.00529
(p-value)	(0.6696)	(0.9739)	(0.7496)	(0.7035)	(0.9684)	(0.712)
Target Markup	-0.03163**	-0.04016	-0.02192**	-0.03236**	-0.04064	-0.0222**
(p-value)	(0.0463)	(0.1279)	(0.0357)	(0.0371)	(0.119)	(0.0335)
Collar	0.02063	0.02222	0.01401	0.02137	0.02246	0.01385
(p-value)	(0.2418)	(0.2949)	(0.4894)	(0.2191)	(0.2847)	(0.4914)
Toehold Exist	0.02517*	0.05386*	0.02324	0.0255*	0.05509*	0.02354
(p-value)	(0.0757)	(0.0559)	(0.1222)	(0.0728)	(0.0517)	(0.1226)
Horizontal	0.0007376	-0.01543	0.01787**	0.0008189	-0.01553	0.01808**
(p-value)	(0.9308)	(0.2247)	(0.0193)	(0.9223)	(0.2187)	(0.0173)
Tender Offer	0.00917	0.03057*	-1.073E-05	0.00906	0.03144*	-2.907E-05
(p-value)	(0.1638)	(0.0511)	(0.9987)	(0.1685)	(0.0509)	(0.9963)
Cash Bid	0.0274***			0.02838***		
(p-value)	(0.0001)			(<.0001)		
Hostile	-0.00986	0.00257	-0.04241***	-0.00969	0.00321	-0.04301***
(p-value)	(0.5051)	(0.9341)	(0.002)	(0.5167)	(0.9174)	(0.0016)
Multiple Bidders	0.00577	0.01592	-0.01473*	0.00634	0.01639	-0.01505*
(p-value)	(0.6313)	(0.4815)	(0.0767)	(0.596)	(0.4682)	(0.0597)
Rumor	0.02212	0.0519*	-0.00807	0.02162	0.05195*	-0.00824
(p-value)	(0.1122)	(0.0679)	(0.4762)	(0.1152)	(0.0659)	(0.4626)
Complete	0.02968**	0.03779*	0.00342	0.02983**	0.03758*	0.00308
(p-value)	(0.0212)	(0.0573)	(0.7539)	(0.0208)	(0.0553)	(0.7765)
Adj-R^2	0.1556	0.1031	0.1414	0.1552	0.1031	0.1417
Year Dummies	Yes	Yes	Yes	Yes	Yes	Yes
Industry Dummies	Yes	Yes	Yes	Yes	Yes	Yes
Number of Cases	743	407	336	515	258	257

Table 2-66 Cross-sectional Regression of Bidder Announcement CAR CAR on AIV-Bidder (Target) and VIV-Bidder (Target) while controlling for Idiosyncratic Volatility (Expanded Sample)

Bidder CAR is equal to the sum of Bidder Abnormal Return ($AR_{i,t}$) estimated over the announcement period [-1,+1]. ARi,t is equal to $ER_{i,t} - (\alpha_i + \beta_i ER_{M,t})$. $ER_{i,t}$ is the bidder company 'i' return on day 't' above the risk free rate on that day. $ER_{M,t}$ is the CRSP Value Weighted Index return on day 't' in excess of the risk free rate on that day. The model's components (α_i, β_i) are obtained by estimating the model $(R_{i,t} = \alpha_i + \beta_i R_{M,t} + e_{i,t})$ over the [-256; -43]. The idiosyncratic volatility is estimated as the standard deviation of the market adjusted residuals of the daily returns measured during the period spanning 43 trading days before the announcement to 2 trading days before the announcement [-43, -2]. . Target Size is the logarithm of the target market value of equity 42 days before the announcement and target turnover is the ratio of the target volume to share outstanding estimated 42 days before the announcement. Target B/M is constructed as the ratio of the nearest target stock book value divided by the target stock price 42 days before the announcement. Target runup is defined as the ratio of the target price 2 days before the announcement divided by the target price 42 days before the announcement [(P_{-2} / P_{-42}) - 1]. Target markup is defined as the ratio of the offer price divided by the target price 2 days before the announcement [(Offer-Price / P_{-2}) - 1]. NYSE/AMEX, Collar, Tender Offer, Cash-Only, Hostile, Rumor, and Complete are dummy variables that respectively take the value of 1S if the Target is listed on NYSE/AMEX, the deal has a collar, the deal is a tender offer, the deal is financed by Cash only, the deal is hostile, the deal is preceded by a rumor and the deal is completed successfully. Horizontal is a dummy variable that takes a value of 1 if the bidder and target share the same four-digit Standard Industrial Classification (SIC) Code. The Toehold dummy takes a value of one if the bidder own more than 5% of target before the announcement day. Multibid dummy takes a value of 1 if there are multiple Bidders within the same contest (a contest is a 6-Month period from the first bidder's bid). Industry and year dummies corresponding to the target two-digit SIC codes and to the announcement year. The p-values are given underneath and are the White Heteroscedasticity consistent p-values. The *, **, *** indicate significance at 1%, 5%, and 10% respectively.

	The Idiosyncratic Volatility is estimated over the [-43,-2] window					
	Bidder AIV Related Tests			Bidder VIV Related Tests		
Deal-Type	All Control Bids	Non-Cash-Only Control Bids	Cash-Only Control Bids	All Control Bids	Non-Cash-Only Control Bids	Cash-Only Control Bids
Constant	0.13615***	0.21404***	0.04947	0.11347***	0.18238***	0.04988
(p-value)	(<.0001)	(<.0001)	(0.1771)	(0.0002)	(0.0005)	(0.166)
AIV-Variable	-0.07053***	-0.09428**	-0.00595			
(p-value)	(0.0041)	(0.0104)	(0.814)			
VIV-Variable				-0.06691	-0.03125	-0.08228
(p-value)				(0.2385)	(0.7846)	(0.1252)
Idio_Vol	-0.29254	-0.24103	-0.35839	-1.00509***	-1.28224***	-0.28594
(p-value)	(0.4179)	(0.6299)	(0.3654)	(0.0001)	(0.0002)	(0.3556)
Target Size	-0.00807***	-0.01242***	-0.00206	-0.00732***	-0.01134***	-0.0023
(p-value)	(<.0001)	(<.0001)	(0.2323)	(<.0001)	(<.0001)	(0.1814)
Target Turnover	-0.0001269	-2.678E-05	-0.0002043	-0.0002102	-0.0001783	-0.0002215
(p-value)	(0.5678)	(0.9367)	(0.3575)	(0.3408)	(0.5901)	(0.3233)
Target NYSE/Amex	0.0007248	0.01041	-0.01068**	0.00158	0.01224	-0.01083**
(p-value)	(0.8777)	(0.1642)	(0.0424)	(0.7376)	(0.105)	(0.0399)
Target B/M	0.00306	-0.000368	0.00486*	0.00256	-0.0006046	0.00474*
(p-value)	(0.3004)	(0.9617)	(0.069)	(0.3958)	(0.9387)	(0.0741)
Target Runup	0.00622	0.0074	0.00718	0.00709	0.00882	0.00677
(p-value)	(0.1784)	(0.2485)	(0.2189)	(0.1424)	(0.1943)	(0.2455)
Target Markup	-0.01511**	-0.021*	-0.00724	-0.01552**	-0.02271*	-0.00668
(p-value)	(0.0147)	(0.097)	(0.1948)	(0.0121)	(0.0687)	(0.2214)
Collar	-0.00186	-0.0035	-0.01224	-0.0009755	-0.00228	-0.01504
(p-value)	(0.8052)	(0.6725)	(0.4704)	(0.8973)	(0.7851)	(0.3918)
Toehold Exist	0.01617*	0.03859***	0.01045	0.01777**	0.04018***	0.01092
(p-value)	(0.0582)	(0.0057)	(0.3461)	(0.0371)	(0.003)	(0.3321)
Horizontal	0.0065	-0.0008822	0.01255**	0.00549	-0.00249	0.01236**
(p-value)	(0.1653)	(0.8969)	(0.0304)	(0.2411)	(0.7152)	(0.0332)
Tender Offer	0.00323	-0.00267	0.0037	0.00361	-0.0006878	0.00342
(p-value)	(0.464)	(0.8187)	(0.418)	(0.4147)	(0.9526)	(0.4562)
Cash Bid	0.02033***			0.02244***		
(p-value)	(<.0001)			(<.0001)		
Hostile	0.01182	0.0505**	-0.0244**	0.01235	0.05166**	-0.02461**
(p-value)	(0.332)	(0.0388)	(0.0412)	(0.3181)	(0.0355)	(0.0382)
Multiple Bidders	0.00558	0.01582	-0.01118*	0.00553	0.01535	-0.01087*
(p-value)	(0.3195)	(0.1164)	(0.0588)	(0.3212)	(0.1209)	(0.0658)
Rumor	0.01616	0.03587*	-0.00541	0.01615	0.03642*	-0.00526
(p-value)	(0.1502)	(0.089)	(0.6367)	(0.1519)	(0.081)	(0.6451)
Complete	0.01712**	0.02672**	-0.0006814	0.01821**	0.02777**	-0.0004385
(p-value)	(0.0295)	(0.019)	(0.9366)	(0.0203)	(0.0135)	(0.9593)
Adj-R^2	0.1854	0.1706	0.1081	0.178	0.1569	0.1114
Year Dummies	Yes	Yes	Yes	Yes	Yes	Yes
Industry Dummies	Yes	Yes	Yes	Yes	Yes	Yes
Number of Cases	1341	677	665	1341	677	665

Table 2-67 Cross-sectional Regression of Bidder Announcement CAR on AIV-Bidder and VIV-Bidder while controlling for Idiosyncratic Volatility (Expanded Sample)

Bidder CAR is equal to the sum of Bidder Abnormal Return ($AR_{i,t}$) estimated over the announcement period [-1,+1]. ARi,t is equal to $ER_{i,t} - (\alpha_i + \beta_i ER_{M,t})$. $ER_{i,t}$ is the bidder company 'i' return on day 't' above the risk free rate on that day. $ER_{M,t}$ is the CRSP Value Weighted Index return on day 't' in excess of the risk free rate on that day. The model's components (α_i, β_i) are obtained by estimating the model $(R_{i,t} = \alpha_i + \beta_i R_{M,t} + e_{i,t})$ over the [-256; -43]. The idiosyncratic volatility is estimated as the standard deviation of the market adjusted residuals of the daily returns measured during the period spanning 43 trading days before the announcement to 2 trading days before the announcement [-43, -2]. . Target Size is the logarithm of the target market value of equity 42 days before the announcement and target turnover is the ratio of the target volume to share outstanding estimated 42 days before the announcement. Target B/M is constructed as the ratio of the nearest target stock book value divided by the target stock price 42 days before the announcement. Target runup is defined as the ratio of the target price 2 days before the announcement divided by the target price 42 days before the announcement [(P_{-2} / P_{-42}) - 1]. Target markup is defined as the ratio of the offer price divided by the target price 2 days before the announcement [(Offer-Price / P_{-2}) - 1]. NYSE/AMEX, Collar, Tender Offer, Cash-Only, Hostile, Rumor, and Complete are dummy variables that respectively take the value of 1S if the Target is listed on NYSE/AMEX, the deal has a collar, the deal is a tender offer, the deal is financed by Cash only, the deal is hostile, the deal is preceded by a rumor and the deal is completed successfully. Horizontal is a dummy variable that takes a value of 1 if the bidder and target share the same four-digit Standard Industrial Classification (SIC) Code. The Toehold dummy takes a value of one if the bidder own more than 5% of target before the announcement day. Multibid dummy takes a value of 1 if there are multiple Bidders within the same contest (a contest is a 6-Month period from the first bidder's bid). Industry and year dummies corresponding to the target two-digit SIC codes and to the announcement year. The p-values are given underneath and are the White Heteroskedasticity consistent p-values. The *, **, *** indicate significance at 1%, 5%, and 10% respectively.

The Idiosyncratic Volatility is estimated over the [-43,-2] window			
Deal-Type	All Control Bids	Non-Cash-Only Control Bids	Cash-Only Control Bids
Constant	0.13673***	0.21831***	0.04458
(p-value)	(<.0001)	(<.0001)	(0.2263)
AIV-Bidder	-0.07241***	-0.10218**	0.01449
(p-value)	(0.0096)	(0.0104)	(0.6102)
VIV-Bidder	0.01271	0.07979	(-0.09747)
(p-value)	(0.8462)	(0.5289)	(0.1117)
Idio_Vol	-0.28955	-0.25913	-0.41628
(p-value)	(0.4258)	(0.6052)	(0.2985)
Target Size	-0.00807***	-0.01252***	-0.00212
(p-value)	(<.0001)	(<.0001)	(0.2212)
Target Turnover	-0.0001258	-0.0000326	-0.0002309
(p-value)	(0.5713)	(0.9218)	(0.3008)
Target NYSE/Amex	0.0007359	0.01073	-0.01074**
(p-value)	(0.8759)	(0.1523)	(0.0422)
Target B/M	0.00308	-0.0002516	0.00462*
(p-value)	(0.2981)	(0.9739)	(0.0813)
Target Runup	0.00625	0.00747	0.00691
(p-value)	(0.1761)	(0.2406)	(0.234)
Target Markup	-0.01515**	-0.02059	-0.00657
(p-value)	(0.0147)	(0.1027)	(0.2287)
Collar	-0.00189	-0.00387	-0.01555
(p-value)	(0.8023)	(0.6408)	(0.3782)
Toehold Exist	0.01607*	0.03809***	0.0111
(p-value)	(0.0588)	(0.0055)	(0.3238)
Horizontal	0.00652	-0.0007805	0.01223**
(p-value)	(0.1654)	(0.9089)	(0.0349)
Tender Offer	0.00327	-0.00265	0.00333
(p-value)	(0.46)	(0.8217)	(0.4668)
Cash Bid	0.02026***		
(p-value)	(<.0001)		
Hostile	0.01182	0.05056**	-0.0246**
(p-value)	(0.3322)	(0.0371)	(0.0383)
Multiple Bidders	0.00554	0.0158	-0.01091*
(p-value)	(0.3227)	(0.1189)	(0.0654)
Rumor	0.01612	0.03547*	-0.00539
(p-value)	(0.1513)	(0.0922)	(0.6367)
Complete	0.01704**	0.02628**	-0.0001257
(p-value)	(0.0304)	(0.0211)	(0.9883)
Adj-R^2	0.1848	0.17	0.1102
Year Dummies	Yes	Yes	Yes
Industry Dummies	Yes	Yes	Yes
Number of Cases	1342	677	665

Table 2-68 Logistic Model Estimation of the Probability that the deal will be a cash-only offer versus a deal being a non-cash-only offer while controlling for idiosyncratic volatility (Expanded Sample)

The AIV-Bidder (Target) and VIV- Bidder (Target) are the mean and standard deviation of the Implied Volatilities of Bidder (Target) Companies estimated over the runup period [-42,-2].]. The idiosyncratic volatility is estimated as the standard deviation of the market adjusted residuals of the daily returns measured during the period spanning 43 trading days before the announcement to 2 trading days before the announcement [-43, -2]. Target (Acquirer) Size is the logarithm of the target (acquirer) market value of equity 42 days before the announcement and target (acquirer) turnover is the ratio of the target (acquirer) volume to share outstanding estimated 42 days before the announcement. Target (acquirer) B/M is constructed as the ratio of the nearest target stock book value divided by the target stock price 42 days before the announcement. Relative size is the ratio of the target size divided by the acquirer size (in log terms). NYSE/AMEX, Collar, Tender Offer, Cash-Only, Hostile, Rumor, and Complete are dummy variables that respectively take the value of 1 if the Target (Acquirer) is listed on NYSE/AMEX, the deal has a collar, the deal is a tender offer, the deal is financed by Cash only, the deal is hostile, the deal is preceded by a rumor and the deal is completed successfully. Horizontal is a dummy variable that takes a value of 1 if the bidder and target share the same four-digit Standard Industrial Classification (SIC) Code. The Toehold dummy takes a value of one if the bidder own more than 5% of target before the announcement day. Multibid dummy takes a value of 1 if there are multiple Bidders within the same contest (a contest is a 6-Month period from the first bidder's bid). The p-values are given underneath and are the MLE p-values. The *, **, *** indicate significance at 1%, 5%, and 10% respectively.

The Idiosyncratic Volatility is estimated over the [-43,-2]						
Independent Variable	AIV-Target	VIV-Target	AIV-Target and VIV-Target	AIV-Bidder	VIV-Bidder	AIV-Bidder and VIV-Bidder
Constant	-1.5672	-4.0841	-3.302	23.1069**	22.4895**	22.1475**
(p-value)	(0.9154)	(0.7667)	(0.8239)	(0.0227)	(0.0275)	(0.0294)
AIV-Variable	-6.4708***		-7.305***	-2.426***		-4.1576***
(p-value)	(<.0001)		(<.0001)	(0.0023)		(<.0001)
VIV-Variable		-1.5612	4.2746**		4.811**	9.0923***
(p-value)		(0.3073)	(0.0138)		(0.0313)	(0.0002)
Idiosyncratic Volatility	8.8669	-26.2444***	10.308	-43.8632***	-74.8794***	-36.1843***
(p-value)	(0.2088)	(<.0001)	(0.1211)	(<.0001)	(<.0001)	(0.0014)
Target Size	-1.319*	-0.577	-1.424**	0.6205	0.6839	0.5474
(p-value)	(0.0569)	(0.3661)	(0.0414)	(0.2233)	(0.1817)	(0.2838)
Target Turnover	0.0101	-0.00657	0.0131	-0.00874	-0.011	-0.00782
(p-value)	(0.3196)	(0.4805)	(0.2035)	(0.2613)	(0.1527)	(0.3198)
Target NYSE/Amex	-0.5849**	-0.5256**	-0.5733**	-0.3515**	-0.3222*	-0.3297*
(p-value)	(0.0166)	(0.0233)	(0.0187)	(0.0497)	(0.0714)	(0.0677)
Target B/M	0.0353	0.0379	0.00356	0.0514	0.0299	0.0728
(p-value)	(0.8459)	(0.7927)	(0.9826)	(0.636)	(0.7833)	(0.5038)
Acquirer Size	1.0003	0.6093	1.0933*	-0.5958	-0.61	-0.5453
(p-value)	(0.1168)	(0.3033)	(0.0889)	(0.1783)	(0.1708)	(0.2192)
Acquirer Turnover	-0.00968	-0.0187*	-0.00817	0.00914	0.00113	0.0127
(p-value)	(0.4529)	(0.0917)	(0.5316)	(0.3232)	(0.8952)	(0.1751)
Acquirer NYSE/Amex	-0.0147	0.0672	0.0207	-0.1605	-0.0332	-0.1458
(p-value)	(0.9504)	(0.761)	(0.9305)	(0.3512)	(0.8454)	(0.4024)
Acquirer B/M	0.695*	0.6452*	0.6315	0.5976**	0.453	0.5181*
(p-value)	(0.0711)	(0.0727)	(0.1067)	(0.0355)	(0.1048)	(0.0689)
Relative Size	9.8251	3.1138	11.9116	-22.8237**	-23.7099**	-21.2235*
(p-value)	(0.529)	(0.8306)	(0.4483)	(0.0469)	(0.0401)	(0.0652)
Collar	-2.9197***	-2.7319***	-2.9463***	-2.8399***	-2.798***	-2.8297***
(p-value)	(<.0001)	(<.0001)	(<.0001)	(<.0001)	(<.0001)	(<.0001)
Toehold Exist	0.5354	0.985*	0.5866	-0.2981	-0.3002	-0.3262
(p-value)	(0.3481)	(0.0943)	(0.303)	(0.4374)	(0.4336)	(0.4004)
Horizontal	-0.5348**	-0.6563***	-0.5146**	-0.452***	-0.4679***	-0.44**
(p-value)	(0.0217)	(0.0031)	(0.0277)	(0.0084)	(0.0063)	(0.0111)
Tender Offer	2.0698***	1.8445***	2.089***	2.1379***	2.135***	2.1867***
(p-value)	(<.0001)	(<.0001)	(<.0001)	(<.0001)	(<.0001)	(<.0001)
Hostile	0.5253	0.4528	0.5035	0.2677	0.2471	0.2968
(p-value)	(0.3312)	(0.4173)	(0.352)	(0.5852)	(0.6168)	(0.5472)
Multiple Bidders	0.487	0.8624***	0.4189	0.3572	0.3858*	0.3416
(p-value)	(0.1144)	(0.0028)	(0.181)	(0.1017)	(0.0779)	(0.1205)
Rumor	0.7611*	0.6872*	0.7544*	0.5221	0.4563	0.4784
(p-value)	(0.0504)	(0.0621)	(0.0542)	(0.1551)	(0.2108)	(0.1939)
Compelte	-0.1401	-0.0224	-0.1905	-0.2616	-0.2525	-0.2711
(p-value)	(0.6481)	(0.9381)	(0.5404)	(0.2632)	(0.2802)	(0.2491)
Adj-R^2	0.3921	0.3265	0.3969	0.351	0.3489	0.3593
Year Dummies	No	No	No	No	No	No
Industry Dummies	No	No	No	No	No	No
Number of Cases	743	743	743	1342	1342	1342

Table 2-69 Logistic Model Estimation of the Probability that the deal will be a completed successfully on AIV- (Bidder) Target and VIV- (Bidder) Target with Idiosyncratic Volatility used as Control Variable. (Expanded Sample)

The AIV-Bidder (Target) and VIV- Bidder (Target) are the mean and standard deviation of the Implied Volatilities of Bidder (Target) Companies estimated over the runup period [-42,-2]. The idiosyncratic volatility is estimated as the standard deviation of the market adjusted residuals of the daily returns measured during the period spanning 43 trading days before the announcement to 2 trading days before the announcement [-43, -2]. Target Size is the logarithm of the target (acquirer) market value of equity 42 days before the announcement and target turnover is the ratio of the target volume to share outstanding estimated 42 days before the announcement. Target (acquirer) B/M is constructed as the ratio of the nearest target stock book value divided by the target stock price 42 days before the announcement. Target runup is defined as the ratio of the target (acquirer) price 2 days before the announcement divided by the target (acquirer) price 42 days before the announcement [$(P_{-2} / P_{-42}) - 1$]. Target markup is defined as the ratio of the offer price divided by the target (acquirer) price 2 days before the announcement [(Offer-Price / P_{-2}) - 1]. NYSE/AMEX, Collar, Tender Offer, Cash-Only, Hostile, Rumor, and Complete are dummy variables that respectively take the value of 1 if the Target is listed on NYSE/AMEX, the deal has a collar, the deal is a tender offer, the deal is financed by Cash only, the deal is hostile, the deal is preceded by a rumor and the deal is completed successfully. Horizontal is a dummy variable that takes a value of 1 if the bidder and target share the same four-digit Standard Industrial Classification (SIC) Code. The Toehold dummy takes a value of one if the bidder own more than 5% of target before the announcement day. Multibid dummy takes a value of 1 if there are multiple Bidders within the same contest (a contest is a 6-Month period from the first bidder's bid). The p-values are given underneath and are the MLE p-values. The *, **, *** indicate significance at 1%, 5%, and 10% respectively. Idiosyncratic vol estimated over [-43, -2].

The Idiosyncratic Volatility is estimated over the [-43, -2]

Deal-Type	AIV-Target	VIV-Target	AIV-Target and VIV-Target	AIV-Bidder	VIV-Bidder	AIV-Bidder and VIV-Bidder
Constant	-2.7693	-3.0118	-2.7786	5.345***	4.9107***	5.3822***
(p-value)	(0.2887)	(0.2128)	(0.2874)	(0.0004)	(0.0009)	(0.0004)
AIV-Variable	-0.1366		-0.174	-1.2503		-1.4952
(p-value)	(0.8484)		(0.8151)	(0.1329)		(0.1054)
VIV-Variable		0.2604	0.3959		-0.0928	1.6401
(p-value)		(0.9008)	(0.855)		(0.9696)	(0.5409)
Idiosyncratic Volatility	-2.6276	-3.5683	-2.7141	-2.3275	-17.6157**	-1.4757
(p-value)	(0.6739)	(0.4794)	(0.666)	(0.8531)	(0.0227)	(0.9081)
Target Size	0.2642**	0.2728**	0.2645**	-0.1097	-0.0972	-0.1104
(p-value)	(0.0295)	(0.019)	(0.0294)	(0.1377)	(0.1834)	(0.1358)
Target Turnover	-0.00519	-0.00557	-0.00503	0.000539	-0.00112	0.000693
(p-value)	(0.558)	(0.5166)	(0.5728)	(0.9531)	(0.901)	(0.9401)
Target NYSE/Amex	-0.6469**	-0.6369**	-0.6452**	-0.368	-0.3389	-0.3611
(p-value)	(0.0235)	(0.0248)	(0.0241)	(0.1188)	(0.1498)	(0.1266)
Target B/M	-0.3389	-0.3496	-0.3421	-0.2034	-0.2134	-0.2001
(p-value)	(0.2414)	(0.2254)	(0.2377)	(0.1796)	(0.1542)	(0.1884)
Target Runup	0.6604	0.6705	0.6585	0.5709	0.5852	0.5905
(p-value)	(0.1611)	(0.1534)	(0.1626)	(0.1147)	(0.1083)	(0.1057)
Target Markup	-0.187	-0.1987	-0.1828	-0.0938	-0.1234	-0.0977
(p-value)	(0.6694)	(0.6467)	(0.6772)	(0.7579)	(0.6838)	(0.7483)
Collar	0.5956	0.6004	0.5953	0.166	0.1823	0.1585
(p-value)	(0.2565)	(0.2526)	(0.2564)	(0.644)	(0.6105)	(0.6586)
Toehold Exist	-0.8942	-0.8831	-0.8941	-0.9871**	-0.9775**	-0.9951**
(p-value)	(0.12)	(0.1238)	(0.1199)	(0.0243)	(0.025)	(0.0231)
Horizontal	0.2922	0.2939	0.2939	0.1067	0.0695	0.1077
(p-value)	(0.2996)	(0.2969)	(0.2971)	(0.6377)	(0.7569)	(0.6347)
Tender Offer	1.2241***	1.2157***	1.22***	1.1193***	1.1111***	1.122***
(p-value)	(0.0014)	(0.0015)	(0.0015)	(0.0001)	(0.0001)	(0.0001)
Cash Bid	0.3114	0.3286	0.3082	0.0921	0.1228	0.0739
(p-value)	(0.2673)	(0.2189)	(0.2733)	(0.6805)	(0.582)	(0.743)
Hostile	-3.641***	-3.6382***	-3.6396***	-2.7226***	-2.7148***	-2.7161***
(p-value)	(<.0001)	(<.0001)	(<.0001)	(<.0001)	(<.0001)	(<.0001)
Multiple Bidders	-2.2113***	-2.2058***	-2.2161***	-2.0219***	-2.0125***	-2.0239***
(p-value)	(<.0001)	(<.0001)	(<.0001)	(<.0001)	(<.0001)	(<.0001)
Rumor	0.4047	0.3957	0.399	0.3834	0.3838	0.3715
(p-value)	(0.4358)	(0.446)	(0.4428)	(0.47)	(0.4706)	(0.4843)
Adj-R^2	0.1873	0.1873	0.1873	0.1303	0.1288	0.1305
Year Dummies	No	No	No	No	No	No
Industry Dummies	No	No	No	No	No	No
Number of Cases	743	743	743	1342	1342	1342

2.17 Appendix J – Tests Performed with AIV and VIV as main explanatory Variables while being orthogonalized for the idiosyncratic volatility in the Expanded Sample

Table 2-70 Cross-sectional Regression of Bidder Announcement CAR on AIV-Bidder (Target) and VIV-Bidder (Target) while controlling for Idiosyncratic Volatility

Bidder CAR is equal to the sum of Bidder Abnormal Return ($AR_{i,t}$) estimated over the announcement period [-1,+1]. ARi,t is equal to $ER_{i,t} - (\alpha_i + \beta_i ER_{M,t})$. $ER_{i,t}$ is the bidder company 'i' return on day 't' above the risk free rate on that day. $ER_{M,t}$ is the CRSP Value Weighted Index return on day 't' in excess of the risk free rate on that day. The model's components (α_i, β_i) are obtained by estimating the model $(R_{i,t} = \alpha_i + \beta_i R_{M,t} + e_{i,t})$ over the [-256; -43]. The idiosyncratic volatility is estimated as the standard deviation of the market adjusted residuals of the daily returns measured during the period spanning 43 trading days before the announcement to 2 trading days before the announcement [-43, -2]. . Target Size is the logarithm of the target market value of equity 42 days before the announcement and target turnover is the ratio of the target volume to share outstanding estimated 42 days before the announcement. Target B/M is constructed as the ratio of the nearest target stock book value divided by the target stock price 42 days before the announcement. Target runup is defined as the ratio of the target price 2 days before the announcement divided by the target price 42 days before the announcement [(P_{-2} / P_{-42}) - 1]. Target markup is defined as the ratio of the offer price divided by the target price 2 days before the announcement [(Offer-Price / P_{-2}) - 1]. NYSE/AMEX, Collar, Tender Offer, Cash-Only, Hostile, Rumor, and Complete are dummy variables that respectively take the value of 1S if the Target is listed on NYSE/AMEX, the deal has a collar, the deal is a tender offer, the deal is financed by Cash only, the deal is hostile, the deal is preceded by a rumor and the deal is completed successfully. Horizontal is a dummy variable that takes a value of 1 if the bidder and target share the same four-digit Standard Industrial Classification (SIC) Code. The Toehold dummy takes a value of one if the bidder own more than 5% of target before the announcement day. Multibid dummy takes a value of 1 if there are multiple Bidders within the same contest (a contest is a 6-Month period from the first bidder's bid). Industry and year dummies corresponding to the target two-digit SIC codes and to the announcement year. The p-values are given underneath and are the White Heteroscedasticity consistent p-values. The *, **, *** indicate significance at 1%, 5%, and 10% respectively.

The Idiosyncratic Volatility is estimated over the [-43,-2] window						
	Target AIV Related Tests			Target VIV Related Tests		
Deal-Type	All Control Bids	Non-Cash-Only Control Bids	Cash-Only Control Bids	All Control Bids	Non-Cash-Only Control Bids	Cash-Only Control Bids
Constant	0.09809	0.0622	0.1494*	0.07594	0.05246	0.14597*
(p-value)	(0.2813)	(0.636)	(0.077)	(0.3681)	(0.6751)	(0.0535)
AIV-Variable	-0.01502	-0.00924	-0.0003794			
(p-value)	(0.5383)	(0.7795)	(0.988)			
VIV-Variable				0.00477	-0.0231	0.01643
(p-value)				(0.9413)	(0.8225)	(0.7483)
Idio_Vol	-0.16332	-0.07182	-0.04919	-0.12224	-0.04092	-0.04346
(p-value)	(0.3988)	(0.8192)	(0.7212)	(0.4702)	(0.8813)	(0.7435)
Target Size	-0.0095**	-0.00834	-0.00662*	-0.0085**	-0.00794	-0.00637**
(p-value)	(0.0194)	(0.1623)	(0.077)	(0.0257)	(0.1674)	(0.0488)
Target Turnover	-0.0002946	-0.0002813	-0.000068	-0.0003466	-0.0003218	-6.755E-05
(p-value)	(0.3123)	(0.5218)	(0.8368)	(0.202)	(0.4361)	(0.8277)
Target NYSE/Amex	0.00625	0.00881	-0.0025	0.00686	0.00923	-0.00249
(p-value)	(0.4815)	(0.5939)	(0.7289)	(0.4397)	(0.5722)	(0.7285)
Target B/M	-0.01269***	-0.01362***	-0.0062	-0.01282***	-0.01374***	-0.00649
(p-value)	(<.0001)	(<.0001)	(0.5117)	(<.0001)	(<.0001)	(0.4954)
Target Runup	-0.00805	0.0008382	-0.00449	-0.00724	0.001	-0.00529
(p-value)	(0.6696)	(0.9739)	(0.7496)	(0.7035)	(0.9684)	(0.712)
Target Markup	-0.03163**	-0.04016	-0.02192**	-0.03236**	-0.04064	-0.0222**
(p-value)	(0.0463)	(0.1279)	(0.0357)	(0.0371)	(0.119)	(0.0335)
Collar	0.02063	0.02222	0.01401	0.02137	0.02246	0.01385
(p-value)	(0.2418)	(0.2949)	(0.4894)	(0.2191)	(0.2847)	(0.4914)
Toehold Exist	0.02517*	0.05386*	0.02324	0.0255*	0.05509*	0.02354
(p-value)	(0.0757)	(0.0559)	(0.1222)	(0.0728)	(0.0517)	(0.1226)
Horizontal	0.0007376	-0.01543	0.01787**	0.0008189	-0.01553	0.01808**
(p-value)	(0.9308)	(0.2247)	(0.0193)	(0.9223)	(0.2187)	(0.0173)
Tender Offer	0.00917	0.03057*	-1.073E-05	0.00906	0.03144*	-2.907E-05
(p-value)	(0.1638)	(0.0511)	(0.9987)	(0.1685)	(0.0509)	(0.9963)
Cash Bid	0.0274***			0.02838***		
(p-value)	(0.0001)			(<.0001)		
Hostile	-0.00986	0.00257	-0.04241***	-0.00969	0.00321	-0.04301***
(p-value)	(0.5051)	(0.9341)	(0.002)	(0.5167)	(0.9174)	(0.0016)
Multiple Bidders	0.00577	0.01592	-0.01473*	0.00634	0.01639	-0.01505*
(p-value)	(0.6313)	(0.4815)	(0.0767)	(0.596)	(0.4682)	(0.0597)
Rumor	0.02212	0.0519*	-0.00807	0.02162	0.05195*	-0.00824
(p-value)	(0.1122)	(0.0679)	(0.4762)	(0.1152)	(0.0659)	(0.4626)
Complete	0.02968**	0.03779*	0.00342	0.02983**	0.03758*	0.00308
(p-value)	(0.0212)	(0.0573)	(0.7539)	(0.0208)	(0.0553)	(0.7765)
Adj-R^2	0.1556	0.1031	0.1414	0.1552	0.1031	0.1417
Year Dummies	Yes	Yes	Yes	Yes	Yes	Yes
Industry Dummies	Yes	Yes	Yes	Yes	Yes	Yes
Number of Cases	743	407	336	515	258	257

Table 2-71 Cross-sectional Regression of Bidder Announcement CAR CAR on AIV-Bidder (Target) and VIV-Bidder (Target) while controlling for Idiosyncratic Volatility

Bidder CAR is equal to the sum of Bidder Abnormal Return ($AR_{i,t}$) estimated over the announcement period [-1,+1]. ARi,t is equal to $ER_{i,t} - (\alpha_i + \beta_i ER_{M,t})$. $ER_{i,t}$ is the bidder company 'i' return on day 't' above the risk free rate on that day. $ER_{M,t}$ is the CRSP Value Weighted Index return on day 't' in excess of the risk free rate on that day. The model's components (α_i, β_i) are obtained by estimating the model $(R_{i,t} = \alpha_i + \beta_i R_{M,t} + e_{i,t})$ over the [-256; -43]. The idiosyncratic volatility is estimated as the standard deviation of the market adjusted residuals of the daily returns measured during the period spanning 43 trading days before the announcement to 2 trading days before the announcement [-43, -2]. . Target Size is the logarithm of the target market value of equity 42 days before the announcement and target turnover is the ratio of the target volume to share outstanding estimated 42 days before the announcement. Target B/M is constructed as the ratio of the nearest target stock book value divided by the target stock price 42 days before the announcement. Target runup is defined as the ratio of the target price 2 days before the announcement divided by the target price 42 days before the announcement [(P_{-2} / P_{-42}) - 1]. Target markup is defined as the ratio of the offer price divided by the target price 2 days before the announcement [(Offer-Price / P_{-2}) - 1]. NYSE/AMEX, Collar, Tender Offer, Cash-Only, Hostile, Rumor, and Complete are dummy variables that respectively take the value of 1S if the Target is listed on NYSE/AMEX, the deal has a collar, the deal is a tender offer, the deal is financed by Cash only, the deal is hostile, the deal is preceded by a rumor and the deal is completed successfully. Horizontal is a dummy variable that takes a value of 1 if the bidder and target share the same four-digit Standard Industrial Classification (SIC) Code. The Toehold dummy takes a value of one if the bidder own more than 5% of target before the announcement day. Multibid dummy takes a value of 1 if there are multiple Bidders within the same contest (a contest is a 6-Month period from the first bidder's bid). Industry and year dummies corresponding to the target two-digit SIC codes and to the announcement year. The p-values are given underneath and are the White Heteroscedasticity consistent p-values. The *, **, *** indicate significance at 1%, 5%, and 10% respectively.

	The Idiosyncratic Volatility is estimated over the [-43,-2] window					
	Bidder AIV Related Tests			Bidder VIV Related Tests		
Deal-Type	All Control Bids	Non-Cash-Only Control Bids	Cash-Only Control Bids	All Control Bids	Non-Cash-Only Control Bids	Cash-Only Control Bids
Constant	0.12636***	0.20014***	0.04864	0.1127***	0.18216***	0.0488
(p-value)	(<.0001)	(0.0001)	(0.1786)	(0.0003)	(0.0005)	(0.1758)
AIV-Variable	-0.07053***	-0.09428**	-0.00595			
(p-value)	(0.0041)	(0.0104)	(0.814)			
VIV-Variable				-0.06691	-0.03125	-0.08228
(p-value)				(0.2385)	(0.7846)	(0.1252)
Idio_Vol	-1.21861***	-1.47087***	-0.43444	-1.09378***	-1.32604***	-0.39805
(p-value)	(<.0001)	(<.0001)	(0.1743)	(<.0001)	(<.0001)	(0.193)
Target Size	-0.00807***	-0.01242***	-0.00206	-0.00732***	-0.01134***	-0.0023
(p-value)	(<.0001)	(<.0001)	(0.2323)	(<.0001)	(<.0001)	(0.1814)
Target Turnover	-0.0001269	-2.678E-05	-0.0002043	-0.0002102	-0.0001783	-0.0002215
(p-value)	(0.5678)	(0.9367)	(0.3575)	(0.3408)	(0.5901)	(0.3233)
Target NYSE/Amex	0.0007248	0.01041	-0.01068**	0.00158	0.01224	-0.01083**
(p-value)	(0.8777)	(0.1642)	(0.0424)	(0.7376)	(0.105)	(0.0399)
Target B/M	0.00306	-0.000368	0.00486*	0.00256	-0.0006046	0.00474*
(p-value)	(0.3004)	(0.9617)	(0.069)	(0.3958)	(0.9387)	(0.0741)
Target Runup	0.00622	0.0074	0.00718	0.00709	0.00882	0.00677
(p-value)	(0.1784)	(0.2485)	(0.2189)	(0.1424)	(0.1943)	(0.2455)
Target Markup	-0.01511**	-0.021*	-0.00724	-0.01552**	-0.02271*	-0.00668
(p-value)	(0.0147)	(0.097)	(0.1948)	(0.0121)	(0.0687)	(0.2214)
Collar	-0.00186	-0.0035	-0.01224	-0.0009755	-0.00228	-0.01504
(p-value)	(0.8052)	(0.6725)	(0.4704)	(0.8973)	(0.7851)	(0.3918)
Toehold Exist	0.01617*	0.03859***	0.01045	0.01777**	0.04018***	0.01092
(p-value)	(0.0582)	(0.0057)	(0.3461)	(0.0371)	(0.003)	(0.3321)
Horizontal	0.0065	-0.0008822	0.01255**	0.00549	-0.00249	0.01236**
(p-value)	(0.1653)	(0.8969)	(0.0304)	(0.2411)	(0.7152)	(0.0332)
Tender Offer	0.00323	-0.00267	0.0037	0.00361	-0.0006878	0.00342
(p-value)	(0.464)	(0.8187)	(0.418)	(0.4147)	(0.9526)	(0.4562)
Cash Bid	0.02033***			0.02244***		
(p-value)	(<.0001)			(<.0001)		
Hostile	0.01182	0.0505**	-0.0244**	0.01235	0.05166**	-0.02461**
(p-value)	(0.332)	(0.0388)	(0.0412)	(0.3181)	(0.0355)	(0.0382)
Multiple Bidders	0.00558	0.01582	-0.01118*	0.00553	0.01535	-0.01087*
(p-value)	(0.3195)	(0.1164)	(0.0588)	(0.3212)	(0.1209)	(0.0658)
Rumor	0.01616	0.03587*	-0.00541	0.01615	0.03642*	-0.00526
(p-value)	(0.1502)	(0.089)	(0.6367)	(0.1519)	(0.081)	(0.6451)
Complete	0.01712**	0.02672**	-0.0006814	0.01821**	0.02777**	-0.0004385
(p-value)	(0.0295)	(0.019)	(0.9366)	(0.0203)	(0.0135)	(0.9593)
Adj-R^2	0.1854	0.1706	0.1081	0.178	0.1569	0.1114
Year Dummies	Yes	Yes	Yes	Yes	Yes	Yes
Industry Dummies	Yes	Yes	Yes	Yes	Yes	Yes
Number of Cases	1341	677	665	1341	677	665

Table 2-72 Cross-sectional Regression of Bidder Announcement CAR on AIV-Bidder and VIV-Bidder while controlling for Idiosyncratic Volatility

Bidder CAR is equal to the sum of Bidder Abnormal Return ($AR_{i,t}$) estimated over the announcement period [-1,+1]. ARi,t is equal to $ER_{i,t} - (\alpha_i + \beta_i ER_{M,t})$. $ER_{i,t}$ is the bidder company 'i' return on day 't' above the risk free rate on that day. $ER_{M,t}$ is the CRSP Value Weighted Index return on day 't' in excess of the risk free rate on that day. The model's components (α_i, β_i) are obtained by estimating the model $(R_{i,t} = \alpha_i + \beta_i R_{M,t} + e_{i,t})$ over the [-256; -43]. The idiosyncratic volatility is estimated as the standard deviation of the market adjusted residuals of the daily returns measured during the period spanning 43 trading days before the announcement to 2 trading days before the announcement [-43, -2]. . Target Size is the logarithm of the target market value of equity 42 days before the announcement and target turnover is the ratio of the target volume to share outstanding estimated 42 days before the announcement. Target B/M is constructed as the ratio of the nearest target stock book value divided by the target stock price 42 days before the announcement. Target runup is defined as the ratio of the target price 2 days before the announcement divided by the target price 42 days before the announcement [(P_{-2} / P_{-42}) - 1]. Target markup is defined as the ratio of the offer price divided by the target price 2 days before the announcement [(Offer-Price / P_{-2}) - 1]. NYSE/AMEX, Collar, Tender Offer, Cash-Only, Hostile, Rumor, and Complete are dummy variables that respectively take the value of 1S if the Target is listed on NYSE/AMEX, the deal has a collar, the deal is a tender offer, the deal is financed by Cash only, the deal is hostile, the deal is preceded by a rumor and the deal is completed successfully. Horizontal is a dummy variable that takes a value of 1 if the bidder and target share the same four-digit Standard Industrial Classification (SIC) Code. The Toehold dummy takes a value of one if the bidder own more than 5% of target before the announcement day. Multibid dummy takes a value of 1 if there are multiple Bidders within the same contest (a contest is a 6-Month period from the first bidder's bid). Industry and year dummies corresponding to the target two-digit SIC codes and to the announcement year. The p-values are given underneath and are the White Heteroscedasticity consistent p-values. The *, **, *** indicate significance at 1%, 5%, and 10% respectively.

The Idiosyncratic Volatility is estimated over the [-43,-2] window			
Deal-Type	All Control Bids	Non-Cash-Only Control Bids	Cash-Only Control Bids
Constant	0.12683***	0.2038***	0.04531
(p-value)	(<.0001)	(0.0001)	(0.2114)
AIV-Bidder	-0.07241***	-0.10218**	0.01449
(p-value)	(0.0096)	(0.0104)	(0.6102)
VIV-Bidder	0.01271	0.07979	-0.09747
(p-value)	(0.8462)	(0.5289)	(0.1117)
Idio_Vol	-1.2234***	-1.48015***	-0.36386
(p-value)	(<.0001)	(<.0001)	(0.2456)
Target Size	-0.00807***	-0.01252***	-0.00212
(p-value)	(<.0001)	(<.0001)	(0.2212)
Target Turnover	-0.0001258	-0.0000326	-0.0002309
(p-value)	(0.5713)	(0.9218)	(0.3008)
Target NYSE/Amex	0.0007359	0.01073	-0.01074**
(p-value)	(0.8759)	(0.1523)	(0.0422)
Target B/M	0.00308	-0.0002516	0.00462*
(p-value)	(0.2981)	(0.9739)	(0.0813)
Target Runup	0.00625	0.00747	0.00691
(p-value)	(0.1761)	(0.2406)	(0.234)
Target Markup	-0.01515**	-0.02059	-0.00657
(p-value)	(0.0147)	(0.1027)	(0.2287)
Collar	-0.00189	-0.00387	-0.01555
(p-value)	(0.8023)	(0.6408)	(0.3782)
Toehold Exist	0.01607*	0.03809***	0.0111
(p-value)	(0.0588)	(0.0055)	(0.3238)
Horizontal	0.00652	-0.0007805	0.01223**
(p-value)	(0.1654)	(0.9089)	(0.0349)
Tender Offer	0.00327	-0.00265	0.00333
(p-value)	(0.46)	(0.8217)	(0.4668)
Cash Bid	0.02026***		
(p-value)	(<.0001)		
Hostile	0.01182	0.05056**	-0.0246**
(p-value)	(0.3322)	(0.0371)	(0.0383)
Multiple Bidders	0.00554	0.0158	-0.01091*
(p-value)	(0.3227)	(0.1189)	(0.0654)
Rumor	0.01612	0.03547*	-0.00539
(p-value)	(0.1513)	(0.0922)	(0.6367)
Complete	0.01704**	0.02628**	-0.0001257
(p-value)	(0.0304)	(0.0211)	(0.9883)
Adj-R^2	0.1848	0.17	0.1102
Year Dummies	Yes	Yes	Yes
Industry Dummies	Yes	Yes	Yes
Number of Cases	1342	677	665

Table 2-73 Logistic Model Estimation of the Probability that the deal will be a cash-only offer versus a deal being a non-cash-only offer while controlling for idiosyncratic volatility

The AIV-Bidder (Target) and VIV- Bidder (Target) are the mean and standard deviation of the Implied Volatilities of Bidder (Target) Companies estimated over the runup period [-42,-2].]. The idiosyncratic volatility is estimated as the standard deviation of the market adjusted residuals of the daily returns measured during the period spanning 43 trading days before the announcement to 2 trading days before the announcement [-43, -2]. Target (Acquirer) Size is the logarithm of the target (acquirer) market value of equity 42 days before the announcement and target (acquirer) turnover is the ratio of the target (acquirer) volume to share outstanding estimated 42 days before the announcement. Target (acquirer) B/M is constructed as the ratio of the nearest target stock book value divided by the target stock price 42 days before the announcement. Relative size is the ratio of the target size divided by the acquirer size (in log terms). NYSE/AMEX, Collar, Tender Offer, Cash-Only, Hostile, Rumor, and Complete are dummy variables that respectively take the value of 1 if the Target (Acquirer) is listed on NYSE/AMEX, the deal has a collar, the deal is a tender offer, the deal is financed by Cash only, the deal is hostile, the deal is preceded by a rumor and the deal is completed successfully. Horizontal is a dummy variable that takes a value of 1 if the bidder and target share the same four-digit Standard Industrial Classification (SIC) Code. The Toehold dummy takes a value of one if the bidder own more than 5% of target before the announcement day. Multibid dummy takes a value of 1 if there are multiple Bidders within the same contest (a contest is a 6-Month period from the first bidder's bid). The p-values are given underneath and are the MLE p-values. The *, **, *** indicate significance at 1%, 5%, and 10% respectively.

The Idiosyncratic Volatility is estimated over the [-43,-2] window						
Independent Variable	AIV-Target	VIV-Target	AIV-Target and VIV-Target	AIV-Bidder	VIV-Bidder	AIV-Bidder and VIV-Bidder
Constant	-3.7964	-4.1438	-5.655	22.7701**	22.5444**	21.6741**
(p-value)	(0.797)	(0.7634)	(0.7034)	(0.0248)	(0.0271)	(0.0331)
AIV-Variable	-6.4708***		-7.305***	-2.426***		-4.1576***
(p-value)	(<.0001)		(<.0001)	(0.0023)		(<.0001)
VIV-Variable		-1.5612	4.2746**		4.811**	9.0923***
(p-value)		(0.3073)	(0.0138)		(0.0313)	(0.0002)
Idiosyncratic Volatility	-37.8733***	-27.747***	-38.3435***	-75.7157***	-68.5023***	-78.7206***
(p-value)	(<.0001)	(<.0001)	(<.0001)	(<.0001)	(<.0001)	(<.0001)
Target Size	-1.319*	-0.577	-1.424**	0.6205	0.6839	0.5474
(p-value)	(0.0569)	(0.3661)	(0.0414)	(0.2233)	(0.1817)	(0.2838)
Target Turnover	0.0101	-0.00657	0.0131	-0.00874	-0.011	-0.00782
(p-value)	(0.3196)	(0.4805)	(0.2035)	(0.2613)	(0.1527)	(0.3198)
Target NYSE/Amex	-0.5849**	-0.5256**	-0.5733**	-0.3515*	-0.3222*	-0.3297*
(p-value)	(0.0166)	(0.0233)	(0.0187)	(0.0497)	(0.0714)	(0.0677)
Target B/M	0.0353	0.0379	0.00356	0.0514	0.0299	0.0728
(p-value)	(0.8459)	(0.7927)	(0.9826)	(0.636)	(0.7833)	(0.5038)
Acquirer Size	1.0003	0.6093	1.0933*	-0.5958	-0.61	-0.5453
(p-value)	(0.1168)	(0.3033)	(0.0889)	(0.1783)	(0.1708)	(0.2192)
Acquirer Turnover	-0.00968	-0.0187*	-0.00817	0.00914	0.00113	0.0127
(p-value)	(0.4529)	(0.0917)	(0.5316)	(0.3232)	(0.8952)	(0.1751)
Acquirer NYSE/Amex	-0.0147	0.0672	0.0207	-0.1605	-0.0332	-0.1458
(p-value)	(0.9504)	(0.761)	(0.9305)	(0.3512)	(0.8454)	(0.4024)
Acquirer B/M	0.695*	0.6452*	0.6315	0.5976**	0.453	0.5181*
(p-value)	(0.0711)	(0.0727)	(0.1067)	(0.0355)	(0.1048)	(0.0689)
Relative Size	9.8251	3.1138	11.9116	-22.8237**	-23.7099**	-21.2235*
(p-value)	(0.529)	(0.8306)	(0.4483)	(0.0469)	(0.0401)	(0.0652)
Collar	-2.9197***	-2.7319***	-2.9463***	-2.8399***	-2.798***	-2.8297***
(p-value)	(<.0001)	(<.0001)	(<.0001)	(<.0001)	(<.0001)	(<.0001)
Toehold Exist	0.5354	0.985*	0.5866	-0.2981	-0.3002	-0.3262
(p-value)	(0.3481)	(0.0943)	(0.303)	(0.4374)	(0.4336)	(0.4004)
Horizontal	-0.5348**	-0.6563***	-0.5146**	-0.452***	-0.4679***	-0.44**
(p-value)	(0.0217)	(0.0031)	(0.0277)	(0.0084)	(0.0063)	(0.0111)
Tender Offer	2.0698***	1.8445***	2.089***	2.1379***	2.135***	2.1867***
(p-value)	(<.0001)	(<.0001)	(<.0001)	(<.0001)	(<.0001)	(<.0001)
Hostile	0.5253	0.4528	0.5035	0.2677	0.2471	0.2968
(p-value)	(0.3312)	(0.4173)	(0.352)	(0.5852)	(0.6168)	(0.5472)
Multiple Bidders	0.487	0.8624***	0.4189	0.3572	0.3858*	0.3416
(p-value)	(0.1144)	(0.0028)	(0.181)	(0.1017)	(0.0779)	(0.1205)
Rumor	0.7611*	0.6872*	0.7544*	0.5221	0.4563	0.4784
(p-value)	(0.0504)	(0.0621)	(0.0542)	(0.1551)	(0.2108)	(0.1939)
Compelte	-0.1401	-0.0224	-0.1905	-0.2616	-0.2525	-0.2711
(p-value)	(0.6481)	(0.9381)	(0.5404)	(0.2632)	(0.2802)	(0.2491)
Adj-R^2	0.3921	0.3265	0.3969	0.351	0.3489	0.3593
Year Dummies	No	No	No	No	No	No
Industry Dummies	No	No	No	No	No	No
Number of Cases	743	743	743	1342	1342	1342

Table 2-74 Logistic Model Estimation of the Probability that the deal will be a completed successfully on AIV- (Bidder) Target and VIV- (Bidder) Target with Idiosyncratic Volatility used as Control Variable.

The AIV-Bidder (Target) and VIV- Bidder (Target) are the mean and standard deviation of the Implied Volatilities of Bidder (Target) Companies estimated over the runup period [-42,-2]. The idiosyncratic volatility is estimated as the standard deviation of the market adjusted residuals of the daily returns measured during the period spanning 43 trading days before the announcement to 2 trading days before the announcement [-43, -2]. Target Size is the logarithm of the target (acquirer) market value of equity 42 days before the announcement and target turnover is the ratio of the target volume to share outstanding estimated 42 days before the announcement. Target (acquirer) B/M is constructed as the ratio of the nearest target stock book value divided by the target stock price 42 days before the announcement. Target runup is defined as the ratio of the target (acquirer) price 2 days before the announcement divided by the target (acquirer) price 42 days before the announcement [$(P_{-2} / P_{-42}) - 1$]. Target markup is defined as the ratio of the offer price divided by the target (acquirer) price 2 days before the announcement [$(Offer\text{-}Price / P_{-2}) - 1$]. NYSE/AMEX, Collar, Tender Offer, Cash-Only, Hostile, Rumor, and Complete are dummy variables that respectively take the value of 1 if the Target is listed on NYSE/AMEX, the deal has a collar, the deal is a tender offer, the deal is financed by Cash only, the deal is hostile, the deal is preceded by a rumor and the deal is completed successfully. Horizontal is a dummy variable that takes a value of 1 if the bidder and target share the same four-digit Standard Industrial Classification (SIC) Code. The Toehold dummy takes a value of one if the bidder own more than 5% of target before the announcement day. Multibid dummy takes a value of 1 if there are multiple Bidders within the same contest (a contest is a 6-Month period from the first bidder's bid). The p-values are given underneath and are the MLE p-values. The *, **, *** indicate significance at 1%, 5%, and 10% respectively.

The Idiosyncratic Volatility is estimated over the [-43,-2] window

Deal-Type	AIV-Target	VIV-Target	AIV-Target and VIV-Target	AIV-Bidder	VIV-Bidder	AIV-Bidder and VIV-Bidder
Constant	-2.8164	-3.0018	-2.8233	5.1714***	4.9097***	5.1934***
(p-value)	(0.264)	(0.2125)	(0.2631)	(0.0006)	(0.0009)	(0.0006)
AIV-Variable	-0.1366		-0.174	-1.2503		-1.4952
(p-value)	(0.8484)		(0.8151)	(0.1329)		(0.1054)
VIV-Variable		0.2604	0.3959		-0.0928	1.6401
(p-value)		(0.9008)	(0.855)		(0.9696)	(0.5409)
Idiosyncratic Volatility	-3.6145	-3.3177	-3.5897	-18.7437***	-17.7387**	-18.933***
(p-value)	(0.4688)	(0.4917)	(0.4725)	(0.0082)	(0.0114)	(0.0078)
Target Size	0.2642**	0.2728**	0.2645**	-0.1097	-0.0972	-0.1104
(p-value)	(0.0295)	(0.019)	(0.0294)	(0.1377)	(0.1834)	(0.1358)
Target Turnover	-0.00519	-0.00557	-0.00503	0.000539	-0.00112	0.000693
(p-value)	(0.558)	(0.5166)	(0.5728)	(0.9531)	(0.901)	(0.9401)
Target NYSE/Amex	-0.6469**	-0.6369**	-0.6452**	-0.368	-0.3389	-0.3611
(p-value)	(0.0235)	(0.0248)	(0.0241)	(0.1188)	(0.1498)	(0.1266)
Target B/M	-0.3389	-0.3496	-0.3421	-0.2034	-0.2134	-0.2001
(p-value)	(0.2414)	(0.2254)	(0.2377)	(0.1796)	(0.1542)	(0.1884)
Target Runup	0.6604	0.6705	0.6585	0.5709	0.5852	0.5905
(p-value)	(0.1611)	(0.1534)	(0.1626)	(0.1147)	(0.1083)	(0.1057)
Target Markup	-0.187	-0.1987	-0.1828	-0.0938	-0.1234	-0.0977
(p-value)	(0.6694)	(0.6467)	(0.6772)	(0.7579)	(0.6838)	(0.7483)
Collar	0.5956	0.6004	0.5953	0.166	0.1823	0.1585
(p-value)	(0.2565)	(0.2526)	(0.2564)	(0.644)	(0.6105)	(0.6586)
Toehold Exist	-0.8942	-0.8831	-0.8941	-0.9871**	-0.9775**	-0.9951**
(p-value)	(0.12)	(0.1238)	(0.1199)	(0.0243)	(0.025)	(0.0231)
Horizontal	0.2922	0.2939	0.2939	0.1067	0.0695	0.1077
(p-value)	(0.2996)	(0.2969)	(0.2971)	(0.6377)	(0.7569)	(0.6347)
Tender Offer	1.2241***	1.2157***	1.22***	1.1193***	1.1111***	1.122***
(p-value)	(0.0014)	(0.0015)	(0.0015)	(0.0001)	(0.0001)	(0.0001)
Cash Bid	0.3114	0.3286	0.3082	0.0921	0.1228	0.0739
(p-value)	(0.2673)	(0.2189)	(0.2733)	(0.6805)	(0.582)	(0.743)
Hostile	-3.641***	-3.6382***	-3.6396***	-2.7226***	-2.7148***	-2.7161***
(p-value)	(<.0001)	(<.0001)	(<.0001)	(<.0001)	(<.0001)	(<.0001)
Multiple Bidders	-2.2113***	-2.2058***	-2.2161***	-2.0219***	-2.0125***	-2.0239***
(p-value)	(<.0001)	(<.0001)	(<.0001)	(<.0001)	(<.0001)	(<.0001)
Rumor	0.4047	0.3957	0.399	0.3834	0.3838	0.3715
(p-value)	(0.4358)	(0.446)	(0.4428)	(0.47)	(0.4706)	(0.4843)
Adj-R^2	0.1873	0.1873	0.1873	0.1303	0.1288	0.1305
Year Dummies	No	No	No	No	No	No
Industry Dummies	No	No	No	No	No	No
Number of Cases	743	743	743	1342	1342	1342

2.18 Appendix K – Tests Performed with AIV and VIV as main explanatory Variables with idiosyncratic volatility as Control – Idiosyncratic Volatility Estimated over the [-256, -2] interval

Table 2-75 Cross-sectional Regression of Bidder Announcement CAR on AIV-Target and VIV-Target with Divergence of Opinion used as Control Variable

Bidder CAR is equal to the sum of Bidder Abnormal Return ($AR_{i,t}$) estimated over the announcement period [-1,+1]. ARi,t is equal to $ER_{i,t} - (\alpha_i + \beta_i ER_{M,t})$. $ER_{i,t}$ is the bidder company 'i' return on day 't' above the risk free rate on that day. $ER_{M,t}$ is the CRSP Value Weighted Index return on day 't' in excess of the risk free rate on that day. The model's components (α_i, β_i) are obtained by estimating the model $(R_{i,t} = \alpha_i + \beta_i R_{M,t} + e_{i,t})$ over the [-256; -43]. The AIV-Target and VIV-Target are the mean and standard deviation of the Implied Volatilities of Target firms estimated over the runup period [-42,-2]. The idiosyncratic volatility is estimated as the standard deviation of the market adjusted residuals of the daily returns measured during the period spanning 256 trading days before the announcement to 2 trading days before the announcement [-256, -2]. Target Size is the logarithm of the target market value of equity 42 days before the announcement and target turnover is the ratio of the target volume to share outstanding estimated 42 days before the announcement. Target B/M is constructed as the ratio of the nearest target stock book value divided by the target stock price 42 days before the announcement. Target runup is defined as the ratio of the target price 2 days before the announcement divided by the target price 42 days before the announcement [(P_{-2} / P_{-42}) - 1]. Target markup is defined as the ratio of the offer price divided by the target price 2 days before the announcement [(Offer-Price / P_{-2}) - 1]. NYSE/AMEX, Collar, Tender Offer, Cash-Only, Hostile, Rumor, and Complete are dummy variables that respectively take the value of 1 if the Target is listed on NYSE/AMEX, the deal has a collar, the deal is a tender offer, the deal is financed by Cash only, the deal is hostile, the deal is preceded by a rumor and the deal is completed successfully. Horizontal is a dummy variable that takes a value of 1 if the bidder and target share the same four-digit Standard Industrial Classification (SIC) Code. The Toehold dummy takes a value of one if the bidder own more than 5% of target before the announcement day. Multibid dummy takes a value of 1 if there are multiple Bidders within the same contest (a contest is a 6-Month period from the first bidder's bid). Industry and year dummies corresponding to the target two-digit SIC codes and to the announcement year. The p-values are given underneath and are the White Heteroscedasticity consistent p-values. The *, **, *** indicate significance at 1%, 5%, and 10% respectively.

The Idiosyncratic Volatility is estimated over the [-256,-2] window						
Deal-Type	All Control Bids	Non-Cash-Only Control Bids	Cash-Only Control Bids	All Control Bids	Non-Cash-Only Control Bids	Cash-Only Control Bids
Constant	0.13396*	0.08479	0.12892**	0.1257**	0.05788	0.15089**
(p-value)	(0.0181)	(0.3499)	(0.0332)	(0.0256)	(0.4823)	(0.0157)
AIV-Target	-0.02272	-0.04851	0.05806**			
(p-value)	(0.3194)	(0.191)	(0.0282)			
VIV-Target				-0.02753	-0.05448	0.00744
(p-value)				(0.5261)	(0.4573)	(0.8785)
Idio_Vol	-0.08548	0.2302	-0.93338**	-0.3175	-0.35885	-0.37249
(p-value)	(0.83)	(0.7451)	(0.0203)	(0.2995)	(0.4619)	(0.2243)
Target Size	-0.01051***	-0.01128	-0.00565	-0.00997***	-0.01064**	-0.00792**
(p-value)	(0.0008)	(0.0224)	(0.1211)	(0.0012)	(0.0294)	(0.0299)
Target Turnover	-0.0001333**	-0.0001509***	-8.33E-06	-0.0001338***	-0.0001465**	0.0000307
(p-value)	(0.0106)	(0.0095)	(0.9057)	(0.0083)	(0.0115)	(0.6491)
Target NYSE/Amex	0.00353	8.019E-05	-0.00137	0.00356	-0.0001291	-0.00189
(p-value)	(0.6413)	(0.9953)	(0.866)	(0.6381)	(0.9924)	(0.8152)
Target B/M	-0.00757	-0.01976	-0.00562	-0.00746	-0.02163	-0.00466
(p-value)	(0.3616)	(0.2144)	(0.4865)	(0.3648)	(0.1647)	(0.5637)
Target Runup	0.00319	0.01222	-0.00144	0.00499	0.01503	-0.00401
(p-value)	(0.8429)	(0.6535)	(0.9171)	(0.7529)	(0.5747)	(0.7784)
Target Markup	-0.03288***	-0.02703	-0.0394***	-0.03368***	-0.0286*	-0.03509***
(p-value)	(0.0058)	(0.1007)	(0.0019)	(0.0044)	(0.0822)	(0.0055)
Collar	-0.0282*	-0.03778**	0.02306	-0.02762*	-0.03603**	0.02408
(p-value)	(0.0572)	(0.0235)	(0.2867)	(0.0623)	(0.0305)	(0.2978)
Toehold Exist	0.01325	0.05028*	-0.00311	0.01374	0.05686*	-0.0008372
(p-value)	(0.4379)	(0.0936)	(0.9068)	(0.4312)	(0.0532)	(0.9744)
Horizontal	0.00625	-0.00314	0.01253	0.00627	-0.00309	0.01155
(p-value)	(0.3815)	(0.783)	(0.101)	(0.3797)	(0.7876)	(0.1314)
Tender Offer	0.0026	0.02002	-0.00219	0.00218	0.01926	-0.0004021
(p-value)	(0.6905)	(0.2276)	(0.7413)	(0.7349)	(0.2508)	(0.9513)
Cash Bid	0.02934***			0.02977***		
(p-value)	(<.0001)			(<.0001)		
Hostile	-0.01059	0.01672	-0.0334*	-0.01052	0.01979	-0.03257*
(p-value)	(0.5887)	(0.6314)	(0.073)	(0.5911)	(0.5744)	(0.096)
Multiple Bidders	0.00972	0.03057	-0.01195	0.01144	0.03339	-0.01379
(p-value)	(0.3702)	(0.1399)	(0.3155)	(0.2937)	(0.1019)	(0.2568)
Rumor	0.00676	0.01011	-0.0053	0.00651	0.00894	-0.00505
(p-value)	(0.5057)	(0.5611)	(0.6656)	(0.5191)	(0.6044)	(0.6783)
Complete	0.03041***	0.04371***	0.00969	0.03087***	0.04465***	0.01097
(p-value)	(0.0055)	(0.0054)	(0.448)	(0.005)	(0.0044)	(0.4043)
Adj-R^2	0.2055	0.1568	0.0812	0.2047	0.1533	0.069
Year Dummies	Yes	Yes	Yes	Yes	Yes	Yes
Industry Dummies	Yes	Yes	Yes	Yes	Yes	Yes
Number of Cases	572	284	288	572	284	288

Table 2-76 Cross-sectional Regression of Bidder Announcement CAR CAR on AIV-Bidder (Target) and VIV-Bidder (Target) while controlling for Idiosyncratic Volatility

Bidder CAR is equal to the sum of Bidder Abnormal Return ($AR_{i,t}$) estimated over the announcement period [-1,+1]. ARi,t is equal to $ER_{i,t} - (\alpha_i + \beta_i ER_{M,t})$. $ER_{i,t}$ is the bidder company 'i' return on day 't' above the risk free rate on that day. $ER_{M,t}$ is the CRSP Value Weighted Index return on day 't' in excess of the risk free rate on that day. The model's components (α_i, β_i) are obtained by estimating the model $(R_{i,t} = \alpha_i + \beta_i R_{M,t} + e_{i,t})$ over the [-256; -43]. The idiosyncratic volatility is estimated as the standard deviation of the market adjusted residuals of the daily returns measured during the period spanning 256 trading days before the announcement to 2 trading days before the announcement [-256, -2]. . Target Size is the logarithm of the target market value of equity 42 days before the announcement and target turnover is the ratio of the target volume to share outstanding estimated 42 days before the announcement. Target B/M is constructed as the ratio of the nearest target stock book value divided by the target stock price 42 days before the announcement. Target runup is defined as the ratio of the target price 2 days before the announcement divided by the target price 42 days before the announcement [(P_{-2} / P_{-42}) - 1]. Target markup is defined as the ratio of the offer price divided by the target price 2 days before the announcement [(Offer-Price / P_{-2}) - 1]. NYSE/AMEX, Collar, Tender Offer, Cash-Only, Hostile, Rumor, and Complete are dummy variables that respectively take the value of 1S if the Target is listed on NYSE/AMEX, the deal has a collar, the deal is a tender offer, the deal is financed by Cash only, the deal is hostile, the deal is preceded by a rumor and the deal is completed successfully. Horizontal is a dummy variable that takes a value of 1 if the bidder and target share the same four-digit Standard Industrial Classification (SIC) Code. The Toehold dummy takes a value of one if the bidder own more than 5% of target before the announcement day. Multibid dummy takes a value of 1 if there are multiple Bidders within the same contest (a contest is a 6-Month period from the first bidder's bid). Industry and year dummies corresponding to the target two-digit SIC codes and to the announcement year. The p-values are given underneath and are the White Heteroscedasticity consistent p-values. The *, **, *** indicate significance at 1%, 5%, and 10% respectively.

The Idiosyncratic Volatility is estimated over the [-256,-2] window						
	Bidder AIV Related Tests			Bidder VIV Related Tests		
Deal-Type	All Control Bids	Non-Cash-Only Control Bids	Cash-Only Control Bids	All Control Bids	Non-Cash-Only Control Bids	Cash-Only Control Bids
Constant	0.16727***	0.13723*	0.09132	0.16191***	0.11499	0.10265
(p-value)	(0.0025)	(0.0716)	(0.1612)	(0.0033)	(0.1273)	(0.1201)
AIV-Variable	-0.04438	-0.12502	0.06814			
(p-value)	(0.4765)	(0.1473)	(0.2261)			
VIV-Variable				-0.18669	-0.2292	-0.1909
(p-value)				(0.2289)	(0.3085)	(0.2636)
Idio_Vol	-0.83087	-0.25576	-0.29993	-1.17024**	-1.62476**	0.83034
(p-value)	(0.4342)	(0.8506)	(0.7809)	(0.0361)	(0.0255)	(0.3163)
Target Size	-0.01047***	-0.01157**	-0.00575	-0.0101***	-0.01077**	-0.00631*
(p-value)	(0.0003)	(0.013)	(0.1017)	(0.0004)	(0.0197)	(0.0742)
Target Turnover	-0.0001111**	-9.939E-05	5.13E-06	-0.0001069**	-8.338E-05	-2.99E-06
(p-value)	(0.0343)	(0.2267)	(0.9289)	(0.0404)	(0.2964)	(0.9596)
Target NYSE/Amex	0.00235	-0.00701	-0.00146	0.00173	-0.00788	-0.00112
(p-value)	(0.7492)	(0.5847)	(0.8563)	(0.8138)	(0.5411)	(0.8918)
Target B/M	-0.00622	-0.0227	-0.0063	-0.00589	-0.02161	-0.00554
(p-value)	(0.431)	(0.1416)	(0.4286)	(0.4549)	(0.1617)	(0.4853)
Target Runup	0.0008121	0.01271	-0.00398	0.00129	0.01053	-0.00488
(p-value)	(0.9578)	(0.6213)	(0.7689)	(0.9327)	(0.683)	(0.7161)
Target Markup	-0.03571**	-0.02741*	-0.03632***	-0.03653***	-0.03262**	-0.03332***
(p-value)	(0.0021)	(0.0792)	(0.0031)	(0.0016)	(0.0332)	(0.0077)
Collar	-0.03195	-0.04208***	0.01942	-0.03087**	-0.03678**	0.02178
(p-value)	(0.0229)	(0.0058)	(0.3838)	(0.0243)	(0.0151)	(0.3392)
Toehold Exist	0.00638	0.04363	0.00133	0.00544	0.0437	0.00383
(p-value)	(0.7095)	(0.1375)	(0.96)	(0.7509)	(0.1237)	(0.8775)
Horizontal	0.00929	0.00318	0.01082	0.00989	0.00367	0.01156
(p-value)	(0.1911)	(0.7736)	(0.1631)	(0.1587)	(0.7437)	(0.1425)
Tender Offer	-7.301E-05	0.01059	-0.00212	-0.0005077	0.01015	-0.0017
(p-value)	(0.9909)	(0.5212)	(0.7504)	(0.9359)	(0.5281)	(0.7986)
Cash Bid	0.02156***			0.0219***		
(p-value)	(0.0021)			(0.0017)		
Hostile	-0.00737	0.02365	-0.03717*	-0.00795	0.01856	-0.03493*
(p-value)	(0.6931)	(0.4668)	(0.0652)	(0.6695)	(0.5867)	(0.0931)
Multiple Bidders	0.01333	0.0356*	-0.01656	0.01303	0.03624*	-0.01687
(p-value)	(0.2321)	(0.0905)	(0.1696)	(0.239)	(0.0799)	(0.1547)
Rumor	0.00227	-0.0003627	-0.00859	0.0018	0.000654	-0.00492
(p-value)	(0.8208)	(0.9829)	(0.4815)	(0.8565)	(0.9692)	(0.6857)
Complete	0.02696**	0.03727**	0.00976	0.02773***	0.03909**	0.01185
(p-value)	(0.013)	(0.0195)	(0.4493)	(0.0099)	(0.0121)	(0.3613)
Adj-R^2	0.2287	0.2161	0.0738	0.2303	0.2061	0.0725
Year Dummies	Yes	Yes	Yes	Yes	Yes	Yes
Industry Dummies	Yes	Yes	Yes	Yes	Yes	Yes
Number of Cases	515	258	257	515	258	257

Table 2-77 Cross-sectional Regression of Bidder Announcement CAR on AIV-Bidder and VIV-Bidder while controlling for Idiosyncratic Volatility

Bidder CAR is equal to the sum of Bidder Abnormal Return ($AR_{i,t}$) estimated over the announcement period [-1,+1]. ARi,t is equal to $ER_{i,t} - (\alpha_i + \beta_i ER_{M,t})$. $ER_{i,t}$ is the bidder company 'i' return on day 't' above the risk free rate on that day. $ER_{M,t}$ is the CRSP Value Weighted Index return on day 't' in excess of the risk free rate on that day. The model's components (α_i, β_i) are obtained by estimating the model $(R_{i,t} = \alpha_i + \beta_i R_{M,t} + e_{i,t})$ over the [-256; -43]. The idiosyncratic volatility is estimated as the standard deviation of the market adjusted residuals of the daily returns measured during the period spanning 256 trading days before the announcement to 2 trading days before the announcement [-256, -2]. . Target Size is the logarithm of the target market value of equity 42 days before the announcement and target turnover is the ratio of the target volume to share outstanding estimated 42 days before the announcement. Target B/M is constructed as the ratio of the nearest target stock book value divided by the target stock price 42 days before the announcement. Target runup is defined as the ratio of the target price 2 days before the announcement divided by the target price 42 days before the announcement [(P_{-2} / P_{-42}) - 1]. Target markup is defined as the ratio of the offer price divided by the target price 2 days before the announcement [(Offer-Price / P_{-2}) - 1]. NYSE/AMEX, Collar, Tender Offer, Cash-Only, Hostile, Rumor, and Complete are dummy variables that respectively take the value of 1S if the Target is listed on NYSE/AMEX, the deal has a collar, the deal is a tender offer, the deal is financed by Cash only, the deal is hostile, the deal is preceded by a rumor and the deal is completed successfully. Horizontal is a dummy variable that takes a value of 1 if the bidder and target share the same four-digit Standard Industrial Classification (SIC) Code. The Toehold dummy takes a value of one if the bidder own more than 5% of target before the announcement day. Multibid dummy takes a value of 1 if there are multiple Bidders within the same contest (a contest is a 6-Month period from the first bidder's bid). Industry and year dummies corresponding to the target two-digit SIC codes and to the announcement year. The p-values are given underneath and are the White Heteroscedasticity consistent p-values. The *, **, *** indicate significance at 1%, 5%, and 10% respectively.

The Idiosyncratic Volatility is estimated over the [-256,-2] window

Deal-Type	All Control Bids	Non-Cash-Only Control Bids	Cash-Only Control Bids
Constant	0.16249***	0.13328*	0.09322
(p-value)	(0.0029)	(0.0801)	(0.1515)
AIV-Bidder	-0.02025	-0.11696	0.13317**
(p-value)	(0.7775)	(0.2274)	(0.0388)
VIV-Bidder	-0.15867	-0.05927	-0.41332**
(p-value)	(0.3694)	(0.8166)	(0.0386)
Idio_Vol	-0.93569	-0.28122	-0.67747
(p-value)	(0.3977)	(0.8387)	(0.5362)
Target Size	-0.01015***	-0.01129**	-0.00597*
(p-value)	(0.0004)	(0.0161)	(0.0858)
Target Turnover	-0.0001084**	-9.761E-05	4.84E-06
(p-value)	(0.0423)	(0.242)	(0.9315)
Target NYSE/Amex	0.00184	-0.00734	-0.00221
(p-value)	(0.8006)	(0.5614)	(0.7859)
Target B/M	-0.00594	-0.02248	-0.00463
(p-value)	(0.4521)	(0.144)	(0.5564)
Target Runup	0.00121	0.01263	-0.00101
(p-value)	(0.9368)	(0.6231)	(0.9411)
Target Markup	-0.03592***	-0.02765*	-0.0335***
(p-value)	(0.002)	(0.077)	(0.006)
Collar	-0.03134**	-0.0414***	0.01602
(p-value)	(0.0226)	(0.0072)	(0.4575)
Toehold Exist	0.00566	0.04355	-0.0016
(p-value)	(0.7414)	(0.1377)	(0.9502)
Horizontal	0.00994	0.00351	0.01189
(p-value)	(0.1575)	(0.7489)	(0.1201)
Tender Offer	-0.0003062	0.0109	-0.00374
(p-value)	(0.9617)	(0.5058)	(0.5719)
Cash Bid	0.02167***		
(p-value)	(0.0019)		
Hostile	-0.00783	0.02272	-0.03241
(p-value)	(0.6758)	(0.491)	(0.1032)
Multiple Bidders	0.01302	0.03554*	-0.01763
(p-value)	(0.2402)	(0.0902)	(0.1349)
Rumor	0.0021	-0.0002308	-0.00785
(p-value)	(0.8334)	(0.9891)	(0.5175)
Complete	0.02757**	0.03752**	0.01139
(p-value)	(0.0101)	(0.0174)	(0.3681)
Adj-R^2	0.229	0.2127	0.0826
Year Dummies	Yes	Yes	Yes
Industry Dummies	Yes	Yes	Yes
Number of Cases	572	284	288

Table 2-78 Logistic Model Estimation of the Probability that the deal will be a cash-only offer versus a deal being a non-cash-only offer while controlling for idiosyncratic volatility

The AIV-Bidder (Target) and VIV- Bidder (Target) are the mean and standard deviation of the Implied Volatilities of Bidder (Target) Companies estimated over the runup period [-42,-2].]. The idiosyncratic volatility is estimated as the standard deviation of the market adjusted residuals of the daily returns measured during the period spanning 256 trading days before the announcement to 2 trading days before the announcement [-256, -2]. Target (Acquirer) Size is the logarithm of the target (acquirer) market value of equity 42 days before the announcement and target (acquirer) turnover is the ratio of the target (acquirer) volume to share outstanding estimated 42 days before the announcement. Target (acquirer) B/M is constructed as the ratio of the nearest target stock book value divided by the target stock price 42 days before the announcement. Relative size is the ratio of the target size divided by the acquirer size (in log terms). NYSE/AMEX, Collar, Tender Offer, Cash-Only, Hostile, Rumor, and Complete are dummy variables that respectively take the value of 1 if the Target (Acquirer) is listed on NYSE/AMEX, the deal has a collar, the deal is a tender offer, the deal is financed by Cash only, the deal is hostile, the deal is preceded by a rumor and the deal is completed successfully. Horizontal is a dummy variable that takes a value of 1 if the bidder and target share the same four-digit Standard Industrial Classification (SIC) Code. The Toehold dummy takes a value of one if the bidder own more than 5% of target before the announcement day. Multibid dummy takes a value of 1 if there are multiple Bidders within the same contest (a contest is a 6-Month period from the first bidder's bid). The p-values are given underneath and are the MLE p-values. The *, **, *** indicate significance at 1%, 5%, and 10% respectively.

The Idiosyncratic Volatility is estimated over the [-256,-2] window						
Independent Variable	AIV-Target	VIV-Target	AIV-Target and VIV-Target	AIV-Bidder	VIV-Bidder	AIV-Bidder and VIV-Bidder
Constant	0.0426	-2.2117	0.114	5.019	5.4706	5.703
(p-value)	(0.9966)	(0.8231)	(0.9909)	(0.5757)	(0.5442)	(0.5258)
AIV-Variable	-3.7963***		-4.3907***	-4.5827**		-6.3063***
(p-value)	(<.0001)		(<.0001)	(0.0118)		(0.0021)
VIV-Variable		-2.1676	2.0136		2.1081	9.9009*
(p-value)		(0.2118)	(0.3105)		(0.6509)	(0.0759)
Idiosyncratic Volatility	-28.8209**	-67.928***	-23.4851	-62.0271**	-125.6***	-51.3479*
(p-value)	(0.0398)	(<.0001)	(0.1179)	(0.0289)	(<.0001)	(0.074)
Target Size	-0.9002	-0.7663	-0.899	-0.2335	-0.1545	-0.2183
(p-value)	(0.1936)	(0.2665)	(0.1963)	(0.7013)	(0.8004)	(0.7202)
Target Turnover	0.00241	0.00262	2.30E-03	0.0012	0.00197	0.00108
(p-value)	(0.3594)	(0.3261)	(0.3808)	(0.7013)	(0.5194)	(0.7293)
Target NYSE/Amex	-0.3468	-0.3919	-0.3368	-0.1339	-0.137	-0.0889
(p-value)	(0.19)	(0.1342)	(0.2031)	(0.6127)	(0.6034)	(0.7385)
Target B/M	0.4095	0.4168	0.365	0.4456	0.392	0.4336
(p-value)	(0.2463)	(0.222)	(0.3102)	(0.1858)	(0.2451)	(0.2052)
Acquirer Size	0.8087	0.7793	0.8073	0.1792	0.1129	0.1492
(p-value)	(0.1823)	(0.1974)	(0.1852)	(0.7388)	(0.8343)	(0.7818)
Acquirer Turnover	-0.00777	-0.0079	-0.0082	0.0108	0.00385	0.0109
(p-value)	(0.4804)	(0.4449)	(0.4619)	(0.342)	(0.7174)	(0.3243)
Acquirer NYSE/Amex	-0.263	-0.208	-0.2703	-0.2475	-0.1959	-0.2477
(p-value)	(0.2565)	(0.359)	(0.2442)	(0.2853)	(0.3927)	(0.2869)
Acquirer B/M	0.8807*	0.8549*	0.8487*	0.3651	0.1741	0.2712
(p-value)	(0.073)	(0.0777)	(0.0855)	(0.4848)	(0.7374)	(0.6084)
Relative Size	2.184	2.3667	2.179	-2.5534	-3.5422	-2.9427
(p-value)	(0.8423)	(0.8294)	(0.8435)	(0.7949)	(0.7199)	(0.7647)
Collar	-2.3832***	-2.2525***	-2.395***	-2.4348***	-2.3415***	-2.4335***
(p-value)	(0.0004)	(0.0006)	(0.0004)	(0.0002)	(0.0004)	(0.0003)
Toehold Exist	-0.4847			-0.7431		
(p-value)	(0.5121)			(0.3128)		
Horizontal	-0.5913**	-0.6052**	-0.5836**	-0.5215**	-0.516**	-0.5279**
(p-value)	(0.0219)	(0.0181)	(0.0237)	(0.0452)	(0.0455)	(0.0433)
Tender Offer	1.7498***	1.6299***	1.7521***	1.6411***	1.6021***	1.6761***
(p-value)	(<.0001)	(<.0001)	(<.0001)	(<.0001)	(<.0001)	(<.0001)
Hostile	-0.2502	-0.381	-0.2132	0.0143	0.0274	0.0437
(p-value)	(0.6686)	(0.5288)	(0.7145)	(0.9816)	(0.9656)	(0.9442)
Multiple Bidders	0.8808	1.1503***	0.8232**	1.0726***	1.1367***	1.0756***
(p-value)	(0.0149)	(0.0014)	(0.0248)	(0.0035)	(0.0019)	(0.0034)
Rumor	0.5236	0.4775	0.5303	0.13	0.0514	0.1062
(p-value)	(0.2184)	(0.253)	(0.2134)	(0.756)	(0.9025)	(0.799)
Adj-R^2	0.3584	0.3402	0.3595	0.3702	0.3632	0.3740
Year Dummies	No	No	No	No	No	No
Industry Dummies	No	No	No	No	No	No
Number of Cases	572	572	572	572	572	572

Table 2-79 Logistic Model Estimation of the Probability that the deal will be a completed successfully on AIV- (Bidder) Target and VIV- (Bidder) Target with Idiosyncratic Volatility used as Control Variable

The AIV-Bidder (Target) and VIV- Bidder (Target) are the mean and standard deviation of the Implied Volatilities of Bidder (Target) Companies estimated over the runup period [-42,-2]. The idiosyncratic volatility is estimated as the standard deviation of the market adjusted residuals of the daily returns measured during the period spanning 256 trading days before the announcement to 2 trading days before the announcement [-256, -2]. Target Size is the logarithm of the target (acquirer) market value of equity 42 days before the announcement and target turnover is the ratio of the target volume to share outstanding estimated 42 days before the announcement. Target (acquirer) B/M is constructed as the ratio of the nearest target stock book value divided by the target stock price 42 days before the announcement. Target runup is defined as the ratio of the target (acquirer) price 2 days before the announcement divided by the target (acquirer) price 42 days before the announcement [$(P_{-2} / P_{-42}) - 1$]. Target markup is defined as the ratio of the offer price divided by the target (acquirer) price 2 days before the announcement [(Offer-Price / P_{-2}) - 1]. NYSE/AMEX, Collar, Tender Offer, Cash-Only, Hostile, Rumor, and Complete are dummy variables that respectively take the value of 1 if the Target is listed on NYSE/AMEX, the deal has a collar, the deal is a tender offer, the deal is financed by Cash only, the deal is hostile, the deal is preceded by a rumor and the deal is completed successfully. Horizontal is a dummy variable that takes a value of 1 if the bidder and target share the same four-digit Standard Industrial Classification (SIC) Code. The Toehold dummy takes a value of one if the bidder own more than 5% of target before the announcement day. Multibid dummy takes a value of 1 if there are multiple Bidders within the same contest (a contest is a 6-Month period from the first bidder's bid). The p-values are given underneath and are the MLE p-values. The *, **, *** indicate significance at 1%, 5%, and 10% respectively.

The Idiosyncratic Volatility is estimated over the [-256,-2] window

Deal-Type	AIV-Target	VIV-Target	AIV-Target and VIV-Target	AIV-Bidder	VIV-Bidder	AIV-Bidder and VIV-Bidder
Constant	0.49	-0.731	0.1375	0.3594	0.1983	0.3809
(p-value)	(0.8203)	(0.7327)	(0.9499)	(0.8583)	(0.9214)	(0.8505)
AIV-Variable	-1.3619		-2.0276*	-1.4137		-1.6533
(p-value)	(0.1836)		(0.0772)	(0.4174)		(0.3995)
VIV-Variable		1.9382	3.6978		-0.5578	1.6967
(p-value)		(0.4675)	(0.1949)		(0.9196)	(0.7852)
Idiosyncratic Volatility	12.4418	-4.3896	18.6656	-0.8884	-19.609	0.6538
(p-value)	(0.43)	(0.6733)	(0.2658)	(0.9739)	(0.1473)	(0.9813)
Target Size	0.1931	0.2563*	0.2166	0.2243	0.2269	0.2226
(p-value)	(0.1838)	(0.0796)	(0.1428)	(0.1113)	(0.1073)	(0.1152)
Target Turnover	0.000111	-0.00024	-2.00E-04	0.000122	0.000207	0.000106
(p-value)	(0.976)	(0.9475)	(0.9557)	(0.9737)	(0.9545)	(0.9771)
Target NYSE/Amex	-0.5845*	-0.5698*	-0.5757*	-0.668**	-0.6611**	-0.6595**
(p-value)	(0.0807)	(0.0885)	(0.0882)	(0.0435)	(0.0466)	(0.0471)
Target B/M	-0.6943*	-0.7535**	-0.7385**	-0.6565*	-0.6611*	-0.6622*
(p-value)	(0.0508)	(0.0369)	(0.0377)	(0.0714)	(0.0697)	(0.0697)
Target Runup	0.6939	0.7715	0.5343	0.7531	0.76	0.7527
(p-value)	(0.2739)	(0.2219)	(0.4091)	(0.2185)	(0.2157)	(0.2201)
Target Markup	-0.3617	-0.4103	-0.3038	-0.391	-0.442	-0.3832
(p-value)	(0.4181)	(0.3564)	(0.4997)	(0.3818)	(0.3193)	(0.3922)
Collar	0.7445	0.769	0.777	0.7072	0.7313	0.7003
(p-value)	(0.2523)	(0.232)	(0.2323)	(0.2773)	(0.2592)	(0.283)
Toehold Exist	-1.4773**	-1.4501**	-1.5626**	-1.5267**	-1.544**	-1.5118**
(p-value)	(0.0337)	(0.0381)	(0.0254)	(0.0301)	(0.0284)	(0.0322)
Horizontal	-0.0945	-0.0939	-0.096	-0.016	-0.0383	-0.0219
(p-value)	(0.7665)	(0.7681)	(0.764)	(0.9603)	(0.9049)	(0.946)
Tender Offer	1.5104***	1.3766***	1.5092***	1.4276***	1.4113***	1.4254***
(p-value)	(0.0006)	(0.0013)	(0.0006)	(0.0008)	(0.0009)	(0.0008)
Cash Bid	0.0672			-0.0852		
(p-value)	(0.8301)			(0.7971)		
Hostile	-3.7067***	-3.6483***	-3.729***	-3.6603***	-3.668***	-3.6518***
(p-value)	(<.0001)	(<.0001)	(<.0001)	(<.0001)	(<.0001)	(<.0001)
Multiple Bidders	-2.8583***	-2.7784***	-2.9561***	-2.7331***	-2.7199***	-2.7272***
(p-value)	(<.0001)	(<.0001)	(<.0001)	(<.0001)	(<.0001)	(<.0001)
Rumor	0.5515	0.4923	0.5557	0.4519	0.4431	0.4473
(p-value)	(0.3929)	(0.4387)	(0.391)	(0.4791)	(0.4886)	(0.4837)
Adj-R^2	0.2010	0.1995	0.2037	0.2030	0.2021	0.2031
Year Dummies	No	No	No	No	No	No
Industry Dummies	No	No	No	No	No	No
Number of Cases	572	284	288	572	284	288

2.19 Appendix L – Tests Performed with AIV and VIV as main explanatory Variables with idiosyncratic volatility as Control – Idiosyncratic Volatility Estimated over the [-256, -43] interval

Table 2-80 Cross-sectional Regression of Bidder Announcement CAR on AIV-Bidder (Target) and VIV-Bidder (Target) while controlling for Idiosyncratic Volatility

Bidder CAR is equal to the sum of Bidder Abnormal Return ($AR_{i,t}$) estimated over the announcement period [-1,+1]. ARi,t is equal to $ER_{i,t} - (\alpha_i + \beta_i ER_{M,t})$. $ER_{i,t}$ is the bidder company 'i' return on day 't' above the risk free rate on that day. $ER_{M,t}$ is the CRSP Value Weighted Index return on day 't' in excess of the risk free rate on that day. The model's components (α_i, β_i) are obtained by estimating the model $(R_{i,t} = \alpha_i + \beta_i R_{M,t} + e_{i,t})$ over the [-256; -43]. The idiosyncratic volatility is estimated as the standard deviation of the market adjusted residuals of the daily returns measured during the period spanning 256 trading days before the announcement to 43 trading days before the announcement [-256, -43]. . Target Size is the logarithm of the target market value of equity 42 days before the announcement and target turnover is the ratio of the target volume to share outstanding estimated 42 days before the announcement. Target B/M is constructed as the ratio of the nearest target stock book value divided by the target stock price 42 days before the announcement. Target runup is defined as the ratio of the target price 2 days before the announcement divided by the target price 42 days before the announcement [$(P_{-2} / P_{-42}) - 1$]. Target markup is defined as the ratio of the offer price divided by the target price 2 days before the announcement [(Offer-Price / P_{-2}) - 1]. NYSE/AMEX, Collar, Tender Offer, Cash-Only, Hostile, Rumor, and Complete are dummy variables that respectively take the value of 1S if the Target is listed on NYSE/AMEX, the deal has a collar, the deal is a tender offer, the deal is financed by Cash only, the deal is hostile, the deal is preceded by a rumor and the deal is completed successfully. Horizontal is a dummy variable that takes a value of 1 if the bidder and target share the same four-digit Standard Industrial Classification (SIC) Code. The Toehold dummy takes a value of one if the bidder own more than 5% of target before the announcement day. Multibid dummy takes a value of 1 if there are multiple Bidders within the same contest (a contest is a 6-Month period from the first bidder's bid). Industry and year dummies corresponding to the target two-digit SIC codes and to the announcement year. The p-values are given underneath and are the White Heteroscedasticity consistent p-values. The *, **, *** indicate significance at 1%, 5%, and 10% respectively.

The Idiosyncratic Volatility is estimated over the [-256,-43] window						
	Target AIV Related Tests			Target VIV Related Tests		
Deal-Type	All Control Bids	Non-Cash-Only Control Bids	Cash-Only Control Bids	All Control Bids	Non-Cash-Only Control Bids	Cash-Only Control Bids
Constant	0.13591*	0.08475	0.14856**	0.12814**	0.0572	0.16405**
(p-value)	(0.0171)	(0.3497)	(0.0186)	(0.0228)	(0.4803)	(0.0116)
AIV-Variable	-0.02122	-0.04445	0.0481**			
(p-value)	(0.309)	(0.192)	(0.045)			
VIV-Variable				-0.03042	-0.05719	0.00441
(p-value)				(0.4856)	(0.4383)	(0.9273)
Idio_Vol	-0.13445	0.139	-0.88551**	-0.33474	-0.34759	-0.4573
(p-value)	(0.712)	(0.8212)	(0.0177)	(0.2739)	(0.4517)	(0.1366)
Target Size	-0.01058***	-0.01131**	-0.00659*	-0.01012***	-0.01067**	-0.00842**
(p-value)	(0.0008)	(0.0221)	(0.0717)	(0.001)	(0.0286)	(0.0233)
Target Turnover	-0.0001315**	-0.0001491**	-5.36E-06	-0.0001325***	-0.0001459**	3.441E-05
(p-value)	(0.0121)	(0.0111)	(0.94)	(0.0088)	(0.0116)	(0.6137)
Target NYSE/Amex	0.00332	-0.0001512	-0.00218	0.00333	-0.0001947	-0.00247
(p-value)	(0.6627)	(0.991)	(0.7873)	(0.6614)	(0.9885)	(0.7604)
Target B/M	-0.00772	-0.02011	-0.00623	-0.0077	-0.02174	-0.00494
(p-value)	(0.3516)	(0.2054)	(0.4349)	(0.3451)	(0.1623)	(0.5372)
Target Runup	0.0032	0.01259	-0.00435	0.00461	0.01499	-0.0047
(p-value)	(0.8408)	(0.6423)	(0.7455)	(0.7709)	(0.5759)	(0.74)
Target Markup	-0.03294***	-0.02696*	-0.03941***	-0.03385***	-0.0289*	-0.03512***
(p-value)	(0.0057)	(0.0996)	(0.002)	(0.0041)	(0.0773)	(0.0057)
Collar	-0.02813*	-0.03769**	0.0244	-0.02757*	-0.0359**	0.02484
(p-value)	(0.0579)	(0.0241)	(0.2699)	(0.0627)	(0.0314)	(0.2839)
Toehold Exist	0.01324	0.05125*	-0.00133	0.01355	0.05633*	-0.0007743
(p-value)	(0.4386)	(0.0852)	(0.9582)	(0.4346)	(0.0535)	(0.976)
Horizontal	0.00634	-0.00303	0.01289*	0.00642	-0.00317	0.01174
(p-value)	(0.3756)	(0.7908)	(0.0919)	(0.3698)	(0.7825)	(0.1236)
Tender Offer	0.00249	0.01978	-0.00238	0.00199	0.01925	-0.0004981
(p-value)	(0.7035)	(0.2339)	(0.72)	(0.7568)	(0.2507)	(0.9395)
Cash Bid	0.02926***			0.02955***		
(p-value)	(<.0001)			(<.0001)		
Hostile	-0.01043	0.01715	-0.03139*	-0.01014	0.01964	-0.03135
(p-value)	(0.5934)	(0.6226)	(0.0947)	(0.6038)	(0.5771)	(0.109)
Multiple Bidders	0.00958	0.03083	-0.01493	0.01089	0.03323	-0.01493
(p-value)	(0.3736)	(0.1331)	(0.212)	(0.3164)	(0.1036)	(0.22)
Rumor	0.00694	0.01022	-0.00425	0.00666	0.00893	-0.00424
(p-value)	(0.495)	(0.5557)	(0.7305)	(0.5104)	(0.6046)	(0.729)
Complete	0.03045***	0.04377***	0.00934	0.03094***	0.0447***	0.01088
(p-value)	(0.0055)	(0.0054)	(0.4645)	(0.0049)	(0.0043)	(0.4064)
Adj-R^2	0.2056	0.1566	0.0805	0.2048	0.1534	0.0703
Year Dummies	Yes	Yes	Yes	Yes	Yes	Yes
Industry Dummies	Yes	Yes	Yes	Yes	Yes	Yes
Number of Cases	515	258	257	515	258	257

Table 2-81 Cross-sectional Regression of Bidder Announcement CAR on AIV-Bidder (Target) and VIV-Bidder (Target) while controlling for Idiosyncratic Volatility

Bidder CAR is equal to the sum of Bidder Abnormal Return ($AR_{i,t}$) estimated over the announcement period [-1,+1]. ARi,t is equal to $ER_{i,t} - (\alpha_i + \beta_i ER_{M,t})$. $ER_{i,t}$ is the bidder company 'i' return on day 't' above the risk free rate on that day. $ER_{M,t}$ is the CRSP Value Weighted Index return on day 't' in excess of the risk free rate on that day. The model's components (α_i, β_i) are obtained by estimating the model $(R_{i,t} = \alpha_i + \beta_i R_{M,t} + e_{i,t})$ over the [-256; -43]. The idiosyncratic volatility is estimated as the standard deviation of the market adjusted residuals of the daily returns measured during the period spanning 256 trading days before the announcement to 43 trading days before the announcement [-256, -43]. . Target Size is the logarithm of the target market value of equity 42 days before the announcement and target turnover is the ratio of the target volume to share outstanding estimated 42 days before the announcement. Target B/M is constructed as the ratio of the nearest target stock book value divided by the target stock price 42 days before the announcement. Target runup is defined as the ratio of the target price 2 days before the announcement divided by the target price 42 days before the announcement [(P_{-2} / P_{-42}) - 1]. Target markup is defined as the ratio of the offer price divided by the target price 2 days before the announcement [(Offer-Price / P_{-2}) - 1]. NYSE/AMEX, Collar, Tender Offer, Cash-Only, Hostile, Rumor, and Complete are dummy variables that respectively take the value of 1S if the Target is listed on NYSE/AMEX, the deal has a collar, the deal is a tender offer, the deal is financed by Cash only, the deal is hostile, the deal is preceded by a rumor and the deal is completed successfully. Horizontal is a dummy variable that takes a value of 1 if the bidder and target share the same four-digit Standard Industrial Classification (SIC) Code. The Toehold dummy takes a value of one if the bidder own more than 5% of target before the announcement day. Multibid dummy takes a value of 1 if there are multiple Bidders within the same contest (a contest is a 6-Month period from the first bidder's bid). Industry and year dummies corresponding to the target two-digit SIC codes and to the announcement year. The p-values are given underneath and are the White Heteroscedasticity consistent p-values. The *, **, *** indicate significance at 1%, 5%, and 10% respectively.

The Idiosyncratic Volatility is estimated over the [-256,-43] window

	Bidder AIV Related Tests			Bidder VIV Related Tests		
Deal-Type	All Control Bids	Non-Cash-Only Control Bids	Cash-Only Control Bids	All Control Bids	Non-Cash-Only Control Bids	Cash-Only Control Bids
Constant	0.16554***	0.13585*	0.09251	0.15961***	0.10682	0.10925*
(p-value)	(0.0028)	(0.0722)	(0.1536)	(0.0041)	(0.1477)	(0.0953)
AIV-Variable	-0.05811	-0.13277*	0.07241			
(p-value)	(0.2934)	(0.0904)	(0.148)			
VIV-Variable				-0.21177	-0.26987	-0.16238
(p-value)				(0.1616)	(0.2187)	(0.3275)
Idio_Vol	-0.58342	-0.11391	-0.39758	-1.04724*	-1.44964**	0.60998
(p-value)	(0.5228)	(0.9237)	(0.6702)	(0.0514)	(0.0386)	(0.4348)
Target Size	-0.01046***	-0.01152**	-0.00576*	-0.01006***	-0.01071**	-0.00651*
(p-value)	(0.0003)	(0.0133)	(0.099)	(0.0005)	(0.0205)	(0.0648)
Target Turnover	-0.0001122**	-0.0001014	6.17E-06	-0.0001062**	-8.284E-05	-3.34E-06
(p-value)	(0.035)	(0.219)	(0.9146)	(0.0437)	(0.3013)	(0.9552)
Target NYSE/Amex	0.00251	-0.00688	-0.00146	0.00186	-0.00762	-0.00107
(p-value)	(0.734)	(0.5918)	(0.8569)	(0.801)	(0.5554)	(0.897)
Target B/M	-0.00621	-0.0227	-0.00617	-0.0058	-0.02136	-0.0053
(p-value)	(0.433)	(0.1413)	(0.4385)	(0.4621)	(0.1653)	(0.5081)
Target Runup	0.0007529	0.01287	-0.00377	0.00122	0.00988	-0.0054
(p-value)	(0.9609)	(0.6157)	(0.7817)	(0.9366)	(0.7024)	(0.6875)
Target Markup	-0.03522***	-0.02702*	-0.03637***	-0.03648***	-0.03295**	-0.03413***
(p-value)	(0.0024)	(0.0821)	(0.0028)	(0.0017)	(0.0324)	(0.006)
Collar	-0.03203**	-0.04224***	0.0191	-0.03049**	-0.0361**	0.02249
(p-value)	(0.0227)	(0.0057)	(0.3913)	(0.0259)	(0.0172)	(0.3298)
Toehold Exist	0.0067	0.04378	0.0008755	0.00568	0.04445	0.00373
(p-value)	(0.6958)	(0.1373)	(0.9735)	(0.7414)	(0.1193)	(0.879)
Horizontal	0.00929	0.00312	0.01093	0.00983	0.00357	0.01168
(p-value)	(0.1914)	(0.7774)	(0.1613)	(0.1617)	(0.7511)	(0.1424)
Tender Offer	6.152E-05	0.01089	-0.00227	-0.0005483	0.01088	-0.00153
(p-value)	(0.9923)	(0.5098)	(0.7338)	(0.9309)	(0.4987)	(0.8193)
Cash Bid	0.02174***			0.02238***		
(p-value)	(0.0019)			(0.0013)		
Hostile	-0.00744	0.02378	-0.03703*	-0.00816	0.01834	-0.03406
(p-value)	(0.6916)	(0.4634)	(0.0651)	(0.6624)	(0.5946)	(0.1005)
Multiple Bidders	0.01325	0.03548*	-0.01639	0.01296	0.03605*	-0.01626
(p-value)	(0.2356)	(0.0919)	(0.1738)	(0.2419)	(0.0825)	(0.1726)
Rumor	0.0025	-0.0002848	-0.00888	0.00177	0.0008399	-0.00516
(p-value)	(0.8029)	(0.9866)	(0.4668)	(0.8584)	(0.9604)	(0.6725)
Complete	0.02709**	0.03735**	0.00953	0.02807***	0.04004**	0.01181
(p-value)	(0.0129)	(0.019)	(0.4614)	(0.0093)	(0.0104)	(0.367)
Adj-R^2	0.2279	0.2159	0.0743	0.2287	0.2026	0.0702
Year Dummies	Yes	Yes	Yes	Yes	Yes	Yes
Industry Dummies	Yes	Yes	Yes	Yes	Yes	Yes
Number of Cases	515	258	257	515	258	257

Table 2-82 Cross-sectional Regression of Bidder Announcement CAR on AIV-Bidder and VIV-Bidder while controlling for Idiosyncratic Volatility

Bidder CAR is equal to the sum of Bidder Abnormal Return ($AR_{i,t}$) estimated over the announcement period [-1,+1]. ARi,t is equal to $ER_{i,t} - (\alpha_i + \beta_i ER_{M,t})$. $ER_{i,t}$ is the bidder company 'i' return on day 't' above the risk free rate on that day. $ER_{M,t}$ is the CRSP Value Weighted Index return on day 't' in excess of the risk free rate on that day. The model's components (α_i, β_i) are obtained by estimating the model $(R_{i,t} = \alpha_i + \beta_i R_{M,t} + e_{i,t})$ over the [-256; -43]. The idiosyncratic volatility is estimated as the standard deviation of the market adjusted residuals of the daily returns measured during the period spanning 256 trading days before the announcement to 43 trading days before the announcement [-256, -43]. . Target Size is the logarithm of the target market value of equity 42 days before the announcement and target turnover is the ratio of the target volume to share outstanding estimated 42 days before the announcement. Target B/M is constructed as the ratio of the nearest target stock book value divided by the target stock price 42 days before the announcement. Target runup is defined as the ratio of the target price 2 days before the announcement divided by the target price 42 days before the announcement [$(P_{-2} / P_{-42}) - 1$]. Target markup is defined as the ratio of the offer price divided by the target price 2 days before the announcement [(Offer-Price / P_{-2}) - 1]. NYSE/AMEX, Collar, Tender Offer, Cash-Only, Hostile, Rumor, and Complete are dummy variables that respectively take the value of 1S if the Target is listed on NYSE/AMEX, the deal has a collar, the deal is a tender offer, the deal is financed by Cash only, the deal is hostile, the deal is preceded by a rumor and the deal is completed successfully. Horizontal is a dummy variable that takes a value of 1 if the bidder and target share the same four-digit Standard Industrial Classification (SIC) Code. The Toehold dummy takes a value of one if the bidder own more than 5% of target before the announcement day. Multibid dummy takes a value of 1 if there are multiple Bidders within the same contest (a contest is a 6-Month period from the first bidder's bid). Industry and year dummies corresponding to the target two-digit SIC codes and to the announcement year. The p-values are given underneath and are the White Heteroskedasticity consistent p-values. The *, **, *** indicate significance at 1%, 5%, and 10% respectively.

The Idiosyncratic Volatility is estimated over the [-256,-43] window			
Deal-Type	All Control Bids	Non-Cash-Only Control Bids	Cash-Only Control Bids
Constant	0.16111**	0.13209*	0.09453
(p-value)	(0.0033)	(0.0808)	(0.1428)
AIV-Bidder	-0.03475	-0.12495	0.1387**
(p-value)	(0.5932)	(0.166)	(0.0181)
VIV-Bidder	-0.15585	-0.05713	-0.42729**
(p-value)	(0.38)	(0.8242)	(0.0324)
Idio_Vol	-0.68119	-0.1396	-0.77304
(p-value)	(0.4749)	(0.9086)	(0.414)
Target Size	-0.01016***	-0.01126**	-0.00598*
(p-value)	(0.0004)	(0.0162)	(0.0833)
Target Turnover	-0.0001093**	-9.953E-05	6.39E-06
(p-value)	(0.0437)	(0.2347)	(0.9097)
Target NYSE/Amex	0.00201	-0.0072	-0.00221
(p-value)	(0.7837)	(0.5691)	(0.7865)
Target B/M	-0.00592	-0.02249	-0.00442
(p-value)	(0.4545)	(0.1436)	(0.5751)
Target Runup	0.00112	0.01278	-0.0005635
(p-value)	(0.9416)	(0.6182)	(0.9673)
Target Markup	-0.03544***	-0.02726*	-0.03334***
(p-value)	(0.0023)	(0.0799)	(0.0057)
Collar	-0.03142**	-0.04158***	0.01541
(p-value)	(0.0225)	(0.0071)	(0.474)
Toehold Exist	0.00599	0.04371	-0.00228
(p-value)	(0.7271)	(0.1374)	(0.929)
Horizontal	0.00993	0.00344	0.01209
(p-value)	(0.1583)	(0.7533)	(0.1166)
Tender Offer	-0.0001802	0.01119	-0.00402
(p-value)	(0.9775)	(0.4952)	(0.5432)
Cash Bid	0.02184**		
(p-value)	(0.0017)		
Hostile	-0.00788	0.02289	-0.03221
(p-value)	(0.6749)	(0.4867)	(0.1042)
Multiple Bidders	0.01296	0.03541*	-0.01747
(p-value)	(0.2434)	(0.0916)	(0.1386)
Rumor	0.00232	-0.0001659	-0.00817
(p-value)	(0.8167)	(0.9922)	(0.5009)
Complete	0.02769**	0.0376**	0.01108
(p-value)	(0.01)	(0.017)	(0.3819)
Adj-R^2	0.2281	0.2125	0.0838
Year Dummies	Yes	Yes	Yes
Industry Dummies	Yes	Yes	Yes
Number of Cases	572	284	288

Table 2-83 Logistic Model Estimation of the Probability that the deal will be a cash-only offer versus a deal being a non-cash-only offer while controlling for idiosyncratic volatility

The AIV-Bidder (Target) and VIV- Bidder (Target) are the mean and standard deviation of the Implied Volatilities of Bidder (Target) Companies estimated over the runup period [-42,-2].]. The idiosyncratic volatility is estimated as the standard deviation of the market adjusted residuals of the daily returns measured during the period spanning 256 trading days before the announcement to 43 trading days before the announcement [-256, -43]. Target (Acquirer) Size is the logarithm of the target (acquirer) market value of equity 42 days before the announcement and target (acquirer) turnover is the ratio of the target (acquirer) volume to share outstanding estimated 42 days before the announcement. Target (acquirer) B/M is constructed as the ratio of the nearest target stock book value divided by the target stock price 42 days before the announcement. Relative size is the ratio of the target size divided by the acquirer size (in log terms). NYSE/AMEX, Collar, Tender Offer, Cash-Only, Hostile, Rumor, and Complete are dummy variables that respectively take the value of 1 if the Target (Acquirer) is listed on NYSE/AMEX, the deal has a collar, the deal is a tender offer, the deal is financed by Cash only, the deal is hostile, the deal is preceded by a rumor and the deal is completed successfully. Horizontal is a dummy variable that takes a value of 1 if the bidder and target share the same four-digit Standard Industrial Classification (SIC) Code. The Toehold dummy takes a value of one if the bidder own more than 5% of target before the announcement day. Multibid dummy takes a value of 1 if there are multiple Bidders within the same contest (a contest is a 6-Month period from the first bidder's bid). The p-values are given underneath and are the MLE p-values. The *, **, *** indicate significance at 1%, 5%, and 10% respectively.

The Idiosyncratic Volatility is estimated over the [-256,-43] window

Independent Variable	AIV-Target	VIV-Target	AIV-Target and VIV-Target	AIV-Bidder	VIV-Bidder	AIV-Bidder and VIV-Bidder
Constant	-1.173	-2.7907	-1.1181	5.0038	5.3053	5.6698
(p-value)	(0.9074)	(0.7821)	(0.9119)	(0.5768)	(0.5563)	(0.5279)
AIV-Variable	-3.3871***		-3.6713***	-5.2093***		-6.9237***
(p-value)	(0.0001)		(0.0005)	(0.0021)		(0.0003)
VIV-Variable		-2.881*	1.01		0.4004	9.9425*
(p-value)		(0.0963)	(0.6165)		(0.9284)	(0.0733)
Idiosyncratic Volatility	-43.1916***	-76.7137***	-40.4383***	-50.2445**	-115.8***	-39.8615
(p-value)	(0.0017)	(<.0001)	(0.0065)	(0.0474)	(<.0001)	(0.1205)
Target Size	-1.0332	-0.8998	-1.0288	-0.2332	-0.147	-0.2178
(p-value)	(0.1447)	(0.2016)	(0.1472)	(0.7017)	(0.8099)	(0.7206)
Target Turnover	0.0029	0.00333	2.81E-03	0.00118	0.00215	0.00103
(p-value)	(0.2714)	(0.2206)	(0.2878)	(0.7058)	(0.4808)	(0.7406)
Target NYSE/Amex	-0.3841	-0.4387*	-0.3774	-0.1339	-0.1429	-0.0883
(p-value)	(0.1494)	(0.0967)	(0.1569)	(0.6125)	(0.5861)	(0.7401)
Target B/M	0.4084	0.4054	0.3844	0.4538	0.4002	0.439
(p-value)	(0.2477)	(0.2294)	(0.2837)	(0.179)	(0.2364)	(0.2008)
Acquirer Size	0.9133	0.8653	0.9101	0.1815	0.1164	0.152
(p-value)	(0.1402)	(0.161)	(0.1424)	(0.7356)	(0.8291)	(0.7776)
Acquirer Turnover	-0.00711	-0.00717	-0.00732	0.0114	0.00356	0.0114
(p-value)	(0.5196)	(0.491)	(0.5103)	(0.3183)	(0.7397)	(0.3001)
Acquirer NYSE/Amex	-0.2663	-0.2046	-0.2701	-0.2544	-0.203	-0.2542
(p-value)	(0.2527)	(0.3705)	(0.2463)	(0.2717)	(0.3737)	(0.274)
Acquirer B/M	0.8213*	0.7965	0.8083	0.3866	0.2012	0.2944
(p-value)	(0.0981)	(0.1036)	(0.1043)	(0.4588)	(0.6963)	(0.5774)
Relative Size	4.0109	3.9284	3.9607	-2.5884	-3.6647	-2.9695
(p-value)	(0.7205)	(0.7262)	(0.7245)	(0.7921)	(0.7106)	(0.7625)
Collar	-2.3442***	-2.2466***	-2.3476***	-2.454***	-2.361***	-2.4538***
(p-value)	(0.0006)	(0.0007)	(0.0006)	(0.0002)	(0.0003)	(0.0002)
Toehold Exist	-0.7059			-0.742		
(p-value)	(0.3671)			(0.3134)		
Horizontal	-0.5588**	-0.5513**	-0.557**	-0.5269**	-0.5246**	-0.5329**
(p-value)	(0.0315)	(0.0326)	(0.032)	(0.0429)	(0.0413)	(0.0412)
Tender Offer	1.762***	1.6568***	1.7611***	1.6322***	1.5723***	1.6697***
(p-value)	(<.0001)	(<.0001)	(<.0001)	(<.0001)	(<.0001)	(<.0001)
Hostile	-0.1959	-0.2717	-0.1815	0.0204	0.0341	0.0466
(p-value)	(0.7401)	(0.6556)	(0.7581)	(0.9737)	(0.9569)	(0.9402)
Multiple Bidders	0.8323**	0.9957***	0.8098**	1.0598***	1.1285***	1.0631***
(p-value)	(0.0214)	(0.0064)	(0.0264)	(0.0039)	(0.002)	(0.0038)
Rumor	0.526	0.5002	0.5284	0.1405	0.065	0.1176
(p-value)	(0.2187)	(0.2348)	(0.2167)	(0.7369)	(0.8771)	(0.7779)
Adj-R^2	0.3649	0.3504	0.3652	0.3692	0.3582	0.3731
Year Dummies	No	No	No	No	No	No
Industry Dummies	No	No	No	No	No	No
Number of Cases	572	572	572	572	572	572

Table 2-84 Logistic Model Estimation of the Probability that the deal will be a completed successfully on AIV- (Bidder) Target and VIV- (Bidder) Target with Idiosyncratic Volatility used as Control Variable.

The AIV-Bidder (Target) and VIV- Bidder (Target) are the mean and standard deviation of the Implied Volatilities of Bidder (Target) Companies estimated over the runup period [-42,-2]. The idiosyncratic volatility is estimated as the standard deviation of the market adjusted residuals of the daily returns measured during the period spanning 256 trading days before the announcement to 43 trading days before the announcement [-256, -43]. Target Size is the logarithm of the target (acquirer) market value of equity 42 days before the announcement and target turnover is the ratio of the target volume to share outstanding estimated 42 days before the announcement. Target (acquirer) B/M is constructed as the ratio of the nearest target stock book value divided by the target stock price 42 days before the announcement. Target runup is defined as the ratio of the target (acquirer) price 2 days before the announcement divided by the target (acquirer) price 42 days before the announcement [$(P_{-2} / P_{-42}) - 1$]. Target markup is defined as the ratio of the offer price divided by the target (acquirer) price 2 days before the announcement [$(Offer\text{-}Price / P_{-2}) - 1$]. NYSE/AMEX, Collar, Tender Offer, Cash-Only, Hostile, Rumor, and Complete are dummy variables that respectively take the value of 1 if the Target is listed on NYSE/AMEX, the deal has a collar, the deal is a tender offer, the deal is financed by Cash only, the deal is hostile, the deal is preceded by a rumor and the deal is completed successfully. Horizontal is a dummy variable that takes a value of 1 if the bidder and target share the same four-digit Standard Industrial Classification (SIC) Code. The Toehold dummy takes a value of one if the bidder own more than 5% of target before the announcement day. Multibid dummy takes a value of 1 if there are multiple Bidders within the same contest (a contest is a 6-Month period from the first bidder's bid). The p-values are given underneath and are the MLE p-values. The *, **, *** indicate significance at 1%, 5%, and 10% respectively.

The Idiosyncratic Volatility is estimated over the [-256,-43] window

Deal-Type	AIV-Target	VIV-Target	AIV-Target and VIV-Target	AIV-Bidder	VIV-Bidder	AIV-Bidder and VIV-Bidder
Constant	0.351	-0.952	-0.0899	0.3433	0.1556	0.3639
(p-value)	(0.8705)	(0.6621)	(0.9673)	(0.8647)	(0.9383)	(0.8571)
AIV-Variable	-1.4787		-2.2326**	-1.6347		-1.904
(p-value)	(0.1191)		(0.0401)	(0.3012)		(0.2947)
VIV-Variable		1.8052	4.1125		-1.0845	1.9262
(p-value)		(0.4907)	(0.158)		(0.8414)	(0.7587)
Idiosyncratic Volatility	16.8452	-1.0939	24.942	3.0154	-17.2026	4.7351
(p-value)	(0.2862)	(0.9224)	(0.1465)	(0.9012)	(0.1897)	(0.8506)
Target Size	0.1968	0.2654*	0.2238	0.2252	0.2268	0.2235
(p-value)	(0.1742)	(0.0717)	(0.1295)	(0.1099)	(0.1074)	(0.1138)
Target Turnover	-0.00011	-0.00047	-5.40E-04	0.00007	0.000216	0.000045
(p-value)	(0.9754)	(0.8943)	(0.8806)	(0.9848)	(0.9525)	(0.9903)
Target NYSE/Amex	-0.5587*	-0.5446	-0.5398	-0.6651**	-0.6526**	-0.6557**
(p-value)	(0.0957)	(0.1052)	(0.1109)	(0.0443)	(0.0493)	(0.0481)
Target B/M	-0.6918*	-0.7641**	-0.7398**	-0.6588*	-0.6624*	-0.6653*
(p-value)	(0.0505)	(0.0359)	(0.036)	(0.0705)	(0.0696)	(0.0684)
Target Runup	0.7502	0.7553	0.6082	0.7534	0.7627	0.7534
(p-value)	(0.2381)	(0.2332)	(0.3479)	(0.2186)	(0.2147)	(0.2201)
Target Markup	-0.364	-0.4162	-0.3025	-0.3817	-0.4439	-0.3726
(p-value)	(0.4157)	(0.3515)	(0.5017)	(0.3929)	(0.3177)	(0.4052)
Collar	0.724	0.7704	0.752	0.7041	0.7361	0.6962
(p-value)	(0.2648)	(0.232)	(0.2458)	(0.2797)	(0.2558)	(0.2861)
Toehold Exist	-1.4158**	-1.4712**	-1.4679**	-1.5204**	-1.5371**	-1.5038**
(p-value)	(0.0446)	(0.0347)	(0.0396)	(0.0306)	(0.029)	(0.033)
Horizontal	-0.1118	-0.0979	-0.1221	-0.0147	-0.0403	-0.0211
(p-value)	(0.7257)	(0.7591)	(0.703)	(0.9637)	(0.9)	(0.9478)
Tender Offer	1.5145***	1.3558***	1.5112***	1.4293***	1.4068***	1.4269***
(p-value)	(0.0006)	(0.0014)	(0.0007)	(0.0008)	(0.0009)	(0.0008)
Cash Bid	0.1004			-0.0776		
(p-value)	(0.7507)			(0.8148)		
Hostile	-3.7016***	-3.6356***	-3.7202***	-3.6585***	-3.6635***	-3.6492***
(p-value)	(<.0001)	(<.0001)	(<.0001)	(<.0001)	(<.0001)	(<.0001)
Multiple Bidders	-2.8344***	-2.7803***	-2.9251***	-2.7375***	-2.7238***	-2.7307***
(p-value)	(<.0001)	(<.0001)	(<.0001)	(<.0001)	(<.0001)	(<.0001)
Rumor	0.5399	0.487	0.539	0.4567	0.4477	0.4518
(p-value)	(0.4041)	(0.4445)	(0.4073)	(0.4743)	(0.4839)	(0.4792)
Adj-R^2	0.2018	0.1992	0.2050	0.2030	0.2016	0.2031
Year Dummies	No	No	No	No	No	No
Industry Dummies	No	No	No	No	No	No
Number of Cases	572	284	288	572	284	288

2.20 Appendix M – Tests Performed with AIV and VIV as main explanatory Variables with idiosyncratic volatility as Control – Idiosyncratic Volatility Estimated over the [-256, -2] interval – AIV and VIV are orthogonalizedd against the Idiosyncratic Volatility

Table 2-85 Cross-sectional Regression of Bidder Announcement CAR on AIV-Target and VIV-Target with Divergence of Opinion used as Control Variable

Bidder CAR is equal to the sum of Bidder Abnormal Return ($AR_{i,t}$) estimated over the announcement period [-1,+1]. ARi,t is equal to $ER_{i,t} - (\alpha_i + \beta_i ER_{M,t})$. $ER_{i,t}$ is the bidder company 'i' return on day 't' above the risk free rate on that day. $ER_{M,t}$ is the CRSP Value Weighted Index return on day 't' in excess of the risk free rate on that day. The model's components (α_i, β_i) are obtained by estimating the model $(R_{i,t} = \alpha_i + \beta_i R_{M,t} + e_{i,t})$ over the [-256; -43]. The AIV-Target and VIV-Target are the mean and standard deviation of the Implied Volatilities of Target firms estimated over the runup period [-42,-2]. The idiosyncratic volatility is estimated as the standard deviation of the market adjusted residuals of the daily returns measured during the period spanning 256 trading days before the announcement to 2 trading days before the announcement [-256, -2]. The AIV (and VIV) used in our regressions are the residuals obtain after regressing the AIV (and VIV) on the corresponding idiosyncratic volatility. Target Size is the logarithm of the target market value of equity 42 days before the announcement and target turnover is the ratio of the target volume to share outstanding estimated 42 days before the announcement. Target B/M is constructed as the ratio of the nearest target stock book value divided by the target stock price 42 days before the announcement. Target runup is defined as the ratio of the target price 2 days before the announcement divided by the target price 42 days before the announcement [(P_{-2} / P_{-42}) - 1]. Target markup is defined as the ratio of the offer price divided by the target price 2 days before the announcement [(Offer-Price / P_{-2}) - 1]. NYSE/AMEX, Collar, Tender Offer, Cash-Only, Hostile, Rumor, and Complete are dummy variables that respectively take the value of 1 if the Target is listed on NYSE/AMEX, the deal has a collar, the deal is a tender offer, the deal is financed by Cash only, the deal is hostile, the deal is preceded by a rumor and the deal is completed successfully. Horizontal is a dummy variable that takes a value of 1 if the bidder and target share the same four-digit Standard Industrial Classification (SIC) Code. The Toehold dummy takes a value of one if the bidder own more than 5% of target before the announcement day. Multibid dummy takes a value of 1 if there are multiple Bidders within the same contest (a contest is a 6-Month period from the first bidder's bid). Industry and year dummies corresponding to the target two-digit SIC codes and to the announcement year. The p-values are given underneath and are the White Heteroscedasticity consistent p-values. The *, **, *** indicate significance at 1%, 5%, and 10% respectively.

The Idiosyncratic Volatility is estimated over the [-256,-2] window

	Target AIV Related Tests			Target VIV Related Tests		
Deal-Type	All Control Bids	Non-Cash-Only Control Bids	Cash-Only Control Bids	All Control Bids	Non-Cash-Only Control Bids	Cash-Only Control Bids
Constant	0.16554***	0.07782	0.13888**	0.12472**	0.05563	0.15108**
(p-value)	(0.0028)	(0.3797)	(0.0219)	(0.0256)	(0.4956)	(0.0156)
AIV-Target	-0.05811	-0.04851	0.05806**			
(p-value)	(0.2934)	(0.191)	(0.0282)			
VIV-Target				-0.02753	-0.05448	0.00744
(p-value)				(0.5261)	(0.4573)	(0.8785)
Idio_Vol	-0.58342	-0.42326	-0.2392	-0.34592	-0.4021	-0.36171
(p-value)	(0.5228)	(0.3913)	(0.4404)	(0.2621)	(0.4161)	(0.2368)
Target Size	-0.01046***	-0.01128**	-0.00565	-0.00997***	-0.01064**	-0.00792**
(p-value)	(0.0003)	(0.0224)	(0.1211)	(0.0012)	(0.0294)	(0.0299)
Target Turnover	-0.0001122	-0.0001509***	-8.33E-06	-0.0001338***	-0.0001465**	0.0000307
(p-value)	(0.035)	(0.0095)	(0.9057)	(0.0083)	(0.0115)	(0.6491)
Target NYSE/Amex	0.00251	8.019E-05	-0.00137	0.00356	-0.0001291	-0.00189
(p-value)	(0.734)	(0.9953)	(0.866)	(0.6381)	(0.9924)	(0.8152)
Target B/M	-0.00621	-0.01976	-0.00562	-0.00746	-0.02163	-0.00466
(p-value)	(0.433)	(0.2144)	(0.4865)	(0.3648)	(0.1647)	(0.5637)
Target Runup	0.0007529	0.01222	-0.00144	0.00499	0.01503	-0.00401
(p-value)	(0.9609)	(0.6535)	(0.9171)	(0.7529)	(0.5747)	(0.7784)
Target Markup	-0.03522***	-0.02703	-0.0394***	-0.03368***	-0.0286*	-0.03509***
(p-value)	(0.0024)	(0.1007)	(0.0019)	(0.0044)	(0.0822)	(0.0055)
Collar	-0.03203**	-0.03778**	0.02306	-0.02762*	-0.03603**	0.02408
(p-value)	(0.0227)	(0.0235)	(0.2867)	(0.0623)	(0.0305)	(0.2978)
Toehold Exist	0.0067	0.05028*	-0.00311	0.01374	0.05686*	-0.0008372
(p-value)	(0.6958)	(0.0936)	(0.9068)	(0.4312)	(0.0532)	(0.9744)
Horizontal	0.00929	-0.00314	0.01253	0.00627	-0.00309	0.01155
(p-value)	(0.1914)	(0.783)	(0.101)	(0.3797)	(0.7876)	(0.1314)
Tender Offer	6.152E-05	0.02002	-0.00219	0.00218	0.01926	-0.0004021
(p-value)	(0.9923)	(0.2276)	(0.7413)	(0.7349)	(0.2508)	(0.9513)
Cash Bid	0.02174***			0.02977***		
(p-value)	(0.0019)			(<.0001)		
Hostile	-0.00744	0.01672	-0.0334*	-0.01052	0.01979	-0.03257*
(p-value)	(0.6916)	(0.6314)	(0.073)	(0.5911)	(0.5744)	(0.096)
Multiple Bidders	0.01325	0.03057	-0.01195	0.01144	0.03339	-0.01379
(p-value)	(0.2356)	(0.1399)	(0.3155)	(0.2937)	(0.1019)	(0.2568)
Rumor	0.0025	0.01011	-0.0053	0.00651	0.00894	-0.00505
(p-value)	(0.8029)	(0.5611)	(0.6656)	(0.5191)	(0.6044)	(0.6783)
Complete	0.02709**	0.04371***	0.00969	0.03087***	0.04465***	0.01097
(p-value)	(0.0129)	(0.0054)	(0.448)	(0.005)	(0.0044)	(0.4043)
Adj-R^2	0.2279	0.1568	0.0812	0.2047	0.1533	0.069
Year Dummies	Yes	Yes	Yes	Yes	Yes	Yes
Industry Dummies	Yes	Yes	Yes	Yes	Yes	Yes
Number of Cases	572	284	288	572	284	288

Table 2-86 Cross-sectional Regression of Bidder Announcement CAR CAR on AIV-Bidder (Target) and VIV-Bidder (Target) while controlling for Idiosyncratic Volatility

Bidder CAR is equal to the sum of Bidder Abnormal Return ($AR_{i,t}$) estimated over the announcement period [-1,+1]. ARi,t is equal to $ER_{i,t} - (\alpha_i + \beta_i ER_{M,t})$. $ER_{i,t}$ is the bidder company 'i' return on day 't' above the risk free rate on that day. $ER_{M,t}$ is the CRSP Value Weighted Index return on day 't' in excess of the risk free rate on that day. The model's components (α_i, β_i) are obtained by estimating the model $(R_{i,t} = \alpha_i + \beta_i R_{M,t} + e_{i,t})$ over the [-256; -43]. The idiosyncratic volatility is estimated as the standard deviation of the market adjusted residuals of the daily returns measured during the period spanning 256 trading days before the announcement to 2 trading days before the announcement [-256, -2]. The AIV (and VIV) used in our regressions are the residuals obtain after regressing the AIV (and VIV) on the corresponding idiosyncratic volatility. Target Size is the logarithm of the target market value of equity 42 days before the announcement and target turnover is the ratio of the target volume to share outstanding estimated 42 days before the announcement. Target B/M is constructed as the ratio of the nearest target stock book value divided by the target stock price 42 days before the announcement. Target runup is defined as the ratio of the target price 2 days before the announcement divided by the target price 42 days before the announcement [(P_{-2} / P_{-42}) - 1]. Target markup is defined as the ratio of the offer price divided by the target price 2 days before the announcement [(Offer-Price / P_{-2}) - 1]. NYSE/AMEX, Collar, Tender Offer, Cash-Only, Hostile, Rumor, and Complete are dummy variables that respectively take the value of 1S if the Target is listed on NYSE/AMEX, the deal has a collar, the deal is a tender offer, the deal is financed by Cash only, the deal is hostile, the deal is preceded by a rumor and the deal is completed successfully. Horizontal is a dummy variable that takes a value of 1 if the bidder and target share the same four-digit Standard Industrial Classification (SIC) Code. The Toehold dummy takes a value of one if the bidder own more than 5% of target before the announcement day. Multibid dummy takes a value of 1 if there are multiple Bidders within the same contest (a contest is a 6-Month period from the first bidder's bid). Industry and year dummies corresponding to the target two-digit SIC codes and to the announcement year. The p-values are given underneath and are the White Heteroscedasticity consistent p-values. The *, **, *** indicate significance at 1%, 5%, and 10% respectively.

The Idiosyncratic Volatility is estimated over the [-256,-2] window

	Bidder AIV Related Tests			Bidder VIV Related Tests		
Deal-Type	All Control Bids	Non-Cash-Only Control Bids	Cash-Only Control Bids	All Control Bids	Non-Cash-Only Control Bids	Cash-Only Control Bids
Constant	0.16314***	0.12437	0.09744	0.1596***	0.11295	0.09977
(p-value)	(0.0038)	(0.1009)	(0.1376)	(0.0039)	(0.1354)	(0.1332)
AIV-Variable	-0.04438	-0.12502	0.06814			
(p-value)	(0.4765)	(0.1473)	(0.2261)			
VIV-Variable				-0.18669	-0.2292	-0.1909
(p-value)				(0.2289)	(0.3085)	(0.2636)
Idio_Vol	-1.45052***	-1.97491***	0.64712	-1.39649***	-1.92277***	0.61828
(p-value)	(0.0023)	(0.0006)	(0.3951)	(0.0047)	(0.0019)	(0.4233)
Target Size	-0.01047***	-0.01157**	-0.00575	-0.0101***	-0.01077**	-0.00631*
(p-value)	(0.0003)	(0.013)	(0.1017)	(0.0004)	(0.0197)	(0.0742)
Target Turnover	-0.0001111**	-9.939E-05	5.13E-06	-0.0001069**	-8.338E-05	-2.99E-06
(p-value)	(0.0343)	(0.2267)	(0.9289)	(0.0404)	(0.2964)	(0.9596)
Target NYSE/Amex	0.00235	-0.00701	-0.00146	0.00173	-0.00788	-0.00112
(p-value)	(0.7492)	(0.5847)	(0.8563)	(0.8138)	(0.5411)	(0.8918)
Target B/M	-0.00622	-0.0227	-0.0063	-0.00589	-0.02161	-0.00554
(p-value)	(0.431)	(0.1416)	(0.4286)	(0.4549)	(0.1617)	(0.4853)
Target Runup	0.0008121	0.01271	-0.00398	0.00129	0.01053	-0.00488
(p-value)	(0.9578)	(0.6213)	(0.7689)	(0.9327)	(0.683)	(0.7161)
Target Markup	-0.03571***	-0.02741*	-0.03632***	-0.03653***	-0.03262**	-0.03332***
(p-value)	(0.0021)	(0.0792)	(0.0031)	(0.0016)	(0.0332)	(0.0077)
Collar	-0.03195**	-0.04208***	0.01942	-0.03087**	-0.03678**	0.02178
(p-value)	(0.0229)	(0.0058)	(0.3838)	(0.0243)	(0.0151)	(0.3392)
Toehold Exist	0.00638	0.04363	0.00133	0.00544	0.0437	0.00383
(p-value)	(0.7095)	(0.1375)	(0.96)	(0.7509)	(0.1237)	(0.8775)
Horizontal	0.00929	0.00318	0.01082	0.00989	0.00367	0.01156
(p-value)	(0.1911)	(0.7736)	(0.1631)	(0.1587)	(0.7437)	(0.1425)
Tender Offer	-7.301E-05	0.01059	-0.00212	-0.0005077	0.01015	-0.0017
(p-value)	(0.9909)	(0.5212)	(0.7504)	(0.9359)	(0.5281)	(0.7986)
Cash Bid	0.02156***			0.0219***		
(p-value)	(0.0021)			(0.0017)		
Hostile	-0.00737	0.02365	-0.03717*	-0.00795	0.01856	-0.03493*
(p-value)	(0.6931)	(0.4668)	(0.0652)	(0.6695)	(0.5867)	(0.0931)
Multiple Bidders	0.01333	0.0356*	-0.01656	0.01303	0.03624*	-0.01687
(p-value)	(0.2321)	(0.0905)	(0.1696)	(0.239)	(0.0799)	(0.1547)
Rumor	0.00227	-0.0003627	-0.00859	0.0018	0.000654	-0.00492
(p-value)	(0.8208)	(0.9829)	(0.4815)	(0.8565)	(0.9692)	(0.6857)
Complete	0.02696**	0.03727**	0.00976	0.02773***	0.03909**	0.01185
(p-value)	(0.013)	(0.0195)	(0.4493)	(0.0099)	(0.0121)	(0.3613)
Adj-R^2	0.2287	0.2161	0.0738	0.2303	0.2061	0.0725
Year Dummies	Yes	Yes	Yes	Yes	Yes	Yes
Industry Dummies	Yes	Yes	Yes	Yes	Yes	Yes
Number of Cases	572	284	288	572	284	288

Table 2-87 Cross-sectional Regression of Bidder Announcement CAR on AIV-Bidder and VIV-Bidder while controlling for Idiosyncratic Volatility.

Bidder CAR is equal to the sum of Bidder Abnormal Return ($AR_{i,t}$) estimated over the announcement period [-1,+1]. ARi,t is equal to $ER_{i,t} - (\alpha_i + \beta_i ER_{M,t})$. $ER_{i,t}$ is the bidder company 'i' return on day 't' above the risk free rate on that day. $ER_{M,t}$ is the CRSP Value Weighted Index return on day 't' in excess of the risk free rate on that day. The model's components (α_i, β_i) are obtained by estimating the model $(R_{i,t} = \alpha_i + \beta_i R_{M,t} + e_{i,t})$ over the [-256; -43]. The idiosyncratic volatility is estimated as the standard deviation of the market adjusted residuals of the daily returns measured during the period spanning 256 trading days before the announcement to 2 trading days before the announcement [-256, -2]. The AIV (and VIV) used in our regressions are the residuals obtain after regressing the AIV (and VIV) on the corresponding idiosyncratic volatility. Target Size is the logarithm of the target market value of equity 42 days before the announcement and target turnover is the ratio of the target volume to share outstanding estimated 42 days before the announcement. Target B/M is constructed as the ratio of the nearest target stock book value divided by the target stock price 42 days before the announcement. Target runup is defined as the ratio of the target price 2 days before the announcement divided by the target price 42 days before the announcement [(P_{-2} / P_{-42}) - 1]. Target markup is defined as the ratio of the offer price divided by the target price 2 days before the announcement [(Offer-Price / P_{-2}) - 1]. NYSE/AMEX, Collar, Tender Offer, Cash-Only, Hostile, Rumor, and Complete are dummy variables that respectively take the value of 1S if the Target is listed on NYSE/AMEX, the deal has a collar, the deal is a tender offer, the deal is financed by Cash only, the deal is hostile, the deal is preceded by a rumor and the deal is completed successfully. Horizontal is a dummy variable that takes a value of 1 if the bidder and target share the same four-digit Standard Industrial Classification (SIC) Code. The Toehold dummy takes a value of one if the bidder own more than 5% of target before the announcement day. Multibid dummy takes a value of 1 if there are multiple Bidders within the same contest (a contest is a 6-Month period from the first bidder's bid). Industry and year dummies corresponding to the target two-digit SIC codes and to the announcement year. The p-values are given underneath and are the White Heteroscedasticity consistent p-values. The *, **, *** indicate significance at 1%, 5%, and 10% respectively.

The Idiosyncratic Volatility is estimated over the [-256,-2] window

Deal-Type	All Control Bids	Non-Cash-Only Control Bids	Cash-Only Control Bids
Constant	0.15865***	0.12073	0.09895
(p-value)	(0.0045)	(0.1094)	(0.1318)
AIV-Bidder	-0.02025	-0.11696	0.13317**
(p-value)	(0.7775)	(0.2274)	(0.0388)
VIV-Bidder	(-0.15867)	-0.05927	-0.41332**
(p-value)	(0.3694)	(0.8166)	(0.0386)
Idio_Vol	-1.41064***	-1.96657***	0.71422
(p-value)	(0.0032)	(0.0007)	(0.3449)
Target Size	-0.01015***	-0.01129**	-0.00597*
(p-value)	(0.0004)	(0.0161)	(0.0858)
Target Turnover	-0.0001084**	-9.761E-05	4.84E-06
(p-value)	(0.0423)	(0.242)	(0.9315)
Target NYSE/Amex	0.00184	-0.00734	-0.00221
(p-value)	(0.8006)	(0.5614)	(0.7859)
Target B/M	-0.00594	-0.02248	-0.00463
(p-value)	(0.4521)	(0.144)	(0.5564)
Target Runup	0.00121	0.01263	-0.00101
(p-value)	(0.9368)	(0.6231)	(0.9411)
Target Markup	-0.03592***	-0.02765*	-0.0335***
(p-value)	(0.002)	(0.077)	(0.006)
Collar	-0.03134**	-0.0414***	0.01602
(p-value)	(0.0226)	(0.0072)	(0.4575)
Toehold Exist	0.00566	0.04355	-0.0016
(p-value)	(0.7414)	(0.1377)	(0.9502)
Horizontal	0.00994	0.00351	0.01189
(p-value)	(0.1575)	(0.7489)	(0.1201)
Tender Offer	-0.0003062	0.0109	-0.00374
(p-value)	(0.9617)	(0.5058)	(0.5719)
Cash Bid	0.02167***		
(p-value)	(0.0019)		
Hostile	-0.00783	0.02272	-0.03241
(p-value)	(0.6758)	(0.491)	(0.1032)
Multiple Bidders	0.01302	0.03554*	-0.01763
(p-value)	(0.2402)	(0.0902)	(0.1349)
Rumor	0.0021	-0.0002308	-0.00785
(p-value)	(0.8334)	(0.9891)	(0.5175)
Complete	0.02757**	0.03752**	0.01139
(p-value)	(0.0101)	(0.0174)	(0.3681)
Adj-R^2	0.229	0.2127	0.0826
Year Dummies	Yes	Yes	Yes
Industry Dummies	Yes	Yes	Yes
Number of Cases	572	284	288

Table 2-88 Logistic Model Estimation of the Probability that the deal will be a cash-only offer versus a deal being a non-cash-only offer while controlling for Idiosyncratic Volatility.

The AIV-Bidder (Target) and VIV- Bidder (Target) are the mean and standard deviation of the Implied Volatilities of Bidder (Target) Companies estimated over the runup period [-42,-2].]. The idiosyncratic volatility is estimated as the standard deviation of the market adjusted residuals of the daily returns measured during the period spanning 256 trading days before the announcement to 2 trading days before the announcement [-256, -2]. The AIV (and VIV) used in our regressions are the residuals obtain after regressing the AIV (and VIV) on the corresponding idiosyncratic volatility. Target (Acquirer) Size is the logarithm of the target (acquirer) market value of equity 42 days before the announcement and target (acquirer) turnover is the ratio of the target (acquirer) volume to share outstanding estimated 42 days before the announcement. Target (acquirer) B/M is constructed as the ratio of the nearest target stock book value divided by the target stock price 42 days before the announcement. Relative size is the ratio of the target size divided by the acquirer size (in log terms). NYSE/AMEX, Collar, Tender Offer, Cash-Only, Hostile, Rumor, and Complete are dummy variables that respectively take the value of 1 if the Target (Acquirer) is listed on NYSE/AMEX, the deal has a collar, the deal is a tender offer, the deal is financed by Cash only, the deal is hostile, the deal is preceded by a rumor and the deal is completed successfully. Horizontal is a dummy variable that takes a value of 1 if the bidder and target share the same four-digit Standard Industrial Classification (SIC) Code. The Toehold dummy takes a value of one if the bidder own more than 5% of target before the announcement day. Multibid dummy takes a value of 1 if there are multiple Bidders within the same contest (a contest is a 6-Month period from the first bidder's bid). The p-values are given underneath and are the MLE p-values. The *, **, *** indicate significance at 1%, 5%, and 10% respectively.

The Idiosyncratic Volatility is estimated over the [-256,-2] window

Independent Variable	AIV-Target	VIV-Target	AIV-Target and VIV-Target	AIV-Bidder	VIV-Bidder	AIV-Bidder and VIV-Bidder
Constant	-0.2295	-2.1217	-0.1056	4.7287	5.6118	5.3357
(p-value)	(0.9816)	(0.831)	(0.9916)	(0.5986)	(0.5347)	(0.5534)
AIV-Variable	-3.8781***		-4.5472***	-4.6212**		-6.3541***
(p-value)	(<.0001)		(<.0001)	(0.0113)		(0.0019)
VIV-Variable		-2.1456	2.2233		2.1739	10.0099*
(p-value)		(0.2172)	(0.267)		(0.6412)	(0.073)
Idiosyncratic Volatility	-78.9956***	-70.4798***	-79.4271***	-126.8***	-123.8***	-128.3***
(p-value)	(<.0001)	(<.0001)	(<.0001)	(<.0001)	(<.0001)	(<.0001)
Target Size	-0.9012	-0.7603	-0.8993	-0.2344	-0.1553	-0.2227
(p-value)	(0.1964)	(0.2723)	(0.1999)	(0.7007)	(0.7999)	(0.7153)
Target Turnover	0.00245	0.00263	0.00235	0.00117	0.00195	0.00105
(p-value)	(0.3504)	(0.3255)	(0.3703)	(0.7121)	(0.5297)	(0.739)
Target NYSE/Amex	-0.365	-0.402	-0.356	-0.1536	-0.1548	-0.1099
(p-value)	(0.1693)	(0.1257)	(0.1801)	(0.5637)	(0.5592)	(0.6818)
Target B/M	0.3863	0.407	0.3331	0.4334	0.3832	0.4193
(p-value)	(0.273)	(0.2335)	(0.3536)	(0.1954)	(0.2533)	(0.2178)
Acquirer Size	0.8162	0.7805	0.8143	0.1867	0.1203	0.16
(p-value)	(0.1812)	(0.1986)	(0.1848)	(0.7286)	(0.8239)	(0.7668)
Acquirer Turnover	-0.00746	-0.00778	-0.00783	0.0112	0.00412	0.0113
(p-value)	(0.5011)	(0.4533)	(0.4854)	(0.3255)	(0.6991)	(0.307)
Acquirer NYSE/Amex	-0.2564	-0.2039	-0.2635	-0.2411	-0.1906	-0.2413
(p-value)	(0.2693)	(0.3691)	(0.2567)	(0.2984)	(0.4062)	(0.3001)
Acquirer B/M	0.8802*	0.851*	0.8455*	0.366	0.1695	0.2696
(p-value)	(0.0736)	(0.0791)	(0.0872)	(0.4843)	(0.7443)	(0.6112)
Relative Size	2.0925	2.2691	2.0523	-2.5345	-3.5182	-2.8624
(p-value)	(0.8499)	(0.8371)	(0.8537)	(0.7967)	(0.7222)	(0.7713)
Collar	-2.3315***	-2.2244***	-2.3358***	-2.396***	-2.3061***	-2.391***
(p-value)	(0.0005)	(0.0007)	(0.0005)	(0.0003)	(0.0004)	(0.0003)
Toehold Exist	-0.5483	-0.353	-0.6134	-0.7773	-0.8854	-0.7158
(p-value)	(0.4602)	(0.6439)	(0.4127)	(0.2915)	(0.2448)	(0.333)
Horizontal	-0.596**	-0.6073**	-0.5886**	-0.5223**	-0.5152**	-0.5287**
(p-value)	(0.0212)	(0.0178)	(0.023)	(0.0452)	(0.0461)	(0.0433)
Tender Offer	1.7858***	1.6475***	1.7922***	1.6704***	1.628***	1.7074***
(p-value)	(<.0001)	(<.0001)	(<.0001)	(<.0001)	(<.0001)	(<.0001)
Hostile	-0.4307	-0.482	-0.4102	-0.1196	-0.0939	-0.0955
(p-value)	(0.4811)	(0.4446)	(0.5001)	(0.8527)	(0.8863)	(0.8826)
Multiple Bidders	0.7386*	1.0693***	0.658	0.9598**	1.0359***	0.9571**
(p-value)	(0.0578)	(0.0059)	(0.0972)	(0.0147)	(0.0078)	(0.0148)
Rumor	0.5336	0.4808	0.5425	0.1428	0.0593	0.1195
(p-value)	(0.2121)	(0.2508)	(0.2056)	(0.7338)	(0.8879)	(0.7754)
Complete	-0.3313	-0.1874	-0.3699	-0.2709	-0.251	-0.2864
(p-value)	(0.3349)	(0.5795)	(0.2865)	(0.4354)	(0.466)	(0.411)
Adj-R^2	0.3594	0.3406	0.3608	0.3709	0.3638	0.3747
Year Dummies	No	No	No	No	No	No
Industry Dummies	No	No	No	No	No	No
Number of Cases	572	572	572	572	572	572

Table 2-89 Logistic Model Estimation of the Probability that the deal will be a completed successfully on AIV- (Bidder) Target and VIV- (Bidder) Target with Idiosyncratic Volatility used as Control Variable.

The AIV-Bidder (Target) and VIV- Bidder (Target) are the mean and standard deviation of the Implied Volatilities of Bidder (Target) Companies estimated over the runup period [-42,-2]. The idiosyncratic volatility is estimated as the standard deviation of the market adjusted residuals of the daily returns measured during the period spanning 256 trading days before the announcement to 2 trading days before the announcement [-256, -2]. The AIV (and VIV) used in our regressions are the residuals obtain after regressing the AIV (and VIV) on the corresponding idiosyncratic volatility. Target Size is the logarithm of the target (acquirer) market value of equity 42 days before the announcement and target turnover is the ratio of the target volume to share outstanding estimated 42 days before the announcement. Target (acquirer) B/M is constructed as the ratio of the nearest target stock book value divided by the target stock price 42 days before the announcement. Target runup is defined as the ratio of the target (acquirer) price 2 days before the announcement divided by the target (acquirer) price 42 days before the announcement [$(P_{-2} / P_{-42}) - 1$]. Target markup is defined as the ratio of the offer price divided by the target (acquirer) price 2 days before the announcement [(Offer-Price / P_{-2}) - 1]. NYSE/AMEX, Collar, Tender Offer, Cash-Only, Hostile, Rumor, and Complete are dummy variables that respectively take the value of 1 if the Target is listed on NYSE/AMEX, the deal has a collar, the deal is a tender offer, the deal is financed by Cash only, the deal is hostile, the deal is preceded by a rumor and the deal is completed successfully. Horizontal is a dummy variable that takes a value of 1 if the bidder and target share the same four-digit Standard Industrial Classification (SIC) Code. The Toehold dummy takes a value of one if the bidder own more than 5% of target before the announcement day. Multibid dummy takes a value of 1 if there are multiple Bidders within the same contest (a contest is a 6-Month period from the first bidder's bid). The p-values are given underneath and are the MLE p-values. The *, **, *** indicate significance at 1%, 5%, and 10% respectively.

The Idiosyncratic Volatility is estimated over the [-256,-2] window

Deal-Type	AIV-Target	VIV-Target	AIV-Target and VIV-Target	AIV-Bidder	VIV-Bidder	AIV-Bidder and VIV-Bidder
Constant	0.2828	-0.6622	-0.0397	0.2279	0.1914	0.248
(p-value)	(0.8935)	(0.7551)	(0.9852)	(0.9095)	(0.9241)	(0.9019)
AIV-Variable	-1.3619		-2.0276*	-1.4137		-1.6533
(p-value)	(0.1836)		(0.0772)	(0.4174)		(0.3995)
VIV-Variable		1.9382	3.6978		-0.5578	1.6967
(p-value)		(0.4675)	(0.1949)		(0.9196)	(0.7852)
Idiosyncratic Volatility	-5.2152	-2.3885	-3.8051	-20.6256*	-20.285*	-20.3722
(p-value)	(0.6142)	(0.818)	(0.7121)	(0.0946)	(0.0995)	(0.1002)
Target Size	0.1931	0.2563*	0.2166	0.2243	0.2269	0.2226
(p-value)	(0.1838)	(0.0796)	(0.1428)	(0.1113)	(0.1073)	(0.1152)
Target Turnover	0.000111	-0.00024	-0.0002	0.000122	0.000207	0.000106
(p-value)	(0.976)	(0.9475)	(0.9557)	(0.9737)	(0.9545)	(0.9771)
Target NYSE/Amex	-0.5845*	-0.5698*	-0.5757*	-0.668**	-0.6611**	-0.6595**
(p-value)	(0.0807)	(0.0885)	(0.0882)	(0.0435)	(0.0466)	(0.0471)
Target B/M	-0.6943*	-0.7535**	-0.7385**	-0.6565*	-0.6611*	-0.6622*
(p-value)	(0.0508)	(0.0369)	(0.0377)	(0.0714)	(0.0697)	(0.0697)
Target Runup	0.6939	0.7715	0.5343	0.7531	0.76	0.7527
(p-value)	(0.2739)	(0.2219)	(0.4091)	(0.2185)	(0.2157)	(0.2201)
Target Markup	-0.3617	-0.4103	-0.3038	-0.391	-0.442	-0.3832
(p-value)	(0.4181)	(0.3564)	(0.4997)	(0.3818)	(0.3193)	(0.3922)
Collar	0.7445	0.769	0.777	0.7072	0.7313	0.7003
(p-value)	(0.2523)	(0.232)	(0.2323)	(0.2773)	(0.2592)	(0.283)
Toehold Exist	-1.4773**	-1.4501**	-1.5626**	-1.5267**	-1.544**	-1.5118**
(p-value)	(0.0337)	(0.0381)	(0.0254)	(0.0301)	(0.0284)	(0.0322)
Horizontal	-0.0945	-0.0939	-0.096	-0.016	-0.0383	-0.0219
(p-value)	(0.7665)	(0.7681)	(0.764)	(0.9603)	(0.9049)	(0.946)
Tender Offer	1.5104***	1.3766***	1.5092***	1.4276***	1.4113***	1.4254***
(p-value)	(0.0006)	(0.0013)	(0.0006)	(0.0008)	(0.0009)	(0.0008)
Cash Bid	0.0672	0.1222	0.051	-0.0852	-0.0694	-0.0937
(p-value)	(0.8301)	(0.6933)	(0.8716)	(0.7971)	(0.8341)	(0.7784)
Hostile	-3.7067***	-3.6483***	-3.729***	-3.6603***	-3.668***	-3.6518***
(p-value)	(<.0001)	(<.0001)	(<.0001)	(<.0001)	(<.0001)	(<.0001)
Multiple Bidders	-2.8583***	-2.7784***	-2.9561***	-2.7331***	-2.7199***	-2.7272***
(p-value)	(<.0001)	(<.0001)	(<.0001)	(<.0001)	(<.0001)	(<.0001)
Rumor	0.5515	0.4923	0.5557	0.4519	0.4431	0.4473
(p-value)	(0.3929)	(0.4387)	(0.391)	(0.4791)	(0.4886)	(0.4837)
Adj-R^2	0.201	0.1995	0.2037	0.203	0.2021	0.2031
Year Dummies	No	No	No	No	No	No
Industry Dummies	No	No	No	No	No	No
Number of Cases	572	284	288	572	284	288

2.21 Appendix N – Tests Performed with AIV and VIV as main explanatory Variables with idiosyncratic volatility as Control – Idiosyncratic Volatility Estimated over the [-256, -43] interval – AIV and VIV are orthogonalized against the Idiosyncratic Volatility

Table 2-90 Cross-sectional Regression of Bidder Announcement CAR CAR on AIV-Bidder (Target) and VIV-Bidder (Target) while controlling for Idiosyncratic Volatility.

Bidder CAR is equal to the sum of Bidder Abnormal Return ($AR_{i,t}$) estimated over the announcement period [-1,+1]. ARi,t is equal to $ER_{i,t} - (\alpha_i + \beta_i ER_{M,t})$. $ER_{i,t}$ is the bidder company 'i' return on day 't' above the risk free rate on that day. $ER_{M,t}$ is the CRSP Value Weighted Index return on day 't' in excess of the risk free rate on that day. The model's components (α_i, β_i) are obtained by estimating the model $(R_{i,t} = \alpha_i + \beta_i R_{M,t} + e_{i,t})$ over the [-256; -43]. The idiosyncratic volatility is estimated as the standard deviation of the market adjusted residuals of the daily returns measured during the period spanning 256 trading days before the announcement to 43 trading days before the announcement [-256, -43]. The AIV (and VIV) used in our regressions are the residuals obtain after regressing the AIV (and VIV) on the corresponding idiosyncratic volatility. Target Size is the logarithm of the target market value of equity 42 days before the announcement and target turnover is the ratio of the target volume to share outstanding estimated 42 days before the announcement. Target B/M is constructed as the ratio of the nearest target stock book value divided by the target stock price 42 days before the announcement. Target runup is defined as the ratio of the target price 2 days before the announcement divided by the target price 42 days before the announcement [(P_{-2} / P_{-42}) - 1]. Target markup is defined as the ratio of the offer price divided by the target price 2 days before the announcement [(Offer-Price / P_{-2}) - 1]. NYSE/AMEX, Collar, Tender Offer, Cash-Only, Hostile, Rumor, and Complete are dummy variables that respectively take the value of 1S if the Target is listed on NYSE/AMEX, the deal has a collar, the deal is a tender offer, the deal is financed by Cash only, the deal is hostile, the deal is preceded by a rumor and the deal is completed successfully. Horizontal is a dummy variable that takes a value of 1 if the bidder and target share the same four-digit Standard Industrial Classification (SIC) Code. The Toehold dummy takes a value of one if the bidder own more than 5% of target before the announcement day. Multibid dummy takes a value of 1 if there are multiple Bidders within the same contest (a contest is a 6-Month period from the first bidder's bid). Industry and year dummies corresponding to the target two-digit SIC codes and to the announcement year. The p-values are given underneath and are the White Heteroscedasticity consistent p-values. The *, **, *** indicate significance at 1%, 5%, and 10% respectively.

The Idiosyncratic Volatility is estimated over the [-256,-43] window

	Target AIV Related Tests			Target VIV Related Tests		
Deal-Type	All Control Bids	Non-Cash-Only Control Bids	Cash-Only Control Bids	All Control Bids	Non-Cash-Only Control Bids	Cash-Only Control Bids
Constant	0.13249**	0.07732	0.15622**	0.12686**	0.05461	0.1642**
(p-value)	(0.0182)	(0.3805)	(0.0135)	(0.0228)	(0.496)	(0.0116)
AIV-Variable	-0.02122	-0.04445	0.0481**			
(p-value)	(0.309)	(0.192)	(0.045)			
VIV-Variable				-0.03042	-0.05719	0.00441
(p-value)				(0.4856)	(0.4383)	(0.9273)
Idio_Vol	-0.40491	-0.42472	-0.27511	-0.35997	-0.3857	-0.45192
(p-value)	(0.2006)	(0.3646)	(0.3929)	(0.2436)	(0.4103)	(0.1449)
Target Size	-0.01058***	-0.01131**	-0.00659*	-0.01012***	-0.01067**	-0.00842**
(p-value)	(0.0008)	(0.0221)	(0.0717)	(0.001)	(0.0286)	(0.0233)
Target Turnover	-0.0001315**	-0.0001491**	-5.36E-06	-0.0001325***	-0.0001459**	3.441E-05
(p-value)	(0.0121)	(0.0111)	(0.94)	(0.0088)	(0.0116)	(0.6137)
Target NYSE/Amex	0.00332	-0.0001512	-0.00218	0.00333	-0.0001947	-0.00247
(p-value)	(0.6627)	(0.991)	(0.7873)	(0.6614)	(0.9885)	(0.7604)
Target B/M	-0.00772	-0.02011	-0.00623	-0.0077	-0.02174	-0.00494
(p-value)	(0.3516)	(0.2054)	(0.4349)	(0.3451)	(0.1623)	(0.5372)
Target Runup	0.0032	0.01259	-0.00435	0.00461	0.01499	-0.0047
(p-value)	(0.8408)	(0.6423)	(0.7455)	(0.7709)	(0.5759)	(0.74)
Target Markup	-0.03294***	-0.02696*	-0.03941***	-0.03385***	-0.0289*	-0.03512***
(p-value)	(0.0057)	(0.0996)	(0.002)	(0.0041)	(0.0773)	(0.0057)
Collar	-0.02813*	-0.03769**	0.0244	-0.02757*	-0.0359**	0.02484
(p-value)	(0.0579)	(0.0241)	(0.2699)	(0.0627)	(0.0314)	(0.2839)
Toehold Exist	0.01324	0.05125*	-0.00133	0.01355	0.05633*	-0.0007743
(p-value)	(0.4386)	(0.0852)	(0.9582)	(0.4346)	(0.0535)	(0.976)
Horizontal	0.00634	-0.00303	0.01289*	0.00642	-0.00317	0.01174
(p-value)	(0.3756)	(0.7908)	(0.0919)	(0.3698)	(0.7825)	(0.1236)
Tender Offer	0.00249	0.01978	-0.00238	0.00199	0.01925	-0.0004981
(p-value)	(0.7035)	(0.2339)	(0.72)	(0.7568)	(0.2507)	(0.9395)
Cash Bid	0.02926***			0.02955***		
(p-value)	(<.0001)			(<.0001)		
Hostile	-0.01043	0.01715	-0.03139*	-0.01014	0.01964	-0.03135
(p-value)	(0.5934)	(0.6226)	(0.0947)	(0.6038)	(0.5771)	(0.109)
Multiple Bidders	0.00958	0.03083	-0.01493	0.01089	0.03323	-0.01493
(p-value)	(0.3736)	(0.1331)	(0.212)	(0.3164)	(0.1036)	(0.22)
Rumor	0.00694	0.01022	-0.00425	0.00666	0.00893	-0.00424
(p-value)	(0.495)	(0.5557)	(0.7305)	(0.5104)	(0.6046)	(0.729)
Complete	0.03045***	0.04377***	0.00934	0.03094***	0.0447***	0.01088
(p-value)	(0.0055)	(0.0054)	(0.4645)	(0.0049)	(0.0043)	(0.4064)
Adj-R^2	0.2056	0.1566	0.0805	0.2048	0.1534	0.0703
Year Dummies	Yes	Yes	Yes	Yes	Yes	Yes
Industry Dummies	Yes	Yes	Yes	Yes	Yes	Yes
Number of Cases	572	284	288	572	284	288

Table 2-91 Cross-sectional Regression of Bidder Announcement CAR on AIV-Bidder (Target) and VIV-Bidder (Target) while controlling for Idiosyncratic Volatility.

Bidder CAR is equal to the sum of Bidder Abnormal Return ($AR_{i,t}$) estimated over the announcement period [-1,+1]. ARi,t is equal to $ER_{i,t} - (\alpha_i + \beta_i ER_{M,t})$. $ER_{i,t}$ is the bidder company 'i' return on day 't' above the risk free rate on that day. $ER_{M,t}$ is the CRSP Value Weighted Index return on day 't' in excess of the risk free rate on that day. The model's components (α_i, β_i) are obtained by estimating the model $(R_{i,t} = \alpha_i + \beta_i R_{M,t} + e_{i,t})$ over the [-256; -43]. The idiosyncratic volatility is estimated as the standard deviation of the market adjusted residuals of the daily returns measured during the period spanning 256 trading days before the announcement to 43 trading days before the announcement [-256, -43]. The AIV (and VIV) used in our regressions are the residuals obtain after regressing the AIV (and VIV) on the corresponding idiosyncratic volatility. Target Size is the logarithm of the target market value of equity 42 days before the announcement and target turnover is the ratio of the target volume to share outstanding estimated 42 days before the announcement. Target B/M is constructed as the ratio of the nearest target stock book value divided by the target stock price 42 days before the announcement. Target runup is defined as the ratio of the target price 2 days before the announcement divided by the target price 42 days before the announcement [(P_{-2} / P_{-42}) - 1]. Target markup is defined as the ratio of the offer price divided by the target price 2 days before the announcement [(Offer-Price / P_{-2}) - 1]. NYSE/AMEX, Collar, Tender Offer, Cash-Only, Hostile, Rumor, and Complete are dummy variables that respectively take the value of 1S if the Target is listed on NYSE/AMEX, the deal has a collar, the deal is a tender offer, the deal is financed by Cash only, the deal is hostile, the deal is preceded by a rumor and the deal is completed successfully. Horizontal is a dummy variable that takes a value of 1 if the bidder and target share the same four-digit Standard Industrial Classification (SIC) Code. The Toehold dummy takes a value of one if the bidder own more than 5% of target before the announcement day. Multibid dummy takes a value of 1 if there are multiple Bidders within the same contest (a contest is a 6-Month period from the first bidder's bid). Industry and year dummies corresponding to the target two-digit SIC codes and to the announcement year. The p-values are given underneath and are the White Heteroscedasticity consistent p-values. The *, **, *** indicate significance at 1%, 5%, and 10% respectively.

The Idiosyncratic Volatility is estimated over the [-256,-43] window

	Bidder AIV Related Tests			Bidder VIV Related Tests		
Deal-Type	All Control Bids	Non-Cash-Only Control Bids	Cash-Only Control Bids	All Control Bids	Non-Cash-Only Control Bids	Cash-Only Control Bids
Constant	0.15948***	0.12019	0.10002	0.15667***	0.10387	0.10648
(p-value)	(0.0046)	(0.107)	(0.1238)	(0.0049)	(0.1605)	(0.1057)
AIV-Variable	-0.05811	-0.13277*	0.07241			
(p-value)	(0.2934)	(0.0904)	(0.148)			
VIV-Variable				-0.21177	-0.26987	-0.16238
(p-value)				(0.1616)	(0.2187)	(0.3275)
Idio_Vol	-1.35919***	-1.85328***	0.54217	-1.28732***	-1.77779***	0.45033
(p-value)	(0.003)	(0.0008)	(0.4617)	(0.0078)	(0.0035)	(0.5448)
Target Size	-0.01046***	-0.01152**	-0.00576*	-0.01006***	-0.01071**	-0.00651*
(p-value)	(0.0003)	(0.0133)	(0.099)	(0.0005)	(0.0205)	(0.0648)
Target Turnover	-0.0001122**	-0.0001014	6.17E-06	-0.0001062**	-8.284E-05	-3.34E-06
(p-value)	(0.035)	(0.219)	(0.9146)	(0.0437)	(0.3013)	(0.9552)
Target NYSE/Amex	0.00251	-0.00688	-0.00146	0.00186	-0.00762	-0.00107
(p-value)	(0.734)	(0.5918)	(0.8569)	(0.801)	(0.5554)	(0.897)
Target B/M	-0.00621	-0.0227	-0.00617	-0.0058	-0.02136	-0.0053
(p-value)	(0.433)	(0.1413)	(0.4385)	(0.4621)	(0.1653)	(0.5081)
Target Runup	0.0007529	0.01287	-0.00377	0.00122	0.00988	-0.0054
(p-value)	(0.9609)	(0.6157)	(0.7817)	(0.9366)	(0.7024)	(0.6875)
Target Markup	-0.03522***	-0.02702*	-0.03637***	-0.03648***	-0.03295**	-0.03413***
(p-value)	(0.0024)	(0.0821)	(0.0028)	(0.0017)	(0.0324)	(0.006)
Collar	-0.03203**	-0.04224***	0.0191	-0.03049**	-0.0361**	0.02249
(p-value)	(0.0227)	(0.0057)	(0.3913)	(0.0259)	(0.0172)	(0.3298)
Toehold Exist	0.0067	0.04378	0.0008755	0.00568	0.04445	0.00373
(p-value)	(0.6958)	(0.1373)	(0.9735)	(0.7414)	(0.1193)	(0.879)
Horizontal	0.00929	0.00312	0.01093	0.00983	0.00357	0.01168
(p-value)	(0.1914)	(0.7774)	(0.1613)	(0.1617)	(0.7511)	(0.1424)
Tender Offer	6.152E-05	0.01089*	-0.00227	-0.0005483	0.01088	-0.00153
(p-value)	(0.9923)	(0.5098)	(0.7338)	(0.9309)	(0.4987)	(0.8193)
Cash Bid	0.02174***			0.02238***		
(p-value)	(0.0019)			(0.0013)		
Hostile	-0.00744	0.02378	-0.03703*	-0.00816	0.01834	-0.03406
(p-value)	(0.6916)	(0.4634)	(0.0651)	(0.6624)	(0.5946)	(0.1005)
Multiple Bidders	0.01325	0.03548*	-0.01639	0.01296	0.03605*	-0.01626
(p-value)	(0.2356)	(0.0919)	(0.1738)	(0.2419)	(0.0825)	(0.1726)
Rumor	0.0025	-0.0002848	-0.00888	0.00177	0.0008399	-0.00516
(p-value)	(0.8029)	(0.9866)	(0.4668)	(0.8584)	(0.9604)	(0.6725)
Complete	0.02709**	0.03735**	0.00953	0.02807***	0.04004**	0.01181
(p-value)	(0.0129)	(0.019)	(0.4614)	(0.0093)	(0.0104)	(0.367)
Adj-R^2	0.2279	0.2159	0.0743	0.2287	0.2026	0.0702
Year Dummies	Yes	Yes	Yes	Yes	Yes	Yes
Industry Dummies	Yes	Yes	Yes	Yes	Yes	Yes
Number of Cases	572	284	288	572	284	288

Table 2-92 Cross-sectional Regression of Bidder Announcement CAR on AIV-Bidder and VIV-Bidder while controlling for Idiosyncratic Volatility.

Bidder CAR is equal to the sum of Bidder Abnormal Return ($AR_{i,t}$) estimated over the announcement period [-1,+1]. ARi,t is equal to $ER_{i,t} - (\alpha_i + \beta_i ER_{M,t})$. $ER_{i,t}$ is the bidder company 'i' return on day 't' above the risk free rate on that day. $ER_{M,t}$ is the CRSP Value Weighted Index return on day 't' in excess of the risk free rate on that day. The model's components (α_i, β_i) are obtained by estimating the model $(R_{i,t} = \alpha_i + \beta_i R_{M,t} + e_{i,t})$ over the [-256; -43]. The idiosyncratic volatility is estimated as the standard deviation of the market adjusted residuals of the daily returns measured during the period spanning 256 trading days before the announcement to 43 trading days before the announcement [-256, -43]. The AIV (and VIV) used in our regressions are the residuals obtain after regressing the AIV (and VIV) on the corresponding idiosyncratic volatility. Target Size is the logarithm of the target market value of equity 42 days before the announcement and target turnover is the ratio of the target volume to share outstanding estimated 42 days before the announcement. Target B/M is constructed as the ratio of the nearest target stock book value divided by the target stock price 42 days before the announcement. Target runup is defined as the ratio of the target price 2 days before the announcement divided by the target price 42 days before the announcement [(P_{-2} / P_{-42}) - 1]. Target markup is defined as the ratio of the offer price divided by the target price 2 days before the announcement [(Offer-Price / P_{-2}) - 1]. NYSE/AMEX, Collar, Tender Offer, Cash-Only, Hostile, Rumor, and Complete are dummy variables that respectively take the value of 1S if the Target is listed on NYSE/AMEX, the deal has a collar, the deal is a tender offer, the deal is financed by Cash only, the deal is hostile, the deal is preceded by a rumor and the deal is completed successfully. Horizontal is a dummy variable that takes a value of 1 if the bidder and target share the same four-digit Standard Industrial Classification (SIC) Code. The Toehold dummy takes a value of one if the bidder own more than 5% of target before the announcement day. Multibid dummy takes a value of 1 if there are multiple Bidders within the same contest (a contest is a 6-Month period from the first bidder's bid). Industry and year dummies corresponding to the target two-digit SIC codes and to the announcement year. The p-values are given underneath and are the White Heteroscedasticity consistent p-values. The *, **, *** indicate significance at 1%, 5%, and 10% respectively.

The Idiosyncratic Volatility is estimated over the [-256,-43] window			
Deal-Type	All Control Bids	Non-Cash-Only Control Bids	Cash-Only Control Bids
Constant	0.15532***	0.11672	0.10162
(p-value)	(0.0054)	(0.1159)	(0.1173)
AIV-Bidder	-0.03475	-0.12495	0.1387**
(p-value)	(0.5932)	(0.166)	(0.0181)
VIV-Bidder	(-0.15585)	-0.05713	-0.42729**
(p-value)	(0.38)	(0.8242)	(0.0324)
Idio_Vol	-1.32185***	-1.8461***	0.60684
(p-value)	(0.0042)	(0.0009)	(0.4057)
Target Size	-0.01016***	-0.01126**	-0.00598*
(p-value)	(0.0004)	(0.0162)	(0.0833)
Target Turnover	-0.0001093**	-9.953E-05	6.39E-06
(p-value)	(0.0437)	(0.2347)	(0.9097)
Target NYSE/Amex	0.00201	-0.0072	-0.00221
(p-value)	(0.7837)	(0.5691)	(0.7865)
Target B/M	-0.00592	-0.02249	-0.00442
(p-value)	(0.4545)	(0.1436)	(0.5751)
Target Runup	0.00112	0.01278	-0.0005635
(p-value)	(0.9416)	(0.6182)	(0.9673)
Target Markup	-0.03544***	-0.02726*	-0.03334***
(p-value)	(0.0023)	(0.0799)	(0.0057)
Collar	-0.03142**	-0.04158***	0.01541
(p-value)	(0.0225)	(0.0071)	(0.474)
Toehold Exist	0.00599	0.04371	-0.00228
(p-value)	(0.7271)	(0.1374)	(0.929)
Horizontal	0.00993	0.00344	0.01209
(p-value)	(0.1583)	(0.7533)	(0.1166)
Tender Offer	-0.0001802	0.01119	-0.00402
(p-value)	(0.9775)	(0.4952)	(0.5432)
Cash Bid	0.02184***		
(p-value)	(0.0017)		
Hostile	-0.00788	0.02289	-0.03221
(p-value)	(0.6749)	(0.4867)	(0.1042)
Multiple Bidders	0.01296	0.03541*	-0.01747
(p-value)	(0.2434)	(0.0916)	(0.1386)
Rumor	0.00232	-0.0001659	-0.00817
(p-value)	(0.8167)	(0.9922)	(0.5009)
Complete	0.02769**	0.0376**	0.01108
(p-value)	(0.01)	(0.017)	(0.3819)
Adj-R^2	0.2281	0.2125	0.0838
Year Dummies	Yes	Yes	Yes
Industry Dummies	Yes	Yes	Yes
Number of Cases	572	284	288

Table 2-93 Logistic Model Estimation of the Probability that the deal will be a cash-only offer versus a deal being a non-cash-only offer while controlling for Idiosyncratic Volatility.

The AIV-Bidder (Target) and VIV- Bidder (Target) are the mean and standard deviation of the Implied Volatilities of Bidder (Target) Companies estimated over the runup period [-42,-2].]. The idiosyncratic volatility is estimated as the standard deviation of the market adjusted residuals of the daily returns measured during the period spanning 256 trading days before the announcement to 43 trading days before the announcement [-256, -43]. The AIV (and VIV) used in our regressions are the residuals obtain after regressing the AIV (and VIV) on the corresponding idiosyncratic volatility. Target (Acquirer) Size is the logarithm of the target (acquirer) market value of equity 42 days before the announcement and target (acquirer) turnover is the ratio of the target (acquirer) volume to share outstanding estimated 42 days before the announcement. Target (acquirer) B/M is constructed as the ratio of the nearest target stock book value divided by the target stock price 42 days before the announcement. Relative size is the ratio of the target size divided by the acquirer size (in log terms). NYSE/AMEX, Collar, Tender Offer, Cash-Only, Hostile, Rumor, and Complete are dummy variables that respectively take the value of 1 if the Target (Acquirer) is listed on NYSE/AMEX, the deal has a collar, the deal is a tender offer, the deal is financed by Cash only, the deal is hostile, the deal is preceded by a rumor and the deal is completed successfully. Horizontal is a dummy variable that takes a value of 1 if the bidder and target share the same four-digit Standard Industrial Classification (SIC) Code. The Toehold dummy takes a value of one if the bidder own more than 5% of target before the announcement day. Multibid dummy takes a value of 1 if there are multiple Bidders within the same contest (a contest is a 6-Month period from the first bidder's bid). The p-values are given underneath and are the MLE p-values. The *, **, *** indicate significance at 1%, 5%, and 10% respectively.

The Idiosyncratic Volatility is estimated over the [-256,-43] window

Independent Variable	AIV-Target	VIV-Target	AIV-Target and VIV-Target	AIV-Bidder	VIV-Bidder	AIV-Bidder and VIV-Bidder
Constant	-1.422	-2.7333	-1.3255	4.6083	5.4261	5.1898
(p-value)	(0.8885)	(0.7872)	(0.8963)	(0.608)	(0.5484)	(0.5642)
AIV-Variable	-3.4719***		-3.8214***	-5.2604***		-6.9851***
(p-value)	(<.0001)		(0.0004)	(0.002)		(0.0003)
VIV-Variable		-2.8672*	1.2122		0.4402	10.0513*
(p-value)		(0.0983)	(0.5515)		(0.9214)	(0.0706)
Idiosyncratic Volatility	-87.059***	-79.2247***	-87.1508***	-120.5***	-115.8***	-121.8***
(p-value)	(<.0001)	(<.0001)	(<.0001)	(<.0001)	(<.0001)	(<.0001)
Target Size	-1.0312	-0.8912	-1.0256	-0.2329	-0.1462	-0.2214
(p-value)	(0.1478)	(0.2073)	(0.151)	(0.7025)	(0.8112)	(0.7167)
Target Turnover	0.00291	0.00333	0.00281	0.00115	0.00213	0.001
(p-value)	(0.2682)	(0.22)	(0.2863)	(0.7173)	(0.4904)	(0.7508)
Target NYSE/Amex	-0.3998	-0.4457*	-0.393	-0.1531	-0.1586	-0.1087
(p-value)	(0.1348)	(0.0924)	(0.1417)	(0.5647)	(0.5477)	(0.6847)
Target B/M	0.3915	0.3995	0.3607	0.4408	0.3919	0.4239
(p-value)	(0.2663)	(0.2363)	(0.3137)	(0.1894)	(0.2445)	(0.2142)
Acquirer Size	0.9178	0.8623	0.9139	0.1879	0.1219	0.162
(p-value)	(0.1403)	(0.1635)	(0.143)	(0.7269)	(0.8216)	(0.7638)
Acquirer Turnover	-0.00681	-0.00708	-0.007	0.0118	0.00377	0.0118
(p-value)	(0.54)	(0.4971)	(0.5316)	(0.3026)	(0.725)	(0.2835)
Acquirer NYSE/Amex	-0.2603	-0.2014	-0.2643	-0.2483	-0.1986	-0.248
(p-value)	(0.2642)	(0.3784)	(0.2572)	(0.284)	(0.3847)	(0.2865)
Acquirer B/M	0.8222	0.7934	0.8072	0.3887	0.1976	0.294
(p-value)	(0.0983)	(0.1052)	(0.1054)	(0.4569)	(0.7016)	(0.5785)
Relative Size	3.8897	3.7929	3.8111	-2.5908	-3.6665	-2.9048
(p-value)	(0.7302)	(0.7362)	(0.7362)	(0.7923)	(0.7111)	(0.7679)
Collar	-2.2976***	-2.2259***	-2.297***	-2.4151***	-2.3277***	-2.4114***
(p-value)	(0.0007)	(0.0008)	(0.0007)	(0.0002)	(0.0004)	(0.0003)
Toehold Exist	-0.759	-0.782	-0.7663	-0.7743	-0.9151	-0.7097
(p-value)	(0.334)	(0.3356)	(0.3295)	(0.2931)	(0.2339)	(0.3364)
Horizontal	-0.5631**	-0.5531**	-0.5615**	-0.5277**	-0.5233**	-0.5338**
(p-value)	(0.0306)	(0.0321)	(0.0311)	(0.0429)	(0.042)	(0.0412)
Tender Offer	1.7941***	1.6691***	1.7953***	1.6607***	1.5943***	1.7002***
(p-value)	(<.0001)	(<.0001)	(<.0001)	(<.0001)	(<.0001)	(<.0001)
Hostile	-0.3571	-0.3445	-0.352	-0.111	-0.0739	-0.0905
(p-value)	(0.5628)	(0.5877)	(0.5672)	(0.8627)	(0.9099)	(0.8883)
Multiple Bidders	0.7019*	0.936**	0.6648*	0.9489**	1.0393***	0.9464**
(p-value)	(0.0726)	(0.0177)	(0.0933)	(0.016)	(0.0077)	(0.016)
Rumor	0.5343	0.5031	0.538	0.1532	0.0713	0.1308
(p-value)	(0.2134)	(0.2329)	(0.2106)	(0.7152)	(0.8656)	(0.7546)
Complete	-0.2987	-0.1365	-0.3216	-0.264	-0.2202	-0.2798
(p-value)	(0.3883)	(0.6911)	(0.3569)	(0.448)	(0.5221)	(0.4224)
Adj-R^2	0.3657	0.3506	0.3661	0.3699	0.3586	0.3738
Year Dummies	No	No	No	No	No	No
Industry Dummies	No	No	No	No	No	No
Number of Cases	572	572	572	572	572	572

Table 2-94 Logistic Model Estimation of the Probability that the deal will be a completed successfully on AIV- (Bidder) Target and VIV- (Bidder) Target with Idiosyncratic Volatility used as Control Variable.

The AIV-Bidder (Target) and VIV- Bidder (Target) are the mean and standard deviation of the Implied Volatilities of Bidder (Target) Companies estimated over the runup period [-42,-2]. The idiosyncratic volatility is estimated as the standard deviation of the market adjusted residuals of the daily returns measured during the period spanning 256 trading days before the announcement to 43 trading days before the announcement [-256, -43]. The AIV (and VIV) used in our regressions are the residuals obtain after regressing the AIV (and VIV) on the corresponding idiosyncratic volatility. Target Size is the logarithm of the target (acquirer) market value of equity 42 days before the announcement and target turnover is the ratio of the target volume to share outstanding estimated 42 days before the announcement. Target (acquirer) B/M is constructed as the ratio of the nearest target stock book value divided by the target stock price 42 days before the announcement. Target runup is defined as the ratio of the target (acquirer) price 2 days before the announcement divided by the target (acquirer) price 42 days before the announcement [$(P_{-2} / P_{-42}) - 1$]. Target markup is defined as the ratio of the offer price divided by the target (acquirer) price 2 days before the announcement [(Offer-Price / P_{-2}) - 1]. NYSE/AMEX, Collar, Tender Offer, Cash-Only, Hostile, Rumor, and Complete are dummy variables that respectively take the value of 1 if the Target is listed on NYSE/AMEX, the deal has a collar, the deal is a tender offer, the deal is financed by Cash only, the deal is hostile, the deal is preceded by a rumor and the deal is completed successfully. Horizontal is a dummy variable that takes a value of 1 if the bidder and target share the same four-digit Standard Industrial Classification (SIC) Code. The Toehold dummy takes a value of one if the bidder own more than 5% of target before the announcement day. Multibid dummy takes a value of 1 if there are multiple Bidders within the same contest (a contest is a 6-Month period from the first bidder's bid). The p-values are given underneath and are the MLE p-values. The *, **, *** indicate significance at 1%, 5%, and 10% respectively.

The Idiosyncratic Volatility is estimated over the [-256,-43] window

Deal-Type	AIV-Target	VIV-Target	AIV-Target and VIV-Target	AIV-Bidder	VIV-Bidder	AIV-Bidder and VIV-Bidder
Constant	0.1125	-0.8764	-0.2778	0.1726	0.1406	0.1918
(p-value)	(0.9575)	(0.6845)	(0.897)	(0.9315)	(0.9442)	(0.9241)
AIV-Variable	-1.4787		-2.2326**	-1.6347		-1.904
(p-value)	(0.1191)		(0.0401)	(0.3012)		(0.2947)
VIV-Variable		1.8052	4.1125		-1.0845	1.9262
(p-value)		(0.4907)	(0.158)		(0.8414)	(0.7587)
Idiosyncratic Volatility	-2.0006	0.4033	-0.1024	-18.8091	-18.4321	-18.502
(p-value)	(0.8579)	(0.9714)	(0.9927)	(0.1227)	(0.1279)	(0.131)
Target Size	0.1968	0.2654*	0.2238	0.2252	0.2268	0.2235
(p-value)	(0.1742)	(0.0717)	(0.1295)	(0.1099)	(0.1074)	(0.1138)
Target Turnover	-0.00011	-0.00047	-0.00054	0.00007	0.000216	0.000045
(p-value)	(0.9754)	(0.8943)	(0.8806)	(0.9848)	(0.9525)	(0.9903)
Target NYSE/Amex	-0.5587*	-0.5446	-0.5398	-0.6651**	-0.6526**	-0.6557**
(p-value)	(0.0957)	(0.1052)	(0.1109)	(0.0443)	(0.0493)	(0.0481)
Target B/M	-0.6918*	-0.7641**	-0.7398**	-0.6588*	-0.6624*	-0.6653*
(p-value)	(0.0505)	(0.0359)	(0.036)	(0.0705)	(0.0696)	(0.0684)
Target Runup	0.7502	0.7553	0.6082	0.7534	0.7627	0.7534
(p-value)	(0.2381)	(0.2332)	(0.3479)	(0.2186)	(0.2147)	(0.2201)
Target Markup	-0.364	-0.4162	-0.3025	-0.3817	-0.4439	-0.3726
(p-value)	(0.4157)	(0.3515)	(0.5017)	(0.3929)	(0.3177)	(0.4052)
Collar	0.724	0.7704	0.752	0.7041	0.7361	0.6962
(p-value)	(0.2648)	(0.232)	(0.2458)	(0.2797)	(0.2558)	(0.2861)
Toehold Exist	-1.4158**	-1.4712**	-1.4679**	-1.5204**	-1.5371**	-1.5038**
(p-value)	(0.0446)	(0.0347)	(0.0396)	(0.0306)	(0.029)	(0.033)
Horizontal	-0.1118	-0.0979	-0.1221	-0.0147	-0.0403	-0.0211
(p-value)	(0.7257)	(0.7591)	(0.703)	(0.9637)	(0.9)	(0.9478)
Tender Offer	1.5145***	1.3558***	1.5112***	1.4293***	1.4068***	1.4269***
(p-value)	(0.0006)	(0.0014)	(0.0007)	(0.0008)	(0.0009)	(0.0008)
Cash Bid	0.1004	0.1464	0.0972	-0.0776	-0.048	-0.0871
(p-value)	(0.7507)	(0.6409)	(0.76)	(0.8148)	(0.8843)	(0.7935)
Hostile	-3.7016***	-3.6356***	-3.7202***	-3.6585***	-3.6635***	-3.6492***
(p-value)	(<.0001)	(<.0001)	(<.0001)	(<.0001)	(<.0001)	(<.0001)
Multiple Bidders	-2.8344***	-2.7803***	-2.9251***	-2.7375***	-2.7238***	-2.7307***
(p-value)	(<.0001)	(<.0001)	(<.0001)	(<.0001)	(<.0001)	(<.0001)
Rumor	0.5399	0.487	0.539	0.4567	0.4477	0.4518
(p-value)	(0.4041)	(0.4445)	(0.4073)	(0.4743)	(0.4839)	(0.4792)
Adj-R^2	0.2018	0.1992	0.205	0.203	0.2016	0.2031
Year Dummies	No	No	No	No	No	No
Industry Dummies	No	No	No	No	No	No
Number of Cases	572	284	288	572	284	288

2.22 Appendix O – Tests Performed with AIV and VIV as main explanatory Variables with idiosyncratic volatility as Control in the Expanded Sample – Idiosyncratic Volatility Estimated over the [-256, -2]

Table 2-95 Cross-sectional Regression of Bidder Announcement CAR on AIV-Bidder (Target) and VIV-Bidder (Target) while controlling for Idiosyncratic Volatility (Expanded Sample).

Bidder CAR is equal to the sum of Bidder Abnormal Return ($AR_{i,t}$) estimated over the announcement period [-1,+1]. ARi,t is equal to $ER_{i,t} - (\alpha_i + \beta_i ER_{M,t})$. $ER_{i,t}$ is the bidder company 'i' return on day 't' above the risk free rate on that day. $ER_{M,t}$ is the CRSP Value Weighted Index return on day 't' in excess of the risk free rate on that day. The model's components (α_i, β_i) are obtained by estimating the model $(R_{i,t} = \alpha_i + \beta_i R_{M,t} + e_{i,t})$ over the [-256; -43]. The idiosyncratic volatility is estimated as the standard deviation of the market adjusted residuals of the daily returns measured during the period spanning 256 trading days before the announcement to 2 trading days before the announcement [-256, -2]. . Target Size is the logarithm of the target market value of equity 42 days before the announcement and target turnover is the ratio of the target volume to share outstanding estimated 42 days before the announcement. Target B/M is constructed as the ratio of the nearest target stock book value divided by the target stock price 42 days before the announcement. Target runup is defined as the ratio of the target price 2 days before the announcement divided by the target price 42 days before the announcement [(P_{-2} / P_{-42}) - 1]. Target markup is defined as the ratio of the offer price divided by the target price 2 days before the announcement [(Offer-Price / P_{-2}) - 1]. NYSE/AMEX, Collar, Tender Offer, Cash-Only, Hostile, Rumor, and Complete are dummy variables that respectively take the value of 1S if the Target is listed on NYSE/AMEX, the deal has a collar, the deal is a tender offer, the deal is financed by Cash only, the deal is hostile, the deal is preceded by a rumor and the deal is completed successfully. Horizontal is a dummy variable that takes a value of 1 if the bidder and target share the same four-digit Standard Industrial Classification (SIC) Code. The Toehold dummy takes a value of one if the bidder own more than 5% of target before the announcement day. Multibid dummy takes a value of 1 if there are multiple Bidders within the same contest (a contest is a 6-Month period from the first bidder's bid). Industry and year dummies corresponding to the target two-digit SIC codes and to the announcement year. The p-values are given underneath and are the White Heteroscedasticity consistent p-values. The *, **, *** indicate significance at 1%, 5%, and 10% respectively.

The Idiosyncratic Volatility is estimated over the [-256,-2] window

	Target AIV Related Tests			Target VIV Related Tests		
Deal-Type	All Control Bids	Non-Cash-Only Control Bids	Cash-Only Control Bids	All Control Bids	Non-Cash-Only Control Bids	Cash-Only Control Bids
Constant	0.10173	0.0481	0.17355*	0.07825	0.02701	0.18284**
(p-value)	(0.2962)	(0.7296)	(0.0614)	(0.4085)	(0.8441)	(0.0386)
AIV-Variable	-0.02282	-0.02615	0.01098			
(p-value)	(0.4034)	(0.4889)	(0.679)			
VIV-Variable				-0.00369	-0.03305	0.01928
(p-value)				(0.9558)	(0.7539)	(0.7032)
Idio_Vol	0.10097	0.4478	-0.36645	-0.11372	0.21482	-0.29128
(p-value)	(0.8073)	(0.4953)	(0.3352)	(0.7313)	(0.6714)	(0.3379)
Target Size	-0.00951**	-0.00787	-0.00703*	-0.0086**	-0.00711	-0.0074**
(p-value)	(0.0201)	(0.1925)	(0.0573)	(0.0319)	(0.2376)	(0.0326)
Target Turnover	-0.0003108	-0.0003939	0.0000234	-0.0003249	-0.0004234	3.871E-05
(p-value)	(0.311)	(0.4257)	(0.9453)	(0.2799)	(0.3868)	(0.9087)
Target NYSE/Amex	0.00644	0.00993	-0.00284	0.00681	0.01046	-0.00295
(p-value)	(0.465)	(0.5464)	(0.6898)	(0.4406)	(0.5244)	(0.6783)
Target B/M	-0.0126***	-0.01289***	-0.00646	-0.0129***	-0.01359***	-0.00695
(p-value)	(<.0001)	(0.0002)	(0.4938)	(<.0001)	(<.0001)	(0.4619)
Target Runup	-0.00967	-0.00169	-0.00375	-0.00906	-0.0005724**	-0.00464
(p-value)	(0.5915)	(0.9465)	(0.7774)	(0.624)	(0.9818)	(0.7374)
Target Markup	-0.03167**	-0.03936	-0.02202**	-0.03313**	-0.04083	-0.0214**
(p-value)	(0.0456)	(0.1374)	(0.0316)	(0.0309)	(0.1147)	(0.0346)
Collar	0.02077	0.02305	0.01366	0.02156	0.0233	0.01342
(p-value)	(0.2383)	(0.2751)	(0.4935)	(0.2163)	(0.2669)	(0.5013)
Toehold Exist	0.02411*	0.05244*	0.02417	0.02472*	0.05513*	0.02471
(p-value)	(0.087)	(0.0619)	(0.1167)	(0.0804)	(0.0507)	(0.1092)
Horizontal	0.0006245	-0.01579	0.01777**	0.0006316	-0.01598	0.01795**
(p-value)	(0.9411)	(0.2079)	(0.0205)	(0.9397)	(0.2006)	(0.0183)
Tender Offer	0.00925	0.03208**	2.876E-05	0.00888	0.03282**	0.0002943
(p-value)	(0.1621)	(0.0428)	(0.9964)	(0.1767)	(0.0435)	(0.9627)
Cash Bid	0.02726***			0.02835***		
(p-value)	(0.0001)			(<.0001)		
Hostile	-0.00975	0.00179	-0.04268***	-0.00919	0.00362	-0.04286***
(p-value)	(0.5087)	(0.9535)	(0.0014)	(0.5377)	(0.9066)	(0.0014)
Multiple Bidders	0.00493	0.01498	-0.01424*	0.00573	0.01599	-0.01508*
(p-value)	(0.6761)	(0.5043)	(0.086)	(0.6268)	(0.4771)	(0.0617)
Rumor	0.02176	0.05146*	-0.00747	0.02119	0.05123*	-0.00728
(p-value)	(0.1185)	(0.0685)	(0.5073)	(0.1218)	(0.067)	(0.5151)
Complete	0.02949**	0.03633*	0.0029	0.0301**	0.03685*	0.00269
(p-value)	(0.0206)	(0.0649)	(0.7887)	(0.0192)	(0.0594)	(0.8039)
Adj-R^2	0.1556	0.1043	0.1436	0.1547	0.1035	0.1436
Year Dummies	Yes	Yes	Yes	Yes	Yes	Yes
Industry Dummies	Yes	Yes	Yes	Yes	Yes	Yes
Number of Cases	743	407	336	743	407	336

Table 2-96 Cross-sectional Regression of Bidder Announcement CAR on AIV-Bidder (Target) and VIV-Bidder (Target) while controlling for Idiosyncratic Volatility (Expanded Sample).

Bidder CAR is equal to the sum of Bidder Abnormal Return ($AR_{i,t}$) estimated over the announcement period [-1,+1]. ARi,t is equal to $ER_{i,t} - (\alpha_i + \beta_i ER_{M,t})$. $ER_{i,t}$ is the bidder company 'i' return on day 't' above the risk free rate on that day. $ER_{M,t}$ is the CRSP Value Weighted Index return on day 't' in excess of the risk free rate on that day. The model's components (α_i, β_i) are obtained by estimating the model $(R_{i,t} = \alpha_i + \beta_i R_{M,t} + e_{i,t})$ over the [-256; -43]. The idiosyncratic volatility is estimated as the standard deviation of the market adjusted residuals of the daily returns measured during the period spanning 256 trading days before the announcement to 2 trading days before the announcement [-256, -2]. . Target Size is the logarithm of the target market value of equity 42 days before the announcement and target turnover is the ratio of the target volume to share outstanding estimated 42 days before the announcement. Target B/M is constructed as the ratio of the nearest target stock book value divided by the target stock price 42 days before the announcement. Target runup is defined as the ratio of the target price 2 days before the announcement divided by the target price 42 days before the announcement [(P_{-2} / P_{-42}) - 1]. Target markup is defined as the ratio of the offer price divided by the target price 2 days before the announcement [(Offer-Price / P_{-2}) - 1]. NYSE/AMEX, Collar, Tender Offer, Cash-Only, Hostile, Rumor, and Complete are dummy variables that respectively take the value of 1S if the Target is listed on NYSE/AMEX, the deal has a collar, the deal is a tender offer, the deal is financed by Cash only, the deal is hostile, the deal is preceded by a rumor and the deal is completed successfully. Horizontal is a dummy variable that takes a value of 1 if the bidder and target share the same four-digit Standard Industrial Classification (SIC) Code. The Toehold dummy takes a value of one if the bidder own more than 5% of target before the announcement day. Multibid dummy takes a value of 1 if there are multiple Bidders within the same contest (a contest is a 6-Month period from the first bidder's bid). Industry and year dummies corresponding to the target two-digit SIC codes and to the announcement year. The p-values are given underneath and are the White Heteroscedasticity consistent p-values. The *, **, *** indicate significance at 1%, 5%, and 10% respectively.

	The Idiosyncratic Volatility is estimated over the [-256,-2] window					
	Bidder AIV Related Tests			Bidder VIV Related Tests		
Deal-Type	All Control Bids	Non-Cash-Only Control Bids	Cash-Only Control Bids	All Control Bids	Non-Cash-Only Control Bids	Cash-Only Control Bids
Constant	0.13692***	0.21849***	0.04826	0.11834***	0.20221***	0.04334
(p-value)	(<.0001)	(<.0001)	(0.1889)	(0.0001)	(0.0002)	(0.231)
AIV-Variable	-0.07081**	-0.083*	-0.02605			
(p-value)	(0.0212)	(0.0838)	(0.4177)			
VIV-Variable				-0.08422	-0.02659	-0.09684*
(p-value)				(0.1435)	(0.8186)	(0.0835)
Idio_Vol	-0.29154	-0.45401	0.08049	-1.03867***	-1.42886***	-0.08594
(p-value)	(0.5622)	(0.5437)	(0.8867)	(0.0004)	(0.0004)	(0.799)
Target Size	-0.00817***	-0.01257***	-0.00207	-0.00779***	-0.01205***	-0.00214
(p-value)	(<.0001)	(<.0001)	(0.2292)	(<.0001)	(<.0001)	(0.213)
Target Turnover	-0.0001215	-1.736E-05	-0.0002129	-0.0001796	-0.000127	-0.0002359
(p-value)	(0.5855)	(0.9588)	(0.3384)	(0.4246)	(0.7059)	(0.2906)
Target NYSE/Amex	0.000567	0.00989	-0.01068**	0.0008047	0.00997	-0.01069**
(p-value)	(0.9042)	(0.1859)	(0.0419)	(0.8642)	(0.1847)	(0.0422)
Target B/M	0.00324	-0.0001	0.00483*	0.00339	6.052E-05	0.00467*
(p-value)	(0.2758)	(0.9895)	(0.0714)	(0.2644)	(0.9937)	(0.0834)
Target Runup	0.00597	0.00726	0.00728	0.00591	0.00789	0.00699
(p-value)	(0.1932)	(0.2521)	(0.2115)	(0.2064)	(0.2177)	(0.2293)
Target Markup	-0.01535**	-0.02151*	-0.00665	-0.01642***	-0.02372*	-0.00615
(p-value)	(0.013)	(0.0878)	(0.2219)	(0.0086)	(0.0642)	(0.2536)
Collar	-0.00187	-0.0034	-0.01376	-0.0008584	-0.00262	-0.01686
(p-value)	(0.805)	(0.6807)	(0.4247)	(0.91)	(0.753)	(0.3429)
Toehold Exist	0.0161*	0.03826***	0.01038	0.01755**	0.03963***	0.01112
(p-value)	(0.0587)	(0.0053)	(0.3575)	(0.0399)	(0.0022)	(0.3313)
Horizontal	0.00656	-0.0007753	0.01225**	0.00588	-0.00195	0.01203**
(p-value)	(0.1618)	(0.9092)	(0.0372)	(0.2113)	(0.7743)	(0.0405)
Tender Offer	0.00312	-0.0032	0.00346	0.00307	-0.00299	0.00313
(p-value)	(0.4816)	(0.785)	(0.4513)	(0.4914)	(0.801)	(0.4972)
Cash Bid	0.02007***			0.02118***		
(p-value)	(<.0001)			(<.0001)		
Hostile	0.01216	0.05077**	-0.0248**	0.01376	0.05283**	-0.02484**
(p-value)	(0.3167)	(0.0381)	(0.0376)	(0.2589)	(0.0325)	(0.0359)
Multiple Bidders	0.00557	0.01642	-0.01131*	0.00559	0.01754*	-0.01115*
(p-value)	(0.32)	(0.1051)	(0.0545)	(0.3157)	(0.0784)	(0.0573)
Rumor	0.01596	0.03532*	-0.00514	0.0153	0.03483*	-0.00529
(p-value)	(0.1535)	(0.092)	(0.653)	(0.1682)	(0.0881)	(0.6427)
Complete	0.01703**	0.02664**	-0.0006744	0.01777**	0.02791**	-0.0003281
(p-value)	(0.0306)	(0.0195)	(0.9379)	(0.0248)	(0.0143)	(0.9696)
Adj-R^2	0.1851	0.1711	0.1068	0.1777	0.16	0.11
Year Dummies	Yes	Yes	Yes	Yes	Yes	Yes
Industry Dummies	Yes	Yes	Yes	Yes	Yes	Yes
Number of Cases	1342	677	665	1342	677	665

Table 2-97 Cross-sectional Regression of Bidder Announcement CAR on AIV-Bidder and VIV-Bidder while controlling for Idiosyncratic Volatility (Expanded Sample).

Bidder CAR is equal to the sum of Bidder Abnormal Return ($AR_{i,t}$) estimated over the announcement period [-1,+1]. ARi,t is equal to $ER_{i,t} - (\alpha_i + \beta_i ER_{M,t})$. $ER_{i,t}$ is the bidder company 'i' return on day 't' above the risk free rate on that day. $ER_{M,t}$ is the CRSP Value Weighted Index return on day 't' in excess of the risk free rate on that day. The model's components (α_i, β_i) are obtained by estimating the model $(R_{i,t} = \alpha_i + \beta_i R_{M,t} + e_{i,t})$ over the [-256; -43]. The idiosyncratic volatility is estimated as the standard deviation of the market adjusted residuals of the daily returns measured during the period spanning 256 trading days before the announcement to 2 trading days before the announcement [-256, -2]. . Target Size is the logarithm of the target market value of equity 42 days before the announcement and target turnover is the ratio of the target volume to share outstanding estimated 42 days before the announcement. Target B/M is constructed as the ratio of the nearest target stock book value divided by the target stock price 42 days before the announcement. Target runup is defined as the ratio of the target price 2 days before the announcement divided by the target price 42 days before the announcement [$(P_{-2} / P_{-42}) - 1$]. Target markup is defined as the ratio of the offer price divided by the target price 2 days before the announcement [(Offer-Price / P_{-2}) - 1]. NYSE/AMEX, Collar, Tender Offer, Cash-Only, Hostile, Rumor, and Complete are dummy variables that respectively take the value of 1S if the Target is listed on NYSE/AMEX, the deal has a collar, the deal is a tender offer, the deal is financed by Cash only, the deal is hostile, the deal is preceded by a rumor and the deal is completed successfully. Horizontal is a dummy variable that takes a value of 1 if the bidder and target share the same four-digit Standard Industrial Classification (SIC) Code. The Toehold dummy takes a value of one if the bidder own more than 5% of target before the announcement day. Multibid dummy takes a value of 1 if there are multiple Bidders within the same contest (a contest is a 6-Month period from the first bidder's bid). Industry and year dummies corresponding to the target two-digit SIC codes and to the announcement year. The p-values are given underneath and are the White Heteroscedasticity consistent p-values. The *, **, *** indicate significance at 1%, 5%, and 10% respectively.

The Idiosyncratic Volatility is estimated over the [-256,-2] window

Deal-Type	All Control Bids	Non-Cash-Only Control Bids	Cash-Only Control Bids
Constant	0.13724***	0.22275***	0.04432
(p-value)	(<.0001)	(<.0001)	(0.2297)
AIV-Bidder	-0.07227**	-0.09119*	0.0051
(p-value)	(0.0385)	(0.0675)	(0.8925)
VIV-Bidder	(0.00759)	(0.07851)	(-0.09942)
(p-value)	(0.9091)	(0.5316)	(0.1262)
Idio_Vol	-0.28293	-0.46433	-0.20324
(p-value)	(0.5828)	(0.5331)	(0.736)
Target Size	-0.00817***	-0.01266***	-0.00218
(p-value)	(<.0001)	(<.0001)	(0.2066)
Target Turnover	-0.0001211	-2.302E-05	-0.0002323
(p-value)	(0.5867)	(0.9446)	(0.2963)
Target NYSE/Amex	0.0005784	0.01018	-0.0107**
(p-value)	(0.9023)	(0.1736)	(0.042)
Target B/M	0.00324	1.024E-05	0.00471*
(p-value)	(0.275)	(0.9989)	(0.0834)
Target Runup	0.00599	0.00732	0.0069
(p-value)	(0.1911)	(0.2445)	(0.2348)
Target Markup	-0.01536**	-0.02111*	-0.00634
(p-value)	(0.013)	(0.093)	(0.2375)
Collar	-0.00189	-0.00378	-0.01655
(p-value)	(0.8025)	(0.6481)	(0.3493)
Toehold Exist	0.01604*	0.03778***	0.01116
(p-value)	(0.0592)	(0.0051)	(0.3334)
Horizontal	0.00657	-0.000675	0.01214**
(p-value)	(0.1621)	(0.9211)	(0.0389)
Tender Offer	0.00315	-0.00319	0.00319
(p-value)	(0.4796)	(0.7872)	(0.4869)
Cash Bid	0.02004***		
(p-value)	(<.0001)		
Hostile	0.01215	0.05084**	-0.0247**
(p-value)	(0.3171)	(0.0364)	(0.0363)
Multiple Bidders	0.00555	0.01641	-0.01114*
(p-value)	(0.322)	(0.1072)	(0.0591)
Rumor	0.01595	0.03493*	-0.0054
(p-value)	(0.1539)	(0.0952)	(0.6357)
Complete	0.01699**	0.02622**	-0.0004398
(p-value)	(0.0312)	(0.0217)	(0.9593)
Adj-R^2	0.1845	0.1705	0.1086
Year Dummies	Yes	Yes	Yes
Industry Dummies	Yes	Yes	Yes
Number of Cases	1342	677	665

Table 2-98 Logistic Model Estimation of the Probability that the deal will be a cash-only offer versus a deal being a non-cash-only offer while controlling for idiosyncratic volatility (Expanded Sample).

The AIV-Bidder (Target) and VIV- Bidder (Target) are the mean and standard deviation of the Implied Volatilities of Bidder (Target) Companies estimated over the runup period [-42,-2].]. The idiosyncratic volatility is estimated as the standard deviation of the market adjusted residuals of the daily returns measured during the period spanning 256 trading days before the announcement to 2 trading days before the announcement [-256, -2]. Target (Acquirer) Size is the logarithm of the target (acquirer) market value of equity 42 days before the announcement and target (acquirer) turnover is the ratio of the target (acquirer) volume to share outstanding estimated 42 days before the announcement. Target (acquirer) B/M is constructed as the ratio of the nearest target stock book value divided by the target stock price 42 days before the announcement. Relative size is the ratio of the target size divided by the acquirer size (in log terms). NYSE/AMEX, Collar, Tender Offer, Cash-Only, Hostile, Rumor, and Complete are dummy variables that respectively take the value of 1 if the Target (Acquirer) is listed on NYSE/AMEX, the deal has a collar, the deal is a tender offer, the deal is financed by Cash only, the deal is hostile, the deal is preceded by a rumor and the deal is completed successfully. Horizontal is a dummy variable that takes a value of 1 if the bidder and target share the same four-digit Standard Industrial Classification (SIC) Code. The Toehold dummy takes a value of one if the bidder own more than 5% of target before the announcement day. Multibid dummy takes a value of 1 if there are multiple Bidders within the same contest (a contest is a 6-Month period from the first bidder's bid). The p-values are given underneath and are the MLE p-values. The *, **, *** indicate significance at 1%, 5%, and 10% respectively.

	The Idiosyncratic Volatility is estimated over the [-256,-2]					
Independent Variable	AIV-Target	VIV-Target	AIV-Target and VIV-Target	AIV-Bidder	VIV-Bidder	AIV-Bidder and VIV-Bidder
Constant	-6.3848	-7.4615	-6.8569	23.0043**	22.5788**	22.2514**
(p-value)	(0.653)	(0.5859)	(0.6309)	(0.0252)	(0.029)	(0.0305)
AIV-Variable	-4.3841***		-5.1613***	-0.542		-2.2051**
(p-value)	(<.0001)		(<.0001)	(0.5433)		(0.0405)
VIV-Variable		-1.9526	2.7975		5.5588**	7.6818***
(p-value)		(0.2252)	(0.1249)		(0.018)	(0.0024)
Idiosyncratic Volatility	-30.7056**	-74.0747***	-24.2545*	-86.5621***	-100.4***	-73.3771***
(p-value)	(0.0124)	(<.0001)	(0.0629)	(<.0001)	(<.0001)	(<.0001)
Target Size	-1.5784**	-1.2859**	-1.5954**	0.5276	0.5224	0.4852
(p-value)	(0.0197)	(0.0474)	(0.0189)	(0.3052)	(0.3124)	(0.346)
Target Turnover	0.0161	0.0165	0.0167	-0.00626	-0.0065	-0.00603
(p-value)	(0.1251)	(0.1106)	(0.1127)	(0.4338)	(0.4176)	(0.4515)
Target NYSE/Amex	-0.5994**	-0.6113**	-0.5939**	-0.3337*	-0.3185*	-0.3237*
(p-value)	(0.0144)	(0.0111)	(0.0153)	(0.0634)	(0.0765)	(0.0729)
Target B/M	0.0246	-0.00273	0.00556	0.1288	0.1422	0.1342
(p-value)	(0.8989)	(0.989)	(0.9746)	(0.2542)	(0.2109)	(0.2339)
Acquirer Size	1.2269**	1.0703*	1.2467**	-0.5696	-0.5625	-0.5351
(p-value)	(0.0479)	(0.0724)	(0.0454)	(0.2034)	(0.2117)	(0.2323)
Acquirer Turnover	-0.00905	-0.0134	-0.00826	0.0172*	0.0155*	0.0182**
(p-value)	(0.4826)	(0.2839)	(0.5255)	(0.0668)	(0.0918)	(0.048)
Acquirer NYSE/Amex	-0.0182	-0.0383	0.00942	-0.2335	-0.1844	-0.2009
(p-value)	(0.9386)	(0.8687)	(0.9684)	(0.1804)	(0.2928)	(0.2522)
Acquirer B/M	0.6068	0.5328	0.5684	0.4327	0.3343	0.3985
(p-value)	(0.1254)	(0.1614)	(0.1543)	(0.1252)	(0.2278)	(0.1566)
Relative Size	15.2924	12.7286	15.7639	-21.1073*	-20.8346*	-20.1104*
(p-value)	(0.3104)	(0.3808)	(0.2979)	(0.0692)	(0.0744)	(0.0835)
Collar	-2.7645***	-2.6133***	-2.79***	-2.7786***	-2.7546***	-2.7805***
(p-value)	(<.0001)	(<.0001)	(<.0001)	(<.0001)	(<.0001)	(<.0001)
Toehold Exist	0.8169	1.0994*	0.7938	-0.231	-0.2396	-0.2752
(p-value)	(0.1553)	(0.0599)	(0.167)	(0.5509)	(0.538)	(0.4806)
Horizontal	-0.5729**	-0.6318***	-0.5541**	-0.4424**	-0.4421**	-0.4331**
(p-value)	(0.0147)	(0.0066)	(0.0186)	(0.0103)	(0.0106)	(0.0127)
Tender Offer	2.0601***	1.8966***	2.0634***	2.154***	2.1679***	2.1845***
(p-value)	(<.0001)	(<.0001)	(<.0001)	(<.0001)	(<.0001)	(<.0001)
Hostile	0.5129	0.6236	0.4985	0.4396	0.4692	0.4376
(p-value)	(0.351)	(0.2717)	(0.3626)	(0.3796)	(0.3514)	(0.382)
Multiple Bidders	0.6607**	0.9146***	0.5966*	0.3614*	0.3646*	0.3459
(p-value)	(0.0329)	(0.0025)	(0.0575)	(0.0988)	(0.0966)	(0.1157)
Rumor	0.7678**	0.6821*	0.7679**	0.4738	0.4294	0.448
(p-value)	(0.0481)	(0.0719)	(0.0489)	(0.2035)	(0.2488)	(0.229)
Complete	-0.1098	0.0298	-0.1481	-0.2132	-0.199	-0.2258
(p-value)	(0.7228)	(0.9213)	(0.6356)	(0.3651)	(0.399)	(0.3397)
Adj-R^2	0.396	0.3739	0.398	0.3629	0.3629	0.3649
Year Dummies	No	No	No	No	No	No
Industry Dummies	No	No	No	No	No	No
Number of Cases	743	743	743	1342	1342	1342

Table 2-99 Logistic Model Estimation of the Probability that the deal will be a completed successfully on AIV- (Bidder) Target and VIV- (Bidder) Target with Idiosyncratic Volatility used as Control Variable (Expanded Sample).

The AIV-Bidder (Target) and VIV- Bidder (Target) are the mean and standard deviation of the Implied Volatilities of Bidder (Target) Companies estimated over the runup period [-42,-2]. The idiosyncratic volatility is estimated as the standard deviation of the market adjusted residuals of the daily returns measured during the period spanning 256 trading days before the announcement to 2 trading days before the announcement [-256, -2]. Target Size is the logarithm of the target (acquirer) market value of equity 42 days before the announcement and target turnover is the ratio of the target volume to share outstanding estimated 42 days before the announcement. Target (acquirer) B/M is constructed as the ratio of the nearest target stock book value divided by the target stock price 42 days before the announcement. Target runup is defined as the ratio of the target (acquirer) price 2 days before the announcement divided by the target (acquirer) price 42 days before the announcement $[(P_{-2} / P_{-42}) - 1]$. Target markup is defined as the ratio of the offer price divided by the target (acquirer) price 2 days before the announcement $[(\text{Offer-Price} / P_{-2}) - 1]$. NYSE/AMEX, Collar, Tender Offer, Cash-Only, Hostile, Rumor, and Complete are dummy variables that respectively take the value of 1 if the Target is listed on NYSE/AMEX, the deal has a collar, the deal is a tender offer, the deal is financed by Cash only, the deal is hostile, the deal is preceded by a rumor and the deal is completed successfully. Horizontal is a dummy variable that takes a value of 1 if the bidder and target share the same four-digit Standard Industrial Classification (SIC) Code. The Toehold dummy takes a value of one if the bidder own more than 5% of target before the announcement day. Multibid dummy takes a value of 1 if there are multiple Bidders within the same contest (a contest is a 6-Month period from the first bidder's bid). The p-values are given underneath and are the MLE p-values. The *, **, *** indicate significance at 1%, 5%, and 10% respectively.

The Idiosyncratic Volatility is estimated over the [-256,-2]

Deal-Type	AIV-Target	VIV-Target	AIV-Target and VIV-Target	AIV-Bidder	VIV-Bidder	AIV-Bidder and VIV-Bidder
Constant	-3.2315	-4.2868***	-3.3013	5.5277***	5.4839***	5.5309***
(p-value)	(0.2225)	(0.1004)	(0.2146)	(0.0003)	(0.0004)	(0.0003)
AIV-Variable	-1.5113*		-1.7501*	-0.6585		-0.893
(p-value)	(0.0587)		(0.0527)	(0.5026)		(0.425)
VIV-Variable		-0.4848	1.2349		0.2611	1.2289
(p-value)		(0.8012)	(0.562)		(0.9152)	(0.6554)
Idiosyncratic Volatility	25.8279**	9.0651	27.735**	-13.469	-23.198***	-11.803
(p-value)	(0.0473)	(0.3157)	(0.0412)	(0.3995)	(0.0054)	(0.4771)
Target Size	0.283**	0.3198***	0.286**	-0.1173	-0.1178	-0.1169
(p-value)	(0.0217)	(0.009)	(0.0209)	(0.116)	(0.1149)	(0.1177)
Target Turnover	-0.011	-0.0104	-0.0108	0.00117	0.000883	0.0012
(p-value)	(0.2358)	(0.2586)	(0.246)	(0.899)	(0.9234)	(0.8965)
Target NYSE/Amex	-0.5805**	-0.5632**	-0.5742**	-0.3752	-0.367	-0.3686
(p-value)	(0.0427)	(0.0491)	(0.0457)	(0.1125)	(0.1212)	(0.1197)
Target B/M	-0.3598	-0.404	-0.369	-0.1934	-0.1914	-0.1923
(p-value)	(0.2283)	(0.1727)	(0.217)	(0.2068)	(0.2127)	(0.2097)
Target Runup	0.5162	0.5538	0.5034	0.5724	0.5889	0.5863
(p-value)	(0.2782)	(0.2483)	(0.2924)	(0.1145)	(0.1084)	(0.1083)
Target Markup	-0.0894	-0.2358	-0.0668	-0.1273	-0.1557	-0.126
(p-value)	(0.8397)	(0.586)	(0.8808)	(0.6778)	(0.6084)	(0.6812)
Collar	0.5945	0.63	0.596	0.1921	0.2079	0.1843
(p-value)	(0.2588)	(0.2338)	(0.2569)	(0.5954)	(0.5654)	(0.6104)
Toehold Exist	-1.0743*	-0.9883*	-1.0892*	-0.991**	-0.9851**	-0.9963
(p-value)	(0.0579)	(0.0797)	(0.0546)	(0.0236)	(0.0242)	(0.0228)
Horizontal	0.3178	0.3095	0.3227	0.1126	0.1067	0.1116
(p-value)	(0.2639)	(0.2753)	(0.257)	(0.6186)	(0.6366)	(0.6217)
Tender Offer	1.259***	1.1905***	1.2424***	1.1257***	1.1263***	1.1267***
(p-value)	(0.0011)	(0.0018)	(0.0013)	(0.0001)	(0.0001)	(0.0001)
Cash Bid	0.3449	0.4378	0.3355	0.0603	0.0557	0.0511
(p-value)	(0.218)	(0.1104)	(0.2323)	(0.7904)	(0.8064)	(0.8222)
Hostile	-3.6925***	-3.6365***	-3.6892***	-2.7149***	-2.7043***	-2.7109***
(p-value)	(<.0001)	(<.0001)	(<.0001)	(<.0001)	(<.0001)	(<.0001)
Multiple Bidders	-2.3347***	-2.2561***	-2.358***	-2.0206***	-2.0202***	-2.022***
(p-value)	(<.0001)	(<.0001)	(<.0001)	(<.0001)	(<.0001)	(<.0001)
Rumor	0.4267	0.3567	0.411	0.3702	0.3661	0.3628
(p-value)	(0.4188)	(0.4914)	(0.4363)	(0.4858)	(0.4916)	(0.495)
Adj-R^2	0.1916	0.1879	0.192	0.1307	0.1304	0.1308
Year Dummies	No	No	No	No	No	No
Industry Dummies	No	No	No	No	No	No
Number of Cases	743	743	743	1342	1342	1342

2.23 Appendix P – Tests Performed with AIV and VIV as main explanatory Variables with idiosyncratic volatility as Control in the Expanded Sample – Idiosyncratic Volatility Estimated over the [-256, -43]

Table 2-100 Cross-sectional Regression of Bidder Announcement CAR on AIV-Bidder (Target) and VIV-Bidder (Target) while controlling for Idiosyncratic Volatility (Expanded Sample).

Bidder CAR is equal to the sum of Bidder Abnormal Return ($AR_{i,t}$) estimated over the announcement period [-1,+1]. ARi,t is equal to $ER_{i,t} - (\alpha_i + \beta_i ER_{M,t})$. $ER_{i,t}$ is the bidder company 'i' return on day 't' above the risk free rate on that day. $ER_{M,t}$ is the CRSP Value Weighted Index return on day 't' in excess of the risk free rate on that day. The model's components (α_i, β_i) are obtained by estimating the model $(R_{i,t} = \alpha_i + \beta_i R_{M,t} + e_{i,t})$ over the [-256; -43]. The idiosyncratic volatility is estimated as the standard deviation of the market adjusted residuals of the daily returns measured during the period spanning 256 trading days before the announcement to 43 trading days before the announcement [-256, -43]. . Target Size is the logarithm of the target market value of equity 42 days before the announcement and target turnover is the ratio of the target volume to share outstanding estimated 42 days before the announcement. Target B/M is constructed as the ratio of the nearest target stock book value divided by the target stock price 42 days before the announcement. Target runup is defined as the ratio of the target price 2 days before the announcement divided by the target price 42 days before the announcement [(P_{-2} / P_{-42}) - 1]. Target markup is defined as the ratio of the offer price divided by the target price 2 days before the announcement [(Offer-Price / P_{-2}) - 1]. NYSE/AMEX, Collar, Tender Offer, Cash-Only, Hostile, Rumor, and Complete are dummy variables that respectively take the value of 1S if the Target is listed on NYSE/AMEX, the deal has a collar, the deal is a tender offer, the deal is financed by Cash only, the deal is hostile, the deal is preceded by a rumor and the deal is completed successfully. Horizontal is a dummy variable that takes a value of 1 if the bidder and target share the same four-digit Standard Industrial Classification (SIC) Code. The Toehold dummy takes a value of one if the bidder own more than 5% of target before the announcement day. Multibid dummy takes a value of 1 if there are multiple Bidders within the same contest (a contest is a 6-Month period from the first bidder's bid). Industry and year dummies corresponding to the target two-digit SIC codes and to the announcement year. The p-values are given underneath and are the White Heteroscedasticity consistent p-values. The *, **, *** indicate significance at 1%, 5%, and 10% respectively.

The Idiosyncratic Volatility is estimated over the [-256,-43] window

	Target AIV Related Tests			Target VIV Related Tests		
Deal-Type	All Control Bids	Non-Cash-Only Control Bids	Cash-Only Control Bids	All Control Bids	Non-Cash-Only Control Bids	Cash-Only Control Bids
Constant	0.09173	0.03352	0.17662*	0.06244	0.00993	0.1829**
(p-value)	(0.3506)	(0.8098)	(0.0532)	(0.5191)	(0.9433)	(0.0327)
AIV-Variable	-0.02636	-0.02643	0.00759			
(p-value)	(0.3222)	(0.4662)	(0.7543)			
VIV-Variable				-0.00729	-0.02781	0.01631
(p-value)				(0.9136)	(0.7937)	(0.7444)
Idio_Vol	0.2369	0.56959	-0.33349	0.01642	0.3405	-0.28623
(p-value)	(0.5835)	(0.3798)	(0.3174)	(0.9637)	(0.5272)	(0.3096)
Target Size	-0.00923**	-0.00745	-0.0073**	-0.00812**	-0.00658	-0.00751**
(p-value)	(0.0239)	(0.216)	(0.0466)	(0.0445)	(0.2762)	(0.0284)
Target Turnover	-0.0003655	-0.0004702	2.977E-05	-0.0003776	-0.0004937	4.138E-05
(p-value)	(0.2564)	(0.3558)	(0.9307)	(0.2386)	(0.3331)	(0.9026)
Target NYSE/Amex	0.00679	0.01039	-0.00311	0.00733	0.01108	-0.00315
(p-value)	(0.4442)	(0.5309)	(0.6626)	(0.4093)	(0.5032)	(0.6578)
Target B/M	-0.01245***	-0.0126***	-0.00657	-0.01281***	-0.0134***	-0.00696
(p-value)	(<.0001)	(0.0003)	(0.4807)	(<.0001)	(0.0001)	(0.4555)
Target Runup	-0.00911	8.729E-05	-0.00588	-0.00987	0.0001956	-0.00634
(p-value)	(0.6058)	(0.9971)	(0.6443)	(0.5849)	(0.9936)	(0.6382)
Target Markup	-0.03136**	-0.03859	-0.02216**	-0.03341**	-0.0404	-0.02171**
(p-value)	(0.0479)	(0.1451)	(0.0317)	(0.0286)	(0.117)	(0.0324)
Collar	0.02086	0.02312	0.01452	0.02201	0.02356	0.0142
(p-value)	(0.236)	(0.2728)	(0.4729)	(0.2062)	(0.2601)	(0.4806)
Toehold Exist	0.02382*	0.05317*	0.02458	0.02387*	0.0555*	0.02497
(p-value)	(0.0877)	(0.0602)	(0.1066)	(0.087)	(0.0508)	(0.102)
Horizontal	0.0006839	-0.01536	0.01768**	0.0005323	-0.01582	0.01785**
(p-value)	(0.9356)	(0.2199)	(0.0212)	(0.9492)	(0.2028)	(0.0192)
Tender Offer	0.00946	0.03252**	-4.899E-05	0.00901	0.0332**	0.0001577
(p-value)	(0.1525)	(0.0403)	(0.9939)	(0.1704)	(0.0412)	(0.9799)
Cash Bid	0.02732***			0.02865***		
(p-value)	(0.0001)			(<.0001)		
Hostile	-0.00994	0.00245	-0.04205***	-0.00904	0.00426	-0.04234***
(p-value)	(0.5001)	(0.9364)	(0.0016)	(0.544)	(0.89)	(0.0016)
Multiple Bidders	0.00498	0.01524	-0.01547*	0.0054	0.01594	-0.01596*
(p-value)	(0.6717)	(0.4967)	(0.0628)	(0.6452)	(0.4779)	(0.0514)
Rumor	0.02163	0.05187*	-0.00725	0.02071	0.05118*	-0.00715
(p-value)	(0.1231)	(0.0677)	(0.5206)	(0.1323)	(0.0675)	(0.5241)
Complete	0.02913**	0.03557*	0.0027	0.0299**	0.0363*	0.00253
(p-value)	(0.0211)	(0.0673)	(0.8023)	(0.0194)	(0.0619)	(0.815)
Adj-R^2	0.156	0.1052	0.1434	0.1545	0.1041	0.1435
Year Dummies	Yes	Yes	Yes	Yes	Yes	Yes
Industry Dummies	Yes	Yes	Yes	Yes	Yes	Yes
Number of Cases	743	407	336	743	407	336

Table 2-101 Cross-sectional Regression of Bidder Announcement CAR on AIV-Bidder (Target) and VIV-Bidder (Target) while controlling for Idiosyncratic Volatility (Expanded Sample).

Bidder CAR is equal to the sum of Bidder Abnormal Return ($AR_{i,t}$) estimated over the announcement period [-1,+1]. ARi,t is equal to $ER_{i,t} - (\alpha_i + \beta_i ER_{M,t})$. $ER_{i,t}$ is the bidder company 'i' return on day 't' above the risk free rate on that day. $ER_{M,t}$ is the CRSP Value Weighted Index return on day 't' in excess of the risk free rate on that day. The model's components (α_i, β_i) are obtained by estimating the model $(R_{i,t} = \alpha_i + \beta_i R_{M,t} + e_{i,t})$ over the [-256; -43]. The idiosyncratic volatility is estimated as the standard deviation of the market adjusted residuals of the daily returns measured during the period spanning 256 trading days before the announcement to 43 trading days before the announcement [-256, -43]. Target Size is the logarithm of the target market value of equity 42 days before the announcement and target turnover is the ratio of the target volume to share outstanding estimated 42 days before the announcement. Target B/M is constructed as the ratio of the nearest target stock book value divided by the target stock price 42 days before the announcement. Target runup is defined as the ratio of the target price 2 days before the announcement divided by the target price 42 days before the announcement [(P_{-2} / P_{-42}) - 1]. Target markup is defined as the ratio of the offer price divided by the target price 2 days before the announcement [(Offer-Price / P_{-2}) - 1]. NYSE/AMEX, Collar, Tender Offer, Cash-Only, Hostile, Rumor, and Complete are dummy variables that respectively take the value of 1S if the Target is listed on NYSE/AMEX, the deal has a collar, the deal is a tender offer, the deal is financed by Cash only, the deal is hostile, the deal is preceded by a rumor and the deal is completed successfully. Horizontal is a dummy variable that takes a value of 1 if the bidder and target share the same four-digit Standard Industrial Classification (SIC) Code. The Toehold dummy takes a value of one if the bidder own more than 5% of target before the announcement day. Multibid dummy takes a value of 1 if there are multiple Bidders within the same contest (a contest is a 6-Month period from the first bidder's bid). Industry and year dummies corresponding to the target two-digit SIC codes and to the announcement year. The p-values are given underneath and are the White Heteroscedasticity consistent p-values. The *, **, *** indicate significance at 1%, 5%, and 10% respectively.

	The Idiosyncratic Volatility is estimated over the [-256,-43] window					
	Bidder AIV Related Tests			Bidder VIV Related Tests		
Deal-Type	All Control Bids	Non-Cash-Only Control Bids	Cash-Only Control Bids	All Control Bids	Non-Cash-Only Control Bids	Cash-Only Control Bids
Constant	0.13648***	0.21768***	0.04768	0.11347***	0.18238***	0.04988
(p-value)	(<.0001)	(<.0001)	(0.1937)	(0.0002)	(0.0005)	(0.166)
AIV-Variable	-0.07675***	-0.08912**	-0.03124			
(p-value)	(0.0067)	(0.0386)	(0.3103)			
VIV-Variable				-0.06691	-0.03125	-0.08228
(p-value)				(0.2385)	(0.7846)	(0.1252)
Idio_Vol	-0.17845	-0.34418	0.19601	-1.00509***	-1.28224***	-0.28594
(p-value)	(0.6913)	(0.5975)	(0.7047)	(0.0001)	(0.0002)	(0.3556)
Target Size	-0.00815***	-0.01255***	-0.00205	-0.00732***	-0.01134***	-0.0023
(p-value)	(<.0001)	(<.0001)	(0.235)	(<.0001)	(<.0001)	(0.1814)
Target Turnover	-0.000125	-2.011E-05	-0.000217	-0.0002102	-0.0001783	-0.0002215
(p-value)	(0.5761)	(0.9524)	(0.3311)	(0.3408)	(0.5901)	(0.3233)
Target NYSE/Amex	0.0006125	0.00994	-0.0107**	0.00158	0.01224	-0.01083**
(p-value)	(0.8965)	(0.1835)	(0.0418)	(0.7376)	(0.105)	(0.0399)
Target B/M	0.0032	-0.0001946	0.00474*	0.00256	-0.0006046	0.00474*
(p-value)	(0.2803)	(0.9796)	(0.0728)	(0.3958)	(0.9387)	(0.0741)
Target Runup	0.00599	0.00724	0.00732	0.00709	0.00882	0.00677
(p-value)	(0.1906)	(0.2522)	(0.2082)	(0.1424)	(0.1943)	(0.2455)
Target Markup	-0.01515**	-0.02133*	-0.00647	-0.01552**	-0.02271*	-0.00668
(p-value)	(0.0139)	(0.0905)	(0.2349)	(0.0121)	(0.0687)	(0.2214)
Collar	-0.00197	-0.0035	-0.01406	-0.0009755	-0.00228	-0.01504
(p-value)	(0.7947)	(0.6722)	(0.4186)	(0.8973)	(0.7851)	(0.3918)
Toehold Exist	0.01618*	0.03849***	0.01029	0.01777**	0.04018***	0.01092
(p-value)	(0.0577)	(0.0051)	(0.3607)	(0.0371)	(0.003)	(0.3321)
Horizontal	0.00652	-0.0008125	0.01213**	0.00549	-0.00249	0.01236**
(p-value)	(0.1646)	(0.9049)	(0.039)	(0.2411)	(0.7152)	(0.0332)
Tender Offer	0.00309	-0.00315	0.00341	0.00361	-0.0006878	0.00342
(p-value)	(0.4858)	(0.7886)	(0.4583)	(0.4147)	(0.9526)	(0.4562)
Cash Bid	0.02023***			0.02244***		
(p-value)	(<.0001)			(<.0001)		
Hostile	0.01214	0.05081**	-0.02496**	0.01235	0.05166**	-0.02461**
(p-value)	(0.3181)	(0.0379)	(0.037)	(0.3181)	(0.0355)	(0.0382)
Multiple Bidders	0.00555	0.01634	-0.01123*	0.00553	0.01535	-0.01087*
(p-value)	(0.3227)	(0.1071)	(0.056)	(0.3212)	(0.1209)	(0.0658)
Rumor	0.0161	0.03548*	-0.00499	0.01615	0.03642*	-0.00526
(p-value)	(0.1507)	(0.0914)	(0.6623)	(0.1519)	(0.081)	(0.6451)
Complete	0.01713**	0.02677**	-0.0004695	0.01821**	0.02777**	-0.0004385
(p-value)	(0.0298)	(0.0193)	(0.9568)	(0.0203)	(0.0135)	(0.9593)
Adj-R^2	0.1849	0.1709	0.107	0.178	0.1569	0.1114
Year Dummies	Yes	Yes	Yes	Yes	Yes	Yes
Industry Dummies	Yes	Yes	Yes	Yes	Yes	Yes
Number of Cases	1342	677	665	1342	677	665

Table 2-102 Cross-sectional Regression of Bidder Announcement CAR on AIV-Bidder and VIV-Bidder while controlling for Idiosyncratic Volatility (Expanded Sample).

Bidder CAR is equal to the sum of Bidder Abnormal Return ($AR_{i,t}$) estimated over the announcement period [-1,+1]. ARi,t is equal to $ER_{i,t} - (\alpha_i + \beta_i ER_{M,t})$. $ER_{i,t}$ is the bidder company 'i' return on day 't' above the risk free rate on that day. $ER_{M,t}$ is the CRSP Value Weighted Index return on day 't' in excess of the risk free rate on that day. The model's components (α_i, β_i) are obtained by estimating the model $(R_{i,t} = \alpha_i + \beta_i R_{M,t} + e_{i,t})$ over the [-256; -43]. The idiosyncratic volatility is estimated as the standard deviation of the market adjusted residuals of the daily returns measured during the period spanning 256 trading days before the announcement to 43 trading days before the announcement [-256, -43]. Target Size is the logarithm of the target market value of equity 42 days before the announcement and target turnover is the ratio of the target volume to share outstanding estimated 42 days before the announcement. Target B/M is constructed as the ratio of the nearest target stock book value divided by the target stock price 42 days before the announcement. Target runup is defined as the ratio of the target price 2 days before the announcement divided by the target price 42 days before the announcement [$(P_{-2} / P_{-42}) - 1$]. Target markup is defined as the ratio of the offer price divided by the target price 2 days before the announcement [(Offer-Price / P_{-2}) - 1]. NYSE/AMEX, Collar, Tender Offer, Cash-Only, Hostile, Rumor, and Complete are dummy variables that respectively take the value of 1S if the Target is listed on NYSE/AMEX, the deal has a collar, the deal is a tender offer, the deal is financed by Cash only, the deal is hostile, the deal is preceded by a rumor and the deal is completed successfully. Horizontal is a dummy variable that takes a value of 1 if the bidder and target share the same four-digit Standard Industrial Classification (SIC) Code. The Toehold dummy takes a value of one if the bidder own more than 5% of target before the announcement day. Multibid dummy takes a value of 1 if there are multiple Bidders within the same contest (a contest is a 6-Month period from the first bidder's bid). Industry and year dummies corresponding to the target two-digit SIC codes and to the announcement year. The p-values are given underneath and are the White Heteroscedasticity consistent p-values. The *, **, *** indicate significance at 1%, 5%, and 10% respectively.

The Idiosyncratic Volatility is estimated over the [-256,-43] window

Deal-Type	All Control Bids	Non-Cash-Only Control Bids	Cash-Only Control Bids
Constant	0.13688***	0.22174***	0.04403
(p-value)	(<.0001)	(<.0001)	(0.2324)
AIV-Bidder	-0.07861**	-0.09758**	-0.00294
(p-value)	(0.0147)	(0.0308)	(0.9351)
VIV-Bidder	(0.00987)	(0.07665)	(-0.09337)
(p-value)	(0.8817)	(0.5412)	(0.1507)
Idio_Vol	-0.16809	-0.34551	-0.05251
(p-value)	(0.7139)	(0.5943)	(0.9241)
Target Size	-0.00814***	-0.01264***	-0.00215
(p-value)	(<.0001)	(<.0001)	(0.2122)
Target Turnover	-0.0001245	-2.587E-05	-0.0002351
(p-value)	(0.5775)	(0.9379)	(0.2927)
Target NYSE/Amex	0.0006278	0.01024	-0.01071**
(p-value)	(0.8939)	(0.1711)	(0.0418)
Target B/M	0.00321	-9.586E-05	0.00467*
(p-value)	(0.2794)	(0.99)	(0.0823)
Target Runup	0.00602	0.0073	0.00698
(p-value)	(0.1878)	(0.2447)	(0.229)
Target Markup	-0.01516**	-0.02092*	-0.00615
(p-value)	(0.014)	(0.0959)	(0.2535)
Collar	-0.002	-0.00388	-0.01677
(p-value)	(0.7915)	(0.6399)	(0.3469)
Toehold Exist	0.01611*	0.03803***	0.01106
(p-value)	(0.0583)	(0.0049)	(0.3371)
Horizontal	0.00652	-0.0007174	0.01204**
(p-value)	(0.1648)	(0.9162)	(0.0404)
Tender Offer	0.00312	-0.00312	0.00314
(p-value)	(0.4826)	(0.7913)	(0.4938)
Cash Bid	0.02019***		
(p-value)	(<.0001)		
Hostile	0.01212	0.05088**	-0.02487**
(p-value)	(0.3187)	(0.0363)	(0.0356)
Multiple Bidders	0.00551	0.01631	-0.01112*
(p-value)	(0.3252)	(0.1094)	(0.0592)
Rumor	0.01609	0.03511*	-0.00524
(p-value)	(0.1512)	(0.0944)	(0.6455)
Complete	0.01708**	0.02636**	-0.0003245
(p-value)	(0.0305)	(0.0213)	(0.97)
Adj-R^2	0.1843	0.1702	0.1084
Year Dummies	Yes	Yes	Yes
Industry Dummies	Yes	Yes	Yes
Number of Cases	1342	677	665

Table 2-103 Logistic Model Estimation of the Probability that the deal will be a cash-only offer versus a deal being a non-cash-only offer while controlling for Idiosyncratic Volatility (Expanded Sample).

The AIV-Bidder (Target) and VIV- Bidder (Target) are the mean and standard deviation of the Implied Volatilities of Bidder (Target) Companies estimated over the runup period [-42,-2].]. The idiosyncratic volatility is estimated as the standard deviation of the market adjusted residuals of the daily returns measured during the period spanning 256 trading days before the announcement to 43 trading days before the announcement [-256, -43]. Target (Acquirer) Size is the logarithm of the target (acquirer) market value of equity 42 days before the announcement and target (acquirer) turnover is the ratio of the target (acquirer) volume to share outstanding estimated 42 days before the announcement. Target (acquirer) B/M is constructed as the ratio of the nearest target stock book value divided by the target stock price 42 days before the announcement. Relative size is the ratio of the target size divided by the acquirer size (in log terms). NYSE/AMEX, Collar, Tender Offer, Cash-Only, Hostile, Rumor, and Complete are dummy variables that respectively take the value of 1 if the Target (Acquirer) is listed on NYSE/AMEX, the deal has a collar, the deal is a tender offer, the deal is financed by Cash only, the deal is hostile, the deal is preceded by a rumor and the deal is completed successfully. Horizontal is a dummy variable that takes a value of 1 if the bidder and target share the same four-digit Standard Industrial Classification (SIC) Code. The Toehold dummy takes a value of one if the bidder own more than 5% of target before the announcement day. Multibid dummy takes a value of 1 if there are multiple Bidders within the same contest (a contest is a 6-Month period from the first bidder's bid). The p-values are given underneath and are the MLE p-values. The *, **, *** indicate significance at 1%, 5%, and 10% respectively.

The Idiosyncratic Volatility is estimated over the [-256,-43]						
Independent Variable	AIV-Target	VIV-Target	AIV-Target and VIV-Target	AIV-Bidder	VIV-Bidder	AIV-Bidder and VIV-Bidder
Constant	-7.2118	-7.343	-7.6075	21.883**	20.7509**	21.094**
(p-value)	(0.6093)	(0.5921)	(0.5913)	(0.0323)	(0.0432)	(0.0389)
AIV-Variable	-4.1628***		-4.7397***	-1.4458*		-3.1532***
(p-value)	(<.0001)		(<.0001)	(0.0713)		(0.0013)
VIV-Variable		-2.8845*	2.1395		4.2328*	7.8532***
(p-value)		(0.0673)	(0.2471)		(0.0626)	(0.0016)
Idiosyncratic Volatility	-39.3365***	-78.8937***	-34.2109***	-71.085***	-93.521***	-57.7297***
(p-value)	(0.001)	(<.0001)	(0.007)	(<.0001)	(<.0001)	(<.0001)
Target Size	-1.6615**	-1.3419**	-1.6718**	0.4787	0.4588	0.4348
(p-value)	(0.014)	(0.039)	(0.0136)	(0.3499)	(0.3718)	(0.3958)
Target Turnover	0.0198*	0.0203*	0.0198*	-0.00634	-0.007	-0.0061
(p-value)	(0.0652)	(0.0523)	(0.0645)	(0.4252)	(0.3783)	(0.4439)
Target NYSE/Amex	-0.6092**	-0.6312***	-0.6046**	-0.341*	-0.3238*	-0.3288*
(p-value)	(0.0131)	(0.0089)	(0.0138)	(0.0573)	(0.0704)	(0.0682)
Target B/M	0.009	-0.0278	-0.00483	0.1367	0.1578	0.1405
(p-value)	(0.9633)	(0.8846)	(0.9786)	(0.227)	(0.1677)	(0.2135)
Acquirer Size	1.2857**	1.0958*	1.3005**	-0.5226	-0.4948	-0.4861
(p-value)	(0.0375)	(0.0662)	(0.036)	(0.2406)	(0.2687)	(0.2749)
Acquirer Turnover	-0.00944	-0.0142	-0.00865	0.018*	0.0147	0.0189**
(p-value)	(0.4697)	(0.262)	(0.5098)	(0.0537)	(0.105)	(0.0375)
Acquirer NYSE/Amex	-0.0286	-0.0586	-0.00667	-0.2395	-0.1839	-0.2076
(p-value)	(0.904)	(0.8009)	(0.9776)	(0.1683)	(0.2922)	(0.2355)
Acquirer B/M	0.573	0.5147	0.5485	0.4893*	0.374	0.4489
(p-value)	(0.1536)	(0.1799)	(0.1737)	(0.0793)	(0.171)	(0.1072)
Relative Size	16.7076	13.3794	17.0442	-19.9277*	-19.1877*	-18.8968
(p-value)	(0.2654)	(0.3574)	(0.2576)	(0.0846)	(0.0981)	(0.1019)
Collar	-2.7483***	-2.6786***	-2.7643***	-2.8117***	-2.7858***	-2.8111***
(p-value)	(<.0001)	(<.0001)	(<.0001)	(<.0001)	(<.0001)	(<.0001)
Toehold Exist	0.7806	0.9176	0.7851	-0.2345	-0.2225	-0.281
(p-value)	(0.1776)	(0.1164)	(0.1747)	(0.5452)	(0.5673)	(0.472)
Horizontal	-0.5667**	-0.6094***	-0.5549**	-0.4405**	-0.4448***	-0.4311**
(p-value)	(0.0161)	(0.0089)	(0.0187)	(0.0103)	(0.0096)	(0.0129)
Tender Offer	2.0704***	1.9031***	2.0714***	2.1465***	2.1526***	2.1834***
(p-value)	(<.0001)	(<.0001)	(<.0001)	(<.0001)	(<.0001)	(<.0001)
Hostile	0.5739	0.7524	0.5532	0.445	0.4879	0.4356
(p-value)	(0.297)	(0.1845)	(0.3132)	(0.3718)	(0.3311)	(0.3823)
Multiple Bidders	0.6284**	0.7974***	0.5874*	0.342	0.3508	0.3289
(p-value)	(0.0426)	(0.0092)	(0.0605)	(0.1166)	(0.1075)	(0.1333)
Rumor	0.746*	0.6583*	0.7482*	0.4974	0.4548	0.4692
(p-value)	(0.0554)	(0.0818)	(0.0553)	(0.1829)	(0.2228)	(0.2084)
Complete	-0.0705	0.1014	-0.1049	-0.2161	-0.188	-0.2312
(p-value)	(0.8209)	(0.7394)	(0.7385)	(0.3574)	(0.4235)	(0.3273)
Adj-R^2	0.4001	0.3791	0.4012	0.3574	0.3576	0.3627
Year Dummies	No	No	No	No	No	No
Industry Dummies	No	No	No	No	No	No
Number of Cases	743	743	743	1342	1342	1342

Table 2-104 Logistic Model Estimation of the Probability that the deal will be a completed successfully on AIV- (Bidder) Target and VIV- (Bidder) Target with Idiosyncratic Volatility used as Control Variable (Expanded Sample).

The AIV-Bidder (Target) and VIV- Bidder (Target) are the mean and standard deviation of the Implied Volatilities of Bidder (Target) Companies estimated over the runup period [-42,-2]. The idiosyncratic volatility is estimated as the standard deviation of the market adjusted residuals of the daily returns measured during the period spanning 256 trading days before the announcement to 43 trading days before the announcement [-256, -43]. Target Size is the logarithm of the target (acquirer) market value of equity 42 days before the announcement and target turnover is the ratio of the target volume to share outstanding estimated 42 days before the announcement. Target (acquirer) B/M is constructed as the ratio of the nearest target stock book value divided by the target stock price 42 days before the announcement. Target runup is defined as the ratio of the target (acquirer) price 2 days before the announcement divided by the target (acquirer) price 42 days before the announcement [$(P_{-2} / P_{-42}) - 1$]. Target markup is defined as the ratio of the offer price divided by the target (acquirer) price 2 days before the announcement [(Offer-Price / P_{-2}) - 1]. NYSE/AMEX, Collar, Tender Offer, Cash-Only, Hostile, Rumor, and Complete are dummy variables that respectively take the value of 1 if the Target is listed on NYSE/AMEX, the deal has a collar, the deal is a tender offer, the deal is financed by Cash only, the deal is hostile, the deal is preceded by a rumor and the deal is completed successfully. Horizontal is a dummy variable that takes a value of 1 if the bidder and target share the same four-digit Standard Industrial Classification (SIC) Code. The Toehold dummy takes a value of one if the bidder own more than 5% of target before the announcement day. Multibid dummy takes a value of 1 if there are multiple Bidders within the same contest (a contest is a 6-Month period from the first bidder's bid). The p-values are given underneath and are the MLE p-values. The *, **, *** indicate significance at 1%, 5%, and 10% respectively.

The Idiosyncratic Volatility is estimated over the [-256,-43]

Deal-Type	AIV-Target	VIV-Target	AIV-Target and VIV-Target	AIV-Bidder	VIV-Bidder	AIV-Bidder and VIV-Bidder
Constant	-3.8718	-5.0405*	-4.0683	5.5301***	5.4482***	5.5317***
(p-value)	(0.1507)	(0.0598)	(0.1341)	(0.0003)	(0.0004)	(0.0003)
AIV-Variable	-1.5658**		-2.0022**	-0.7611		-0.9856
(p-value)	(0.0317)		(0.0209)	(0.3886)		(0.3336)
VIV-Variable		-0.353	2.1281		-0.00221	1.226
(p-value)		(0.8529)	(0.3445)		(0.9993)	(0.6555)
Idiosyncratic Volatility	31.9691**	14.9477	36.3593***	-11.7415	-21.9341***	-10.2381
(p-value)	(0.0128)	(0.1208)	(0.0089)	(0.4037)	(0.0064)	(0.4832)
Target Size	0.3068**	0.348***	0.3149**	-0.1174	-0.1172	-0.117
(p-value)	(0.0141)	(0.0053)	(0.0125)	(0.116)	(0.1173)	(0.1179)
Target Turnover	-0.0142	-0.0133	-0.0144	0.00115	0.000679	0.00119
(p-value)	(0.1348)	(0.1549)	(0.1334)	(0.9007)	(0.941)	(0.8979)
Target NYSE/Amex	-0.5638**	-0.5333*	-0.5508*	-0.3754	-0.3657	-0.3688
(p-value)	(0.0486)	(0.0621)	(0.0552)	(0.1123)	(0.1223)	(0.1195)
Target B/M	-0.3628	-0.4274	-0.3777	-0.1927	-0.1912	-0.1918
(p-value)	(0.2309)	(0.1541)	(0.2134)	(0.2083)	(0.2132)	(0.2109)
Target Runup	0.6505	0.5973	0.636	0.5756	0.5966	0.5891
(p-value)	(0.1658)	(0.2119)	(0.1776)	(0.1132)	(0.1056)	(0.1071)
Target Markup	-0.0729	-0.2385	-0.0336	-0.1232	-0.1536	-0.1222
(p-value)	(0.8692)	(0.582)	(0.9401)	(0.6871)	(0.6133)	(0.6897)
Collar	0.5912	0.6333	0.5952	0.1905	0.2084	0.1828
(p-value)	(0.2611)	(0.2322)	(0.2568)	(0.5985)	(0.5648)	(0.6132)
Toehold Exist	-0.9585*	-0.9525*	-0.9697*	-0.9874**	-0.9743**	-0.9931**
(p-value)	(0.0943)	(0.0926)	(0.0898)	(0.0241)	(0.0259)	(0.0233)
Horizontal	0.3108	0.3129	0.3172	0.1152	0.1096	0.1139
(p-value)	(0.273)	(0.27)	(0.2641)	(0.6108)	(0.628)	(0.6149)
Tender Offer	1.2692***	1.1836***	1.2432***	1.1259***	1.1261***	1.1269***
(p-value)	(0.001)	(0.0019)	(0.0013)	(0.0001)	(0.0001)	(0.0001)
Cash Bid	0.3963	0.4949*	0.3893	0.0628	0.0656	0.0534
(p-value)	(0.1597)	(0.0732)	(0.1687)	(0.7814)	(0.7719)	(0.8141)
Hostile	-3.7217***	-3.6516***	-3.7207***	-2.7135***	-2.7005***	-2.7098***
(p-value)	(<.0001)	(<.0001)	(<.0001)	(<.0001)	(<.0001)	(<.0001)
Multiple Bidders	-2.3022***	-2.2522***	-2.3387***	-2.0225***	-2.0237***	-2.0236***
(p-value)	(<.0001)	(<.0001)	(<.0001)	(<.0001)	(<.0001)	(<.0001)
Rumor	0.456	0.3521	0.4328	0.3738	0.3749	0.3659
(p-value)	(0.3941)	(0.4987)	(0.4188)	(0.4815)	(0.4811)	(0.4912)
Adj-R^2	0.1944	0.1895	0.1954	0.1307	0.1302	0.1308
Year Dummies	No	No	No	No	No	No
Industry Dummies	No	No	No	No	No	No
Number of Cases	743	743	743	1342	1342	1342

2.24 Appendix Q – Tests Performed with AIV and VIV as main explanatory Variables with idiosyncratic volatility as Control in the Expanded Sample – Idiosyncratic Volatility Estimated over the [-256, -2] interval – AIV and VIV are orthogonalizedd against the Idiosyncratic Volatility

Table 2-105 Cross-sectional Regression of Bidder Announcement CAR CAR on AIV-Bidder (Target) and VIV-Bidder (Target) while controlling for Idiosyncratic Volatility.

Bidder CAR is equal to the sum of Bidder Abnormal Return ($AR_{i,t}$) estimated over the announcement period [-1,+1]. ARi,t is equal to $ER_{i,t} - (\alpha_i + \beta_i ER_{M,t})$. $ER_{i,t}$ is the bidder company 'i' return on day 't' above the risk free rate on that day. $ER_{M,t}$ is the CRSP Value Weighted Index return on day 't' in excess of the risk free rate on that day. The model's components (α_i, β_i) are obtained by estimating the model $(R_{i,t} = \alpha_i + \beta_i R_{M,t} + e_{i,t})$ over the [-256; -43]. The idiosyncratic volatility is estimated as the standard deviation of the market adjusted residuals of the daily returns measured during the period spanning 256 trading days before the announcement to 2 trading days before the announcement [-256, -2]. . Target Size is the logarithm of the target market value of equity 42 days before the announcement and target turnover is the ratio of the target volume to share outstanding estimated 42 days before the announcement. Target B/M is constructed as the ratio of the nearest target stock book value divided by the target stock price 42 days before the announcement. Target runup is defined as the ratio of the target price 2 days before the announcement divided by the target price 42 days before the announcement [(P_{-2} / P_{-42}) - 1]. Target markup is defined as the ratio of the offer price divided by the target price 2 days before the announcement [(Offer-Price / P_{-2}) - 1]. NYSE/AMEX, Collar, Tender Offer, Cash-Only, Hostile, Rumor, and Complete are dummy variables that respectively take the value of 1S if the Target is listed on NYSE/AMEX, the deal has a collar, the deal is a tender offer, the deal is financed by Cash only, the deal is hostile, the deal is preceded by a rumor and the deal is completed successfully. Horizontal is a dummy variable that takes a value of 1 if the bidder and target share the same four-digit Standard Industrial Classification (SIC) Code. The Toehold dummy takes a value of one if the bidder own more than 5% of target before the announcement day. Multibid dummy takes a value of 1 if there are multiple Bidders within the same contest (a contest is a 6-Month period from the first bidder's bid). Industry and year dummies corresponding to the target two-digit SIC codes and to the announcement year. The p-values are given underneath and are the White Heteroscedasticity consistent p-values. The *, **, *** indicate significance at 1%, 5%, and 10% respectively.

The Idiosyncratic Volatility is estimated over the [-256,-2] window

	Target AIV Related Tests			Target VIV Related Tests		
Deal-Type	All Control Bids	Non-Cash-Only Control Bids	Cash-Only Control Bids	All Control Bids	Non-Cash-Only Control Bids	Cash-Only Control Bids
Constant	0.09764	0.04336	0.17571*	0.07812	0.02583	0.18342**
(p-value)	(0.3077)	(0.7521)	(0.0541)	(0.4051)	(0.8494)	(0.0377)
AIV-Variable	-0.02282	-0.02615	0.01098			
(p-value)	(0.4034)	(0.4889)	(0.679)			
VIV-Variable				-0.00369	-0.03305	0.01928
(p-value)				(0.9558)	(0.7539)	(0.7032)
Idio_Vol	-0.17626	0.1232	-0.24563	-0.1175	0.18354	-0.26555
(p-value)	(0.6133)	(0.8152)	(0.4148)	(0.7268)	(0.7204)	(0.3693)
Target Size	-0.00951**	-0.00787	-0.00703*	-0.0086**	-0.00711	-0.0074**
(p-value)	(0.0201)	(0.1925)	(0.0573)	(0.0319)	(0.2376)	(0.0326)
Target Turnover	-0.0003108	-0.0003939	0.0000234	-0.0003249	-0.0004234	3.871E-05
(p-value)	(0.311)	(0.4257)	(0.9453)	(0.2799)	(0.3868)	(0.9087)
Target NYSE/Amex	0.00644	0.00993	-0.00284	0.00681	0.01046	-0.00295
(p-value)	(0.465)	(0.5464)	(0.6898)	(0.4406)	(0.5244)	(0.6783)
Target B/M	-0.0126***	-0.01289***	-0.00646	-0.0129***	-0.01359***	-0.00695
(p-value)	(<.0001)	(0.0002)	(0.4938)	(<.0001)	(<.0001)	(0.4619)
Target Runup	-0.00967	-0.00169	-0.00375	-0.00906	-0.0005724	-0.00464
(p-value)	(0.5915)	(0.9465)	(0.7774)	(0.624)	(0.9818)	(0.7374)
Target Markup	-0.03167**	-0.03936	-0.02202**	-0.03313**	-0.04083	-0.0214**
(p-value)	(0.0456)	(0.1374)	(0.0316)	(0.0309)	(0.1147)	(0.0346)
Collar	0.02077	0.02305	0.01366	0.02156	0.0233	0.01342
(p-value)	(0.2383)	(0.2751)	(0.4935)	(0.2163)	(0.2669)	(0.5013)
Toehold Exist	0.02411*	0.05244*	0.02417	0.02472*	0.05513*	0.02471
(p-value)	(0.087)	(0.0619)	(0.1167)	(0.0804)	(0.0507)	(0.1092)
Horizontal	0.0006245	-0.01579	0.01777**	0.0006316	-0.01598	0.01795**
(p-value)	(0.9411)	(0.2079)	(0.0205)	(0.9397)	(0.2006)	(0.0183)
Tender Offer	0.00925	0.03208**	0.00002876	0.00888	0.03282**	0.0002943
(p-value)	(0.1621)	(0.0428)	(0.9964)	(0.1767)	(0.0435)	(0.9627)
Cash Bid	0.02726***			0.02835***		
(p-value)	(0.0001)			(<.0001)		
Hostile	-0.00975	0.00179	-0.04268***	-0.00919	0.00362	-0.04286***
(p-value)	(0.5087)	(0.9535)	(0.0014)	(0.5377)	(0.9066)	(0.0014)
Multiple Bidders	0.00493	0.01498	-0.01424*	0.00573	0.01599	-0.01508*
(p-value)	(0.6761)	(0.5043)	(0.086)	(0.6268)	(0.4771)	(0.0617)
Rumor	0.02176	0.05146*	-0.00747	0.02119	0.05123*	-0.00728
(p-value)	(0.1185)	(0.0685)	(0.5073)	(0.1218)	(0.067)	(0.5151)
Complete	0.02949**	0.03633*	0.0029	0.0301**	0.03685*	0.00269
(p-value)	(0.0206)	(0.0649)	(0.7887)	(0.0192)	(0.0594)	(0.8039)
Adj-R^2	0.1556	0.1043	0.1436	0.1547	0.1035	0.1436
Year Dummies	Yes	Yes	Yes	Yes	Yes	Yes
Industry Dummies	Yes	Yes	Yes	Yes	Yes	Yes
Number of Cases	743	407	336	743	407	336

Table 2-106 Cross-sectional Regression of Bidder Announcement CAR CAR on AIV-Bidder (Target) and VIV-Bidder (Target) while controlling for Idiosyncratic Volatility.

Bidder CAR is equal to the sum of Bidder Abnormal Return ($AR_{i,t}$) estimated over the announcement period [-1,+1]. ARi,t is equal to $ER_{i,t} - (\alpha_i + \beta_i ER_{M,t})$. $ER_{i,t}$ is the bidder company 'i' return on day 't' above the risk free rate on that day. $ER_{M,t}$ is the CRSP Value Weighted Index return on day 't' in excess of the risk free rate on that day. The model's components (α_i, β_i) are obtained by estimating the model $(R_{i,t} = \alpha_i + \beta_i R_{M,t} + e_{i,t})$ over the [-256; -43]. The idiosyncratic volatility is estimated as the standard deviation of the market adjusted residuals of the daily returns measured during the period spanning 256 trading days before the announcement to 2 trading days before the announcement [-256, -2]. . Target Size is the logarithm of the target market value of equity 42 days before the announcement and target turnover is the ratio of the target volume to share outstanding estimated 42 days before the announcement. Target B/M is constructed as the ratio of the nearest target stock book value divided by the target stock price 42 days before the announcement. Target runup is defined as the ratio of the target price 2 days before the announcement divided by the target price 42 days before the announcement [(P_{-2} / P_{-42}) - 1]. Target markup is defined as the ratio of the offer price divided by the target price 2 days before the announcement [(Offer-Price / P_{-2}) - 1]. NYSE/AMEX, Collar, Tender Offer, Cash-Only, Hostile, Rumor, and Complete are dummy variables that respectively take the value of 1S if the Target is listed on NYSE/AMEX, the deal has a collar, the deal is a tender offer, the deal is financed by Cash only, the deal is hostile, the deal is preceded by a rumor and the deal is completed successfully. Horizontal is a dummy variable that takes a value of 1 if the bidder and target share the same four-digit Standard Industrial Classification (SIC) Code. The Toehold dummy takes a value of one if the bidder own more than 5% of target before the announcement day. Multibid dummy takes a value of 1 if there are multiple Bidders within the same contest (a contest is a 6-Month period from the first bidder's bid). Industry and year dummies corresponding to the target two-digit SIC codes and to the announcement year. The p-values are given underneath and are the White Heteroscedasticity consistent p-values. The *, **, *** indicate significance at 1%, 5%, and 10% respectively.

The Idiosyncratic Volatility is estimated over the [-256,-2] window

	Bidder AIV Related Tests			Bidder VIV Related Tests		
Deal-Type	All Control Bids	Non-Cash-Only Control Bids	Cash-Only Control Bids	All Control Bids	Non-Cash-Only Control Bids	Cash-Only Control Bids
Constant	0.13068***	0.21121***	0.04601	0.1226***	0.20968***	0.04402
(p-value)	(<.0001)	(<.0001)	(0.2075)	(<.0001)	(<.0001)	(0.2268)
AIV-Variable	-0.07081**	-0.083*	-0.02605			
(p-value)	(0.0212)	(0.0838)	(0.4177)			
VIV-Variable				-0.06776	0.00196	-0.09396*
(p-value)				(0.2383)	(0.9867)	(0.0914)
Idio_Vol	-1.3016***	-1.63651***	-0.29486	-1.25063***	-1.58283***	-0.25263
(p-value)	(<.0001)	(<.0001)	(0.402)	(<.0001)	(<.0001)	(0.4668)
Target Size	-0.00817***	-0.01257***	-0.00207	-0.00791***	-0.01224***	-0.0022
(p-value)	(<.0001)	(<.0001)	(0.2292)	(<.0001)	(<.0001)	(0.1984)
Target Turnover	-0.0001215	-1.736E-05	-0.0002129	-0.0001594	-9.592E-05	-0.0002311
(p-value)	(0.5855)	(0.9588)	(0.3384)	(0.4751)	(0.7737)	(0.2991)
Target NYSE/Amex	0.000567	0.00989	-0.01068**	0.000673	0.00985	-0.01073**
(p-value)	(0.9042)	(0.1859)	(0.0419)	(0.8863)	(0.1904)	(0.0416)
Target B/M	0.00324	-0.0001	0.00483*	0.00337	0.0003723	0.00472*
(p-value)	(0.2758)	(0.9895)	(0.0714)	(0.2664)	(0.961)	(0.0816)
Target Runup	0.00597	0.00726	0.00728	0.00592	0.00783	0.0069
(p-value)	(0.1932)	(0.2521)	(0.2115)	(0.2053)	(0.2203)	(0.2346)
Target Markup	-0.01535**	-0.02151*	-0.00665	-0.01664***	-0.02373*	-0.00632
(p-value)	(0.013)	(0.0878)	(0.2219)	(0.0076)	(0.0625)	(0.2401)
Collar	-0.00187	-0.0034	-0.01376	-0.0008479	-0.00258	-0.01644
(p-value)	(0.805)	(0.6807)	(0.4247)	(0.9108)	(0.7564)	(0.3527)
Toehold Exist	0.0161*	0.03826***	0.01038	0.01701**	0.03846***	0.01108
(p-value)	(0.0587)	(0.0053)	(0.3575)	(0.0462)	(0.003)	(0.3317)
Horizontal	0.00656	-0.0007753	0.01225**	0.00612	-0.00155	0.01214**
(p-value)	(0.1618)	(0.9092)	(0.0372)	(0.1932)	(0.8203)	(0.0388)
Tender Offer	0.00312	-0.0032	0.00346	0.00318	-0.00322	0.0032
(p-value)	(0.4816)	(0.785)	(0.4513)	(0.475)	(0.7854)	(0.4864)
Cash Bid	0.02007***			0.0206***		
(p-value)	(<.0001)			(<.0001)		
Hostile	0.01216	0.05077**	-0.0248**	0.01337	0.05226**	-0.02476**
(p-value)	(0.3167)	(0.0381)	(0.0376)	(0.2717)	(0.0338)	(0.0365)
Multiple Bidders	0.00557	0.01642	-0.01131*	0.00567	0.01758*	-0.01111*
(p-value)	(0.32)	(0.1051)	(0.0545)	(0.3086)	(0.0776)	(0.0589)
Rumor	0.01596	0.03532*	-0.00514	0.01513	0.0343*	-0.00532
(p-value)	(0.1535)	(0.092)	(0.653)	(0.1735)	(0.094)	(0.641)
Complete	0.01703**	0.02664**	-0.0006744	0.01738**	0.0271**	-0.0004421
(p-value)	(0.0306)	(0.0195)	(0.9379)	(0.0275)	(0.0168)	(0.9591)
Adj-R^2	0.1851	0.1711	0.1068	0.1799	0.1634	0.1101
Year Dummies	Yes	Yes	Yes	Yes	Yes	Yes
Industry Dummies	Yes	Yes	Yes	Yes	Yes	Yes
Number of Cases	1342	677	665	1342	677	665

Table 2-107 Cross-sectional Regression of Bidder Announcement CAR on AIV-Bidder and VIV-Bidder while controlling for Idiosyncratic Volatility.

Bidder CAR is equal to the sum of Bidder Abnormal Return ($AR_{i,t}$) estimated over the announcement period [-1,+1]. ARi,t is equal to $ER_{i,t} - (\alpha_i + \beta_i ER_{M,t})$. $ER_{i,t}$ is the bidder company 'i' return on day 't' above the risk free rate on that day. $ER_{M,t}$ is the CRSP Value Weighted Index return on day 't' in excess of the risk free rate on that day. The model's components (α_i, β_i) are obtained by estimating the model $(R_{i,t} = \alpha_i + \beta_i R_{M,t} + e_{i,t})$ over the [-256; -43]. The idiosyncratic volatility is estimated as the standard deviation of the market adjusted residuals of the daily returns measured during the period spanning 256 trading days before the announcement to 2 trading days before the announcement [-256, -2]. Target Size is the logarithm of the target market value of equity 42 days before the announcement and target turnover is the ratio of the target volume to share outstanding estimated 42 days before the announcement. Target B/M is constructed as the ratio of the nearest target stock book value divided by the target stock price 42 days before the announcement. Target runup is defined as the ratio of the target price 2 days before the announcement divided by the target price 42 days before the announcement [(P_{-2} / P_{-42}) - 1]. Target markup is defined as the ratio of the offer price divided by the target price 2 days before the announcement [(Offer-Price / P_{-2}) - 1]. NYSE/AMEX, Collar, Tender Offer, Cash-Only, Hostile, Rumor, and Complete are dummy variables that respectively take the value of 1S if the Target is listed on NYSE/AMEX, the deal has a collar, the deal is a tender offer, the deal is financed by Cash only, the deal is hostile, the deal is preceded by a rumor and the deal is completed successfully. Horizontal is a dummy variable that takes a value of 1 if the bidder and target share the same four-digit Standard Industrial Classification (SIC) Code. The Toehold dummy takes a value of one if the bidder own more than 5% of target before the announcement day. Multibid dummy takes a value of 1 if there are multiple Bidders within the same contest (a contest is a 6-Month period from the first bidder's bid). Industry and year dummies corresponding to the target two-digit SIC codes and to the announcement year. The p-values are given underneath and are the White Heteroscedasticity consistent p-values. The *, **, *** indicate significance at 1%, 5%, and 10% respectively.

The Idiosyncratic Volatility is estimated over the [-256,-2] window

Deal-Type	All Control Bids	Non-Cash-Only Control Bids	Cash-Only Control Bids
Constant	0.13142***	0.21591***	0.04367
(p-value)	(<.0001)	(<.0001)	(0.2333)
AIV-Bidder	-0.07364**	-0.08766*	-0.00332
(p-value)	(0.0287)	(0.07)	(0.9283)
VIV-Bidder	0.01866	0.08392	-0.08068
(p-value)	(0.7685)	(0.4791)	(0.1955)
Idio_Vol	-1.31092***	-1.67088***	-0.25193
(p-value)	(<.0001)	(<.0001)	(0.4697)
Target Size	-0.00816***	-0.01266***	-0.00217
(p-value)	(<.0001)	(<.0001)	(0.2078)
Target Turnover	-0.0001205	-2.321E-05	-0.0002288
(p-value)	(0.5878)	(0.9442)	(0.3038)
Target NYSE/Amex	0.0006001	0.01027	-0.01069**
(p-value)	(0.8986)	(0.17)	(0.042)
Target B/M	0.00325	7.211E-05	0.00476*
(p-value)	(0.2744)	(0.9925)	(0.0824)
Target Runup	0.00604	0.00736	0.00697
(p-value)	(0.1874)	(0.2425)	(0.2308)
Target Markup	-0.01537**	-0.02112*	-0.00635
(p-value)	(0.0129)	(0.0918)	(0.2389)
Collar	-0.00191	-0.0037	-0.01627
(p-value)	(0.8006)	(0.6548)	(0.3568)
Toehold Exist	0.01596*	0.03765***	0.01103
(p-value)	(0.0598)	(0.0052)	(0.3394)
Horizontal	0.00658	-0.0006616	0.01214**
(p-value)	(0.1614)	(0.9227)	(0.0388)
Tender Offer	0.00319	-0.00312	0.00321
(p-value)	(0.4727)	(0.7911)	(0.4843)
Cash Bid	0.02***		
(p-value)	(<.0001)		
Hostile	0.01211	0.05077**	-0.02475**
(p-value)	(0.3185)	(0.0365)	(0.036)
Multiple Bidders	0.00552	0.01638	-0.01123*
(p-value)	(0.3246)	(0.1074)	(0.0567)
Rumor	0.01592	0.03485*	-0.00535
(p-value)	(0.1546)	(0.0957)	(0.6386)
Complete	0.01692**	0.02609**	-0.0005706
(p-value)	(0.0318)	(0.022)	(0.9473)
Adj-R^2	0.1846	0.1707	0.1076
Year Dummies	Yes	Yes	Yes
Industry Dummies	Yes	Yes	Yes
Number of Cases	1342	677	665

Table 2-108 Logistic Model Estimation of the Probability that the deal will be a cash-only offer versus a deal being a non-cash-only offer while controlling for Idiosyncratic Volatility.

The AIV-Bidder (Target) and VIV- Bidder (Target) are the mean and standard deviation of the Implied Volatilities of Bidder (Target) Companies estimated over the runup period [-42,-2].]. The idiosyncratic volatility is estimated as the standard deviation of the market adjusted residuals of the daily returns measured during the period spanning 256 trading days before the announcement to 2 trading days before the announcement [-256, -2]. Target (Acquirer) Size is the logarithm of the target (acquirer) market value of equity 42 days before the announcement and target (acquirer) turnover is the ratio of the target (acquirer) volume to share outstanding estimated 42 days before the announcement. Target (acquirer) B/M is constructed as the ratio of the nearest target stock book value divided by the target stock price 42 days before the announcement. Relative size is the ratio of the target size divided by the acquirer size (in log terms). NYSE/AMEX, Collar, Tender Offer, Cash-Only, Hostile, Rumor, and Complete are dummy variables that respectively take the value of 1 if the Target (Acquirer) is listed on NYSE/AMEX, the deal has a collar, the deal is a tender offer, the deal is financed by Cash only, the deal is hostile, the deal is preceded by a rumor and the deal is completed successfully. Horizontal is a dummy variable that takes a value of 1 if the bidder and target share the same four-digit Standard Industrial Classification (SIC) Code. The Toehold dummy takes a value of one if the bidder own more than 5% of target before the announcement day. Multibid dummy takes a value of 1 if there are multiple Bidders within the same contest (a contest is a 6-Month period from the first bidder's bid). The p-values are given underneath and are the MLE p-values. The *, **, *** indicate significance at 1%, 5%, and 10% respectively.

The Idiosyncratic Volatility is estimated over the [-256,-2] window						
Independent Variable	AIV-Target	VIV-Target	AIV-Target and VIV-Target	AIV-Bidder	VIV-Bidder	AIV-Bidder and VIV-Bidder
Constant	-7.1702	-7.5308	-7.6823	22.9565**	22.6269**	22.1235**
(p-value)	(0.6136)	(0.5824)	(0.5903)	(0.0255)	(0.0287)	(0.0314)
AIV-Variable	-4.3841***		-5.1613***	-0.542		-2.2051**
(p-value)	(<.0001)		(<.0001)	(0.5433)		(0.0405)
VIV-Variable		-1.9526	2.7975		5.5588**	7.6818***
(p-value)		(0.2252)	(0.1249)		(0.018)	(0.0024)
Idiosyncratic Volatility	-83.9757***	-76.0789***	-84.0966***	-94.2935***	-92.9124***	-94.5123***
(p-value)	(<.0001)	(<.0001)	(<.0001)	(<.0001)	(<.0001)	(<.0001)
Target Size	-1.5784**	-1.2859**	-1.5954**	0.5276	0.5224	0.4852
(p-value)	(0.0197)	(0.0474)	(0.0189)	(0.3052)	(0.3124)	(0.346)
Target Turnover	0.0161	0.0165	0.0167	-0.00626	-0.0065	-0.00603
(p-value)	(0.1251)	(0.1106)	(0.1127)	(0.4338)	(0.4176)	(0.4515)
Target NYSE/Amex	-0.5994**	-0.6113**	-0.5939**	-0.3337*	-0.3185*	-0.3237*
(p-value)	(0.0144)	(0.0111)	(0.0153)	(0.0634)	(0.0765)	(0.0729)
Target B/M	0.0246	-0.00273	0.00556	0.1288	0.1422	0.1342
(p-value)	(0.8989)	(0.989)	(0.9746)	(0.2542)	(0.2109)	(0.2339)
Acquirer Size	1.2269**	1.0703*	1.2467**	-0.5696	-0.5625	-0.5351
(p-value)	(0.0479)	(0.0724)	(0.0454)	(0.2034)	(0.2117)	(0.2323)
Acquirer Turnover	-0.00905	-0.0134	-0.00826	0.0172*	0.0155*	0.0182**
(p-value)	(0.4826)	(0.2839)	(0.5255)	(0.0668)	(0.0918)	(0.048)
Acquirer NYSE/Amex	-0.0182	-0.0383	0.00942	-0.2335	-0.1844	-0.2009
(p-value)	(0.9386)	(0.8687)	(0.9684)	(0.1804)	(0.2928)	(0.2522)
Acquirer B/M	0.6068	0.5328	0.5684	0.4327	0.3343	0.3985
(p-value)	(0.1254)	(0.1614)	(0.1543)	(0.1252)	(0.2278)	(0.1566)
Relative Size	15.2924	12.7286	15.7639	-21.1073*	-20.8346*	-20.1104*
(p-value)	(0.3104)	(0.3808)	(0.2979)	(0.0692)	(0.0744)	(0.0835)
Collar	-2.7645***	-2.6133***	-2.79***	-2.7786***	-2.7546***	-2.7805***
(p-value)	(<.0001)	(<.0001)	(<.0001)	(<.0001)	(<.0001)	(<.0001)
Toehold Exist	0.8169	1.0994*	0.7938	-0.231	-0.2396	-0.2752
(p-value)	(0.1553)	(0.0599)	(0.167)	(0.5509)	(0.538)	(0.4806)
Horizontal	-0.5729**	-0.6318***	-0.5541**	-0.4424**	-0.4421**	-0.4331**
(p-value)	(0.0147)	(0.0066)	(0.0186)	(0.0103)	(0.0106)	(0.0127)
Tender Offer	2.0601***	1.8966***	2.0634***	2.154***	2.1679***	2.1845***
(p-value)	(<.0001)	(<.0001)	(<.0001)	(<.0001)	(<.0001)	(<.0001)
Hostile	0.5129	0.6236	0.4985	0.4396	0.4692	0.4376
(p-value)	(0.351)	(0.2717)	(0.3626)	(0.3796)	(0.3514)	(0.382)
Multiple Bidders	0.6607***	0.9146***	0.5966*	0.3614*	0.3646*	0.3459
(p-value)	(0.0329)	(0.0025)	(0.0575)	(0.0988)	(0.0966)	(0.1157)
Rumor	0.7678**	0.6821*	0.7679**	0.4738	0.4294	0.448
(p-value)	(0.0481)	(0.0719)	(0.0489)	(0.2035)	(0.2488)	(0.229)
Complete	-0.1098	0.0298	-0.1481	-0.2132	-0.199	-0.2258
(p-value)	(0.7228)	(0.9213)	(0.6356)	(0.3651)	(0.399)	(0.3397)
Adj-R^2	0.396	0.3739	0.398	0.3601	0.3629	0.3649
Year Dummies	No	No	No	No	No	No
Industry Dummies	No	No	No	No	No	No
Number of Cases	743	743	743	1342	1342	1342

Table 2-109 Logistic Model Estimation of the Probability that the deal will be a completed successfully on AIV- (Bidder) Target and VIV- (Bidder) Target with Idiosyncratic Volatility used as Control Variable.

The AIV-Bidder (Target) and VIV- Bidder (Target) are the mean and standard deviation of the Implied Volatilities of Bidder (Target) Companies estimated over the runup period [-42,-2]. The idiosyncratic volatility is estimated as the standard deviation of the market adjusted residuals of the daily returns measured during the period spanning 256 trading days before the announcement to 2 trading days before the announcement [-256, -2]. Target Size is the logarithm of the target (acquirer) market value of equity 42 days before the announcement and target turnover is the ratio of the target volume to share outstanding estimated 42 days before the announcement. Target (acquirer) B/M is constructed as the ratio of the nearest target stock book value divided by the target stock price 42 days before the announcement. Target runup is defined as the ratio of the target (acquirer) price 2 days before the announcement divided by the target (acquirer) price 42 days before the announcement [$(P_{-2} / P_{-42}) - 1$]. Target markup is defined as the ratio of the offer price divided by the target (acquirer) price 2 days before the announcement [(Offer-Price / P_{-2}) - 1]. NYSE/AMEX, Collar, Tender Offer, Cash-Only, Hostile, Rumor, and Complete are dummy variables that respectively take the value of 1 if the Target is listed on NYSE/AMEX, the deal has a collar, the deal is a tender offer, the deal is financed by Cash only, the deal is hostile, the deal is preceded by a rumor and the deal is completed successfully. Horizontal is a dummy variable that takes a value of 1 if the bidder and target share the same four-digit Standard Industrial Classification (SIC) Code. The Toehold dummy takes a value of one if the bidder own more than 5% of target before the announcement day. Multibid dummy takes a value of 1 if there are multiple Bidders within the same contest (a contest is a 6-Month period from the first bidder's bid). The p-values are given underneath and are the MLE p-values. The *, **, *** indicate significance at 1%, 5%, and 10% respectively.

The Idiosyncratic Volatility is estimated over the [-256,-2] window

Deal-Type	AIV-Target	VIV-Target	AIV-Target and VIV-Target	AIV-Bidder	VIV-Bidder	AIV-Bidder and VIV-Bidder
Constant	-3.5022	-4.304*	-3.571	5.4696***	5.4862***	5.4628***
(p-value)	(0.1816)	(0.098)	(0.1752)	(0.0004)	(0.0004)	(0.0004)
AIV-Variable	-1.5113*		-1.7501*	-0.6585		-0.893
(p-value)	(0.0587)		(0.0527)	(0.5026)		(0.425)
VIV-Variable		-0.4848	1.2349		0.2611	1.2289
(p-value)		(0.8012)	(0.562)		(0.9152)	(0.6554)
Idiosyncratic Volatility	7.4644	8.5675	7.7379	-22.8627***	-22.8471***	-22.8911***
(p-value)	(0.4079)	(0.3378)	(0.3918)	(0.0028)	(0.0027)	(0.0028)
Target Size	0.283**	0.3198***	0.286**	-0.1173	-0.1178	-0.1169
(p-value)	(0.0217)	(0.009)	(0.0209)	(0.116)	(0.1149)	(0.1177)
Target Turnover	-0.011	-0.0104	-0.0108	0.00117	0.000883	0.0012
(p-value)	(0.2358)	(0.2586)	(0.246)	(0.899)	(0.9234)	(0.8965)
Target NYSE/Amex	-0.5805**	-0.5632**	-0.5742**	-0.3752	-0.367	-0.3686
(p-value)	(0.0427)	(0.0491)	(0.0457)	(0.1125)	(0.1212)	(0.1197)
Target B/M	-0.3598	-0.404	-0.369	-0.1934	-0.1914	-0.1923
(p-value)	(0.2283)	(0.1727)	(0.217)	(0.2068)	(0.2127)	(0.2097)
Target Runup	0.5162	0.5538	0.5034	0.5724	0.5889	0.5863
(p-value)	(0.2782)	(0.2483)	(0.2924)	(0.1145)	(0.1084)	(0.1083)
Target Markup	-0.0894	-0.2358	-0.0668	-0.1273	-0.1557	-0.126
(p-value)	(0.8397)	(0.586)	(0.8808)	(0.6778)	(0.6084)	(0.6812)
Collar	0.5945	0.63	0.596	0.1921	0.2079	0.1843
(p-value)	(0.2588)	(0.2338)	(0.2569)	(0.5954)	(0.5654)	(0.6104)
Toehold Exist	-1.0743*	-0.9883*	-1.0892*	-0.991**	-0.9851**	-0.9963**
(p-value)	(0.0579)	(0.0797)	(0.0546)	(0.0236)	(0.0242)	(0.0228)
Horizontal	0.3178	0.3095	0.3227	0.1126	0.1067	0.1116
(p-value)	(0.2639)	(0.2753)	(0.257)	(0.6186)	(0.6366)	(0.6217)
Tender Offer	1.259***	1.1905***	1.2424***	1.1257***	1.1263***	1.1267***
(p-value)	(0.0011)	(0.0018)	(0.0013)	(0.0001)	(0.0001)	(0.0001)
Cash Bid	0.3449	0.4378	0.3355	0.0603	0.0557	0.0511
(p-value)	(0.218)	(0.1104)	(0.2323)	(0.7904)	(0.8064)	(0.8222)
Hostile	-3.6925***	-3.6365***	-3.6892***	-2.7149***	-2.7043***	-2.7109***
(p-value)	(<.0001)	(<.0001)	(<.0001)	(<.0001)	(<.0001)	(<.0001)
Multiple Bidders	-2.3347***	-2.2561***	-2.358***	-2.0206***	-2.0202***	-2.022***
(p-value)	(<.0001)	(<.0001)	(<.0001)	(<.0001)	(<.0001)	(<.0001)
Rumor	0.4267	0.3567	0.411	0.3702	0.3661	0.3628
(p-value)	(0.4188)	(0.4914)	(0.4363)	(0.4858)	(0.4916)	(0.495)
Adj-R^2	0.1916	0.1879	0.192	0.1307	0.1304	0.1308
Year Dummies	No	No	No	No	No	No
Industry Dummies	No	No	No	No	No	No
Number of Cases	743	743	743	1342	1342	1342

2.25 Appendix R – Tests Performed with AIV and VIV as main explanatory Variables with idiosyncratic volatility as Control in the Expanded Sample – Idiosyncratic Volatility Estimated over the [-256, -43] interval – AIV and VIV are orthogonalizedd against the Idiosyncratic Volatility

Table 2-110 Cross-sectional Regression of Bidder Announcement CAR on AIV-Bidder (Target) and VIV-Bidder (Target) while controlling for Idiosyncratic Volatility.

Bidder CAR is equal to the sum of Bidder Abnormal Return ($AR_{i,t}$) estimated over the announcement period [-1,+1]. ARi,t is equal to $ER_{i,t} - (\alpha_i + \beta_i ER_{M,t})$. $ER_{i,t}$ is the bidder company 'i' return on day 't' above the risk free rate on that day. $ER_{M,t}$ is the CRSP Value Weighted Index return on day 't' in excess of the risk free rate on that day. The model's components (α_i, β_i) are obtained by estimating the model $(R_{i,t} = \alpha_i + \beta_i R_{M,t} + e_{i,t})$ over the [-256; -43]. The idiosyncratic volatility is estimated as the standard deviation of the market adjusted residuals of the daily returns measured during the period spanning 256 trading days before the announcement to 43 trading days before the announcement [-256, -43]. . Target Size is the logarithm of the target market value of equity 42 days before the announcement and target turnover is the ratio of the target volume to share outstanding estimated 42 days before the announcement. Target B/M is constructed as the ratio of the nearest target stock book value divided by the target stock price 42 days before the announcement. Target runup is defined as the ratio of the target price 2 days before the announcement divided by the target price 42 days before the announcement [(P_{-2} / P_{-42}) - 1]. Target markup is defined as the ratio of the offer price divided by the target price 2 days before the announcement [(Offer-Price / P_{-2}) - 1]. NYSE/AMEX, Collar, Tender Offer, Cash-Only, Hostile, Rumor, and Complete are dummy variables that respectively take the value of 1S if the Target is listed on NYSE/AMEX, the deal has a collar, the deal is a tender offer, the deal is financed by Cash only, the deal is hostile, the deal is preceded by a rumor and the deal is completed successfully. Horizontal is a dummy variable that takes a value of 1 if the bidder and target share the same four-digit Standard Industrial Classification (SIC) Code. The Toehold dummy takes a value of one if the bidder own more than 5% of target before the announcement day. Multibid dummy takes a value of 1 if there are multiple Bidders within the same contest (a contest is a 6-Month period from the first bidder's bid). Industry and year dummies corresponding to the target two-digit SIC codes and to the announcement year. The p-values are given underneath and are the White Heteroscedasticity consistent p-values. The *, **, *** indicate significance at 1%, 5%, and 10% respectively.

The Idiosyncratic Volatility is estimated over the [-256,-43] window

	Target AIV Related Tests			Target VIV Related Tests		
Deal-Type	All Control Bids	Non-Cash-Only Control Bids	Cash-Only Control Bids	All Control Bids	Non-Cash-Only Control Bids	Cash-Only Control Bids
Constant	0.08666	0.02819	0.17812**	0.06211	0.00866	0.18354**
(p-value)	(0.3696)	(0.8371)	(0.047)	(0.517)	(0.9499)	(0.0316)
AIV-Variable	-0.02636	-0.02643	0.00759			
(p-value)	(0.3222)	(0.4662)	(0.7543)			
VIV-Variable				-0.00729	-0.02781	0.01631
(p-value)				(0.9136)	(0.7937)	(0.7444)
Idio_Vol	-0.077	0.25421	-0.24816	0.01093	0.3216	-0.26943
(p-value)	(0.8338)	(0.6375)	(0.3979)	(0.9759)	(0.5536)	(0.3323)
Target Size	-0.00923**	-0.00745	-0.0073**	-0.00812**	-0.00658	-0.00751*
(p-value)	(0.0239)	(0.216)	(0.0466)	(0.0445)	(0.2762)	(0.0284)
Target Turnover	-0.0003655	-0.0004702	0.00002977	-0.0003776	-0.0004937	4.138E-05
(p-value)	(0.2564)	(0.3558)	(0.9307)	(0.2386)	(0.3331)	(0.9026)
Target NYSE/Amex	0.00679	0.01039	-0.00311	0.00733	0.01108	-0.00315
(p-value)	(0.4442)	(0.5309)	(0.6626)	(0.4093)	(0.5032)	(0.6578)
Target B/M	-0.01245***	-0.0126***	-0.00657	-0.01281***	-0.0134***	-0.00696
(p-value)	(<.0001)	(0.0003)	(0.4807)	(<.0001)	(0.0001)	(0.4555)
Target Runup	-0.00911	0.00008729	-0.00588	-0.00987	0.0001956	-0.00634
(p-value)	(0.6058)	(0.9971)	(0.6443)	(0.5849)	(0.9936)	(0.6382)
Target Markup	-0.03136**	-0.03859	-0.02216**	-0.03341**	-0.0404	-0.02171**
(p-value)	(0.0479)	(0.1451)	(0.0317)	(0.0286)	(0.117)	(0.0324)
Collar	0.02086	0.02312	0.01452	0.02201	0.02356	0.0142
(p-value)	(0.236)	(0.2728)	(0.4729)	(0.2062)	(0.2601)	(0.4806)
Toehold Exist	0.02382*	0.05317*	0.02458	0.02387*	0.0555*	0.02497
(p-value)	(0.0877)	(0.0602)	(0.1066)	(0.087)	(0.0508)	(0.102)
Horizontal	0.0006839	-0.01536	0.01768**	0.0005323	-0.01582	0.01785**
(p-value)	(0.9356)	(0.2199)	(0.0212)	(0.9492)	(0.2028)	(0.0192)
Tender Offer	0.00946	0.03252**	-4.899E-05	0.00901	0.0332	0.0001577
(p-value)	(0.1525)	(0.0403)	(0.9939)	(0.1704)	(0.0412)	(0.9799)
Cash Bid	0.02732***			0.02865***		
(p-value)	(0.0001)			(<.0001)		
Hostile	-0.00994	0.00245	-0.04205***	-0.00904	0.00426	-0.04234***
(p-value)	(0.5001)	(0.9364)	(0.0016)	(0.544)	(0.89)	(0.0016)
Multiple Bidders	0.00498	0.01524	-0.01547*	0.0054	0.01594	-0.01596*
(p-value)	(0.6717)	(0.4967)	(0.0628)	(0.6452)	(0.4779)	(0.0514)
Rumor	0.02163	0.05187*	-0.00725	0.02071	0.05118*	-0.00715
(p-value)	(0.1231)	(0.0677)	(0.5206)	(0.1323)	(0.0675)	(0.5241)
Complete	0.02913**	0.03557*	0.0027	0.0299**	0.0363*	0.00253
(p-value)	(0.0211)	(0.0673)	(0.8023)	(0.0194)	(0.0619)	(0.815)
Adj-R^2	0.156	0.1052	0.1434	0.1545	0.1041	0.1435
Year Dummies	Yes	Yes	Yes	Yes	Yes	Yes
Industry Dummies	Yes	Yes	Yes	Yes	Yes	Yes
Number of Cases	743	407	336	743	407	336

Table 2-111 Cross-sectional Regression of Bidder Announcement CAR on AIV-Bidder (Target) and VIV-Bidder (Target) while controlling for Idiosyncratic Volatility.

Bidder CAR is equal to the sum of Bidder Abnormal Return ($AR_{i,t}$) estimated over the announcement period [-1,+1]. ARi,t is equal to $ER_{i,t} - (\alpha_i + \beta_i ER_{M,t})$. $ER_{i,t}$ is the bidder company 'i' return on day 't' above the risk free rate on that day. $ER_{M,t}$ is the CRSP Value Weighted Index return on day 't' in excess of the risk free rate on that day. The model's components (α_i, β_i) are obtained by estimating the model $(R_{i,t} = \alpha_i + \beta_i R_{M,t} + e_{i,t})$ over the [-256; -43]. The idiosyncratic volatility is estimated as the standard deviation of the market adjusted residuals of the daily returns measured during the period spanning 256 trading days before the announcement to 43 trading days before the announcement [-256, -43]. . Target Size is the logarithm of the target market value of equity 42 days before the announcement and target turnover is the ratio of the target volume to share outstanding estimated 42 days before the announcement. Target B/M is constructed as the ratio of the nearest target stock book value divided by the target stock price 42 days before the announcement. Target runup is defined as the ratio of the target price 2 days before the announcement divided by the target price 42 days before the announcement [(P_{-2} / P_{-42}) - 1]. Target markup is defined as the ratio of the offer price divided by the target price 2 days before the announcement [(Offer-Price / P_{-2}) - 1]. NYSE/AMEX, Collar, Tender Offer, Cash-Only, Hostile, Rumor, and Complete are dummy variables that respectively take the value of 1S if the Target is listed on NYSE/AMEX, the deal has a collar, the deal is a tender offer, the deal is financed by Cash only, the deal is hostile, the deal is preceded by a rumor and the deal is completed successfully. Horizontal is a dummy variable that takes a value of 1 if the bidder and target share the same four-digit Standard Industrial Classification (SIC) Code. The Toehold dummy takes a value of one if the bidder own more than 5% of target before the announcement day. Multibid dummy takes a value of 1 if there are multiple Bidders within the same contest (a contest is a 6-Month period from the first bidder's bid). Industry and year dummies corresponding to the target two-digit SIC codes and to the announcement year. The p-values are given underneath and are the White Heteroscedasticity consistent p-values. The *, **, *** indicate significance at 1%, 5%, and 10% respectively.

	The Idiosyncratic Volatility is estimated over the [-256,-43] window					
	Bidder AIV Related Tests			Bidder VIV Related Tests		
Deal-Type	All Control Bids	Non-Cash-Only Control Bids	Cash-Only Control Bids	All Control Bids	Non-Cash-Only Control Bids	Cash-Only Control Bids
Constant	0.12867***	0.20822***	0.04458	0.11743**	0.20213***	0.04167
(p-value)	(<.0001)	(<.0001)	(0.2203)	(0.0002)	(0.0002)	(0.2503)
AIV-Variable	-0.07675***	-0.08912**	-0.03124			
(p-value)	(0.0067)	(0.0386)	(0.3103)			
VIV-Variable				-0.08422	-0.02659	-0.09684*
(p-value)				(0.1435)	(0.8186)	(0.0835)
Idio_Vol	-1.22664***	-1.55346***	-0.23151	-1.1444***	-1.46719***	-0.18714
(p-value)	(<.0001)	(<.0001)	(0.4917)	(<.0001)	(<.0001)	(0.5738)
Target Size	-0.00815***	-0.01255***	-0.00205	-0.00779***	-0.01205***	-0.00214
(p-value)	(<.0001)	(<.0001)	(0.235)	(<.0001)	(<.0001)	(0.213)
Target Turnover	-0.000125	-2.011E-05	-0.000217	-0.0001796	-0.000127	-0.0002359
(p-value)	(0.5761)	(0.9524)	(0.3311)	(0.4246)	(0.7059)	(0.2906)
Target NYSE/Amex	0.0006125	0.00994	-0.0107**	0.0008047	0.00997	-0.01069**
(p-value)	(0.8965)	(0.1835)	(0.0418)	(0.8642)	(0.1847)	(0.0422)
Target B/M	0.0032	-0.0001946	0.00474*	0.00339	6.052E-05	0.00467*
(p-value)	(0.2803)	(0.9796)	(0.0728)	(0.2644)	(0.9937)	(0.0834)
Target Runup	0.00599	0.00724	0.00732	0.00591	0.00789	0.00699
(p-value)	(0.1906)	(0.2522)	(0.2082)	(0.2064)	(0.2177)	(0.2293)
Target Markup	-0.01515**	-0.02133*	-0.00647	-0.01642***	-0.02372	-0.00615
(p-value)	(0.0139)	(0.0905)	(0.2349)	(0.0086)	(0.0642)	(0.2536)
Collar	-0.00197	-0.0035	-0.01406	-0.0008584	-0.00262	-0.01686
(p-value)	(0.7947)	(0.6722)	(0.4186)	(0.91)	(0.753)	(0.3429)
Toehold Exist	0.01618*	0.03849***	0.01029	0.01755**	0.03963***	0.01112
(p-value)	(0.0577)	(0.0051)	(0.3607)	(0.0399)	(0.0022)	(0.3313)
Horizontal	0.00652	-0.0008125	0.01213**	0.00588	-0.00195	0.01203**
(p-value)	(0.1646)	(0.9049)	(0.039)	(0.2113)	(0.7743)	(0.0405)
Tender Offer	0.00309	-0.00315	0.00341	0.00307	-0.00299	0.00313
(p-value)	(0.4858)	(0.7886)	(0.4583)	(0.4914)	(0.801)	(0.4972)
Cash Bid	0.02023***			0.02118***		
(p-value)	(<.0001)			(<.0001)		
Hostile	0.01214	0.05081**	-0.02496**	0.01376	0.05283**	-0.02484**
(p-value)	(0.3181)	(0.0379)	(0.037)	(0.2589)	(0.0325)	(0.0359)
Multiple Bidders	0.00555	0.01634	-0.01123*	0.00559	0.01754*	-0.01115*
(p-value)	(0.3227)	(0.1071)	(0.056)	(0.3157)	(0.0784)	(0.0573)
Rumor	0.0161	0.03548*	-0.00499	0.0153	0.03483*	-0.00529
(p-value)	(0.1507)	(0.0914)	(0.6623)	(0.1682)	(0.0881)	(0.6427)
Complete	0.01713**	0.02677**	-0.0004695	0.01777**	0.02791**	-0.0003281
(p-value)	(0.0298)	(0.0193)	(0.9568)	(0.0248)	(0.0143)	(0.9696)
Adj-R^2	0.1849	0.1709	0.107	0.1777	0.16	0.11
Year Dummies	Yes	Yes	Yes	Yes	Yes	Yes
Industry Dummies	Yes	Yes	Yes	Yes	Yes	Yes
Number of Cases	1342	677	665	1342	677	665

Table 2-112 Cross-sectional Regression of Bidder Announcement CAR on AIV-Bidder and VIV-Bidder while controlling for Idiosyncratic Volatility.

Bidder CAR is equal to the sum of Bidder Abnormal Return ($AR_{i,t}$) estimated over the announcement period [-1,+1]. ARi,t is equal to $ER_{i,t} - (\alpha_i + \beta_i ER_{M,t})$. $ER_{i,t}$ is the bidder company 'i' return on day 't' above the risk free rate on that day. $ER_{M,t}$ is the CRSP Value Weighted Index return on day 't' in excess of the risk free rate on that day. The model's components (α_i, β_i) are obtained by estimating the model $(R_{i,t} = \alpha_i + \beta_i R_{M,t} + e_{i,t})$ over the [-256; -43]. The idiosyncratic volatility is estimated as the standard deviation of the market adjusted residuals of the daily returns measured during the period spanning 256 trading days before the announcement to 43 trading days before the announcement [-256, -43]. . Target Size is the logarithm of the target market value of equity 42 days before the announcement and target turnover is the ratio of the target volume to share outstanding estimated 42 days before the announcement. Target B/M is constructed as the ratio of the nearest target stock book value divided by the target stock price 42 days before the announcement. Target runup is defined as the ratio of the target price 2 days before the announcement divided by the target price 42 days before the announcement [(P_{-2} / P_{-42}) - 1]. Target markup is defined as the ratio of the offer price divided by the target price 2 days before the announcement [(Offer-Price / P_{-2}) - 1]. NYSE/AMEX, Collar, Tender Offer, Cash-Only, Hostile, Rumor, and Complete are dummy variables that respectively take the value of 1S if the Target is listed on NYSE/AMEX, the deal has a collar, the deal is a tender offer, the deal is financed by Cash only, the deal is hostile, the deal is preceded by a rumor and the deal is completed successfully. Horizontal is a dummy variable that takes a value of 1 if the bidder and target share the same four-digit Standard Industrial Classification (SIC) Code. The Toehold dummy takes a value of one if the bidder own more than 5% of target before the announcement day. Multibid dummy takes a value of 1 if there are multiple Bidders within the same contest (a contest is a 6-Month period from the first bidder's bid). Industry and year dummies corresponding to the target two-digit SIC codes and to the announcement year. The p-values are given underneath and are the White Heteroscedasticity consistent p-values. The *, **, *** indicate significance at 1%, 5%, and 10% respectively.

The Idiosyncratic Volatility is estimated over the [-256,-43] window			
Deal-Type	All Control Bids	Non-Cash-Only Control Bids	Cash-Only Control Bids
Constant	0.12899***	0.2116***	0.04212
(p-value)	(<.0001)	(<.0001)	(0.2479)
AIV-Bidder	-0.07861**	-0.09758**	-0.00294
(p-value)	(0.0147)	(0.0308)	(0.9351)
VIV-Bidder	0.00987	0.07665	-0.09337
(p-value)	(0.8817)	(0.5412)	(0.1507)
Idio_Vol	-1.2293***	-1.55913***	-0.19036
(p-value)	(<.0001)	(<.0001)	(0.5676)
Target Size	-0.00814***	-0.01264***	-0.00215
(p-value)	(<.0001)	(<.0001)	(0.2122)
Target Turnover	-0.0001245	-2.587E-05	-0.0002351
(p-value)	(0.5775)	(0.9379)	(0.2927)
Target NYSE/Amex	0.0006278	0.01024	-0.01071**
(p-value)	(0.8939)	(0.1711)	(0.0418)
Target B/M	0.00321	-9.586E-05	0.00467*
(p-value)	(0.2794)	(0.99)	(0.0823)
Target Runup	0.00602	0.0073	0.00698
(p-value)	(0.1878)	(0.2447)	(0.229)
Target Markup	-0.01516**	-0.02092*	-0.00615
(p-value)	(0.014)	(0.0959)	(0.2535)
Collar	-0.002	-0.00388	-0.01677
(p-value)	(0.7915)	(0.6399)	(0.3469)
Toehold Exist	0.01611*	0.03803***	0.01106
(p-value)	(0.0583)	(0.0049)	(0.3371)
Horizontal	0.00652	-0.0007174	0.01204**
(p-value)	(0.1648)	(0.9162)	(0.0404)
Tender Offer	0.00312	-0.00312	0.00314
(p-value)	(0.4826)	(0.7913)	(0.4938)
Cash Bid	0.02019***		
(p-value)	(<.0001)		
Hostile	0.01212	0.05088**	-0.02487**
(p-value)	(0.3187)	(0.0363)	(0.0356)
Multiple Bidders	0.00551	0.01631	-0.01112*
(p-value)	(0.3252)	(0.1094)	(0.0592)
Rumor	0.01609	0.03511*	-0.00524
(p-value)	(0.1512)	(0.0944)	(0.6455)
Complete	0.01708**	0.02636**	-0.0003245
(p-value)	(0.0305)	(0.0213)	(0.97)
Adj-R^2	0.1843	0.1702	0.1084
Year Dummies	Yes	Yes	Yes
Industry Dummies	Yes	Yes	Yes
Number of Cases	1342	677	665

Table 2-113 Logistic Model Estimation of the Probability that the deal will be a cash-only offer versus a deal being a non-cash-only offer while controlling for Idiosyncratic Volatility.

The AIV-Bidder (Target) and VIV- Bidder (Target) are the mean and standard deviation of the Implied Volatilities of Bidder (Target) Companies estimated over the runup period [-42,-2].]. The idiosyncratic volatility is estimated as the standard deviation of the market adjusted residuals of the daily returns measured during the period spanning 256 trading days before the announcement to 43 trading days before the announcement [-256, -43]. Target (Acquirer) Size is the logarithm of the target (acquirer) market value of equity 42 days before the announcement and target (acquirer) turnover is the ratio of the target (acquirer) volume to share outstanding estimated 42 days before the announcement. Target (acquirer) B/M is constructed as the ratio of the nearest target stock book value divided by the target stock price 42 days before the announcement. Relative size is the ratio of the target size divided by the acquirer size (in log terms). NYSE/AMEX, Collar, Tender Offer, Cash-Only, Hostile, Rumor, and Complete are dummy variables that respectively take the value of 1 if the Target (Acquirer) is listed on NYSE/AMEX, the deal has a collar, the deal is a tender offer, the deal is financed by Cash only, the deal is hostile, the deal is preceded by a rumor and the deal is completed successfully. Horizontal is a dummy variable that takes a value of 1 if the bidder and target share the same four-digit Standard Industrial Classification (SIC) Code. The Toehold dummy takes a value of one if the bidder own more than 5% of target before the announcement day. Multibid dummy takes a value of 1 if there are multiple Bidders within the same contest (a contest is a 6-Month period from the first bidder's bid). The p-values are given underneath and are the MLE p-values. The *, **, *** indicate significance at 1%, 5%, and 10% respectively.

The Idiosyncratic Volatility is estimated over the [-256,-43] window						
Independent Variable	AIV-Target	VIV-Target	AIV-Target and VIV-Target	AIV-Bidder	VIV-Bidder	AIV-Bidder and VIV-Bidder
Constant	-8.012	-7.4719	-8.423	21.7359**	20.7962**	20.8573**
(p-value)	(0.5702)	(0.5855)	(0.5522)	(0.0334)	(0.0428)	(0.0411)
AIV-Variable	-4.1628***		-4.7397***	-1.4458*		-3.1532***
(p-value)	(<.0001)		(<.0001)	(0.0713)		(0.0013)
VIV-Variable		-2.8845*	2.1395		4.2328*	7.8532***
(p-value)		(0.0673)	(0.2471)		(0.0626)	(0.0016)
Idiosyncratic Volatility	-88.8999***	-81.0643***	-89.0327***	-90.8318***	-88.2067***	-90.9361***
(p-value)	(<.0001)	(<.0001)	(<.0001)	(<.0001)	(<.0001)	(<.0001)
Target Size	-1.6615**	-1.3419**	-1.6718**	0.4787	0.4588	0.4348
(p-value)	(0.014)	(0.039)	(0.0136)	(0.3499)	(0.3718)	(0.3958)
Target Turnover	0.0198*	0.0203*	0.0198*	-0.00634	-0.007	-0.0061
(p-value)	(0.0652)	(0.0523)	(0.0645)	(0.4252)	(0.3783)	(0.4439)
Target NYSE/Amex	-0.6092**	-0.6312***	-0.6046**	-0.341*	-0.3238*	-0.3288*
(p-value)	(0.0131)	(0.0089)	(0.0138)	(0.0573)	(0.0704)	(0.0682)
Target B/M	0.009	-0.0278	-0.00483	0.1367	0.1578	0.1405
(p-value)	(0.9633)	(0.8846)	(0.9786)	(0.227)	(0.1677)	(0.2135)
Acquirer Size	1.2857**	1.0958*	1.3005**	-0.5226	-0.4948	-0.4861
(p-value)	(0.0375)	(0.0662)	(0.036)	(0.2406)	(0.2687)	(0.2749)
Acquirer Turnover	-0.00944	-0.0142	-0.00865	0.018*	0.0147	0.0189**
(p-value)	(0.4697)	(0.262)	(0.5098)	(0.0537)	(0.105)	(0.0375)
Acquirer NYSE/Amex	-0.0286	-0.0586	-0.00667	-0.2395	-0.1839	-0.2076
(p-value)	(0.904)	(0.8009)	(0.9776)	(0.1683)	(0.2922)	(0.2355)
Acquirer B/M	0.573	0.5147	0.5485	0.4893*	0.374	0.4489
(p-value)	(0.1536)	(0.1799)	(0.1737)	(0.0793)	(0.171)	(0.1072)
Relative Size	16.7076	13.3794	17.0442	-19.9277*	-19.1877*	-18.8968
(p-value)	(0.2654)	(0.3574)	(0.2576)	(0.0846)	(0.0981)	(0.1019)
Collar	-2.7483***	-2.6786***	-2.7643***	-2.8117***	-2.7858***	-2.8111***
(p-value)	(<.0001)	(<.0001)	(<.0001)	(<.0001)	(<.0001)	(<.0001)
Toehold Exist	0.7806	0.9176	0.7851	-0.2345	-0.2225	-0.281
(p-value)	(0.1776)	(0.1164)	(0.1747)	(0.5452)	(0.5673)	(0.472)
Horizontal	-0.5667**	-0.6094***	-0.5549**	-0.4405**	-0.4448***	-0.4311**
(p-value)	(0.0161)	(0.0089)	(0.0187)	(0.0103)	(0.0096)	(0.0129)
Tender Offer	2.0704***	1.9031***	2.0714***	2.1465***	2.1526***	2.1834***
(p-value)	(<.0001)	(<.0001)	(<.0001)	(<.0001)	(<.0001)	(<.0001)
Hostile	0.5739	0.7524	0.5532	0.445	0.4879	0.4356
(p-value)	(0.297)	(0.1845)	(0.3132)	(0.3718)	(0.3311)	(0.3823)
Multiple Bidders	0.6284**	0.7974***	0.5874*	0.342	0.3508	0.3289
(p-value)	(0.0426)	(0.0092)	(0.0605)	(0.1166)	(0.1075)	(0.1333)
Rumor	0.746*	0.6583*	0.7482*	0.4974	0.4548	0.4692
(p-value)	(0.0554)	(0.0818)	(0.0553)	(0.1829)	(0.2228)	(0.2084)
Complete	-0.0705	0.1014	-0.1049	-0.2161	-0.188	-0.2312
(p-value)	(0.8209)	(0.7394)	(0.7385)	(0.3574)	(0.4235)	(0.3273)
Adj-R^2	0.4001	0.3791	0.4012	0.3574	0.3576	0.3627
Year Dummies	No	No	No	No	No	No
Industry Dummies	No	No	No	No	No	No
Number of Cases	743	743	743	1342	1342	1342

Table 2-114 Logistic Model Estimation of the Probability that the deal will be a completed successfully on AIV- (Bidder) Target and VIV- (Bidder) Target with Idiosyncratic Volatility used as Control Variable.

The AIV-Bidder (Target) and VIV- Bidder (Target) are the mean and standard deviation of the Implied Volatilities of Bidder (Target) Companies estimated over the runup period [-42,-2]. The idiosyncratic volatility is estimated as the standard deviation of the market adjusted residuals of the daily returns measured during the period spanning 256 trading days before the announcement to 43 trading days before the announcement [-256, -43]. Target Size is the logarithm of the target (acquirer) market value of equity 42 days before the announcement and target turnover is the ratio of the target volume to share outstanding estimated 42 days before the announcement. Target (acquirer) B/M is constructed as the ratio of the nearest target stock book value divided by the target stock price 42 days before the announcement. Target runup is defined as the ratio of the target (acquirer) price 2 days before the announcement divided by the target (acquirer) price 42 days before the announcement [$(P_{-2} / P_{-42}) - 1$]. Target markup is defined as the ratio of the offer price divided by the target (acquirer) price 2 days before the announcement [(Offer-Price / P_{-2}) - 1]. NYSE/AMEX, Collar, Tender Offer, Cash-Only, Hostile, Rumor, and Complete are dummy variables that respectively take the value of 1 if the Target is listed on NYSE/AMEX, the deal has a collar, the deal is a tender offer, the deal is financed by Cash only, the deal is hostile, the deal is preceded by a rumor and the deal is completed successfully. Horizontal is a dummy variable that takes a value of 1 if the bidder and target share the same four-digit Standard Industrial Classification (SIC) Code. The Toehold dummy takes a value of one if the bidder own more than 5% of target before the announcement day. Multibid dummy takes a value of 1 if there are multiple Bidders within the same contest (a contest is a 6-Month period from the first bidder's bid). The p-values are given underneath and are the MLE p-values. The *, **, *** indicate significance at 1%, 5%, and 10% respectively.

The Idiosyncratic Volatility is estimated over the [-256,-43] window

Deal-Type	AIV-Target	VIV-Target	AIV-Target and VIV-Target	AIV-Bidder	VIV-Bidder	AIV-Bidder and VIV-Bidder
Constant	-4.1728	-5.0562*	-4.3581	5.4527***	5.4482***	5.4446***
(p-value)	(0.118)	(0.0578)	(0.1054)	(0.0004)	(0.0004)	(0.0004)
AIV-Variable	-1.5658**		-2.0022**	-0.7611		-0.9856
(p-value)	(0.0317)		(0.0209)	(0.3886)		(0.3336)
VIV-Variable		-0.353	2.1281		-0.00221	1.226
(p-value)		(0.8529)	(0.3445)		(0.9993)	(0.6555)
Idiosyncratic Volatility	13.3267	14.6821	14.1217	-22.1364***	-21.9368***	-22.1598***
(p-value)	(0.1715)	(0.1283)	(0.1497)	(0.0031)	(0.0032)	(0.0031)
Target Size	0.3068**	0.348***	0.3149**	-0.1174	-0.1172	-0.117
(p-value)	(0.0141)	(0.0053)	(0.0125)	(0.116)	(0.1173)	(0.1179)
Target Turnover	-0.0142	-0.0133	-0.0144	0.00115	0.000679	0.00119
(p-value)	(0.1348)	(0.1549)	(0.1334)	(0.9007)	(0.941)	(0.8979)
Target NYSE/Amex	-0.5638**	-0.5333*	-0.5508*	-0.3754	-0.3657	-0.3688
(p-value)	(0.0486)	(0.0621)	(0.0552)	(0.1123)	(0.1223)	(0.1195)
Target B/M	-0.3628	-0.4274	-0.3777	-0.1927	-0.1912	-0.1918
(p-value)	(0.2309)	(0.1541)	(0.2134)	(0.2083)	(0.2132)	(0.2109)
Target Runup	0.6505	0.5973	0.636	0.5756	0.5966	0.5891
(p-value)	(0.1658)	(0.2119)	(0.1776)	(0.1132)	(0.1056)	(0.1071)
Target Markup	-0.0729	-0.2385	-0.0336	-0.1232	-0.1536	-0.1222
(p-value)	(0.8692)	(0.582)	(0.9401)	(0.6871)	(0.6133)	(0.6897)
Collar	0.5912	0.6333	0.5952	0.1905	0.2084	0.1828
(p-value)	(0.2611)	(0.2322)	(0.2568)	(0.5985)	(0.5648)	(0.6132)
Toehold Exist	-0.9585*	-0.9525*	-0.9697	-0.9874**	-0.9743**	-0.9931**
(p-value)	(0.0943)	(0.0926)	(0.0898)	(0.0241)	(0.0259)	(0.0233)
Horizontal	0.3108	0.3129	0.3172	0.1152	0.1096	0.1139
(p-value)	(0.273)	(0.27)	(0.2641)	(0.6108)	(0.628)	(0.6149)
Tender Offer	1.2692***	1.1836***	1.2432***	1.1259***	1.1261***	1.1269***
(p-value)	(0.001)	(0.0019)	(0.0013)	(0.0001)	(0.0001)	(0.0001)
Cash Bid	0.3963	0.4949*	0.3893	0.0628	0.0656	0.0534
(p-value)	(0.1597)	(0.0732)	(0.1687)	(0.7814)	(0.7719)	(0.8141)
Hostile	-3.7217***	-3.6516***	-3.7207***	-2.7135***	-2.7005***	-2.7098***
(p-value)	(<.0001)	(<.0001)	(<.0001)	(<.0001)	(<.0001)	(<.0001)
Multiple Bidders	-2.3022***	-2.2522***	-2.3387***	-2.0225***	-2.0237****	-2.0236***
(p-value)	(<.0001)	(<.0001)	(<.0001)	(<.0001)	(<.0001)	(<.0001)
Rumor	0.456	0.3521	0.4328	0.3738	0.3749	0.3659
(p-value)	(0.3941)	(0.4987)	(0.4188)	(0.4815)	(0.4811)	(0.4912)
Adj-R^2	0.1944	0.1895	0.1954	0.1307	0.1302	0.1308
Year Dummies	No	No	No	No	No	No
Industry Dummies	No	No	No	No	No	No
Number of Cases	743	743	743	1342	1342	1342

3 CHAPTER THREE

The Idiosyncratic Volatility Puzzle and Mergers and Acquisitions Activity

3.1 Introduction

There is an extensive empirical literature analyzing the relationship between idiosyncratic volatility and stock returns. The signals emanating from this literature are diverse if not to say mixed; they vary depending on the model used to estimate idiosyncratic volatility, the frequency of the returns data used to estimate idiosyncratic volatility, and whether or not microstructure noise or return reversals are controlled for. This paper offers a new perspective to the debate regarding one of the most prominent regularities identified: the puzzling negative relationship between idiosyncratic volatility and subsequent month performance as documented by Ang et al. (2006). Specifically, in this paper we test whether this puzzle is related to mergers and acquisitions (M&A hereafter) activity. The M&A literature suggests that a nationwide M&A wave is a clustering of a series of M&A waves in different industries (e.g. Ahern and Harford (2014)). This clustering is boosted or facilitated by liquidity and misvaluation. The industry waves themselves are usually initiated by internal shocks that are likely the results of technological changes in the corresponding industry. Both industry internal shocks and market misvaluations create uncertainty related to the future prospects of firms that are varying from one industry to another and from one company to another. In addition, a company involved in an M&A deal would pass through a period of instability related to its own future prospects as the deal is negotiated and in the transitional period through which visions, cultures and operations are combined under one management. Finally, that acquisitions initiated during merger have been shown to be associated with poorer quality of analysts' forecasts, greater uncertainty and weaker CEO turnover-performance sensitivity, leading to inferior monitoring and inefficient mergers (Duchin and Schmidt (2013)). We hypothesize that these sources of uncertainty about the firm's future prospects should be incorporated into the firm's actual idiosyncratic volatility and will influence the observed relationship between measured idiosyncratic volatility and the next month's expected returns.

Our findings are consistent with this hypothesis. Specifically, we find that the idiosyncratic volatility puzzle documented by Ang et al. (2006) is related to M&A activity: the negative relationship between idiosyncratic volatility and subsequent month returns is

considerably stronger in periods of high M&A activity than in periods of low M&A activity, with the greatest impact observed during the intense M&A wave spanning the period 1982-1989. The observed trends in both alphas and returns decrease systematically while moving from the lowest to the highest idiosyncratic volatility quintile in addition to the significant negative performance of the zero-investment portfolio that is long the high idiosyncratic volatility quintile (Q5) and short the low idiosyncratic volatility quintile (Q1). It seems that M&A activities are amplifying the uncertainties surrounding the firms' (bidders and targets) future prospects. These uncertainties are transmitted to higher firm specific volatilities. When the number of such firms increases during a specific period of time, their effect gets into the relationship between idiosyncratic volatility and the next month's performance touching the well-known idiosyncratic volatility puzzle.

In a recent paper, Herskovic et al. (2016) show that shocks to the common idiosyncratic volatility factor (CIV) are priced and that stocks with lower CIV-exposure in a particular month perform better than their higher CIV-exposure peers in the next month. They attribute this result to household utility effects arising from cross sectional volatility in consumption growth. Our study tests whether the CIV exposure effect may be a consequence of perceived volatility of firm prospects arising from changes in the market for corporate control. Specifically, we test whether the CIV exposure effect is persistent across periods of high and low mergers and acquisitions activities. Our motives to investigate such a relationship between mergers' activities and the exposure to the common idiosyncratic volatility factor is driven by the economy wide uncertainty, which may give rise to mispricing at the firm level. Consistent with Herskovic et al. (2016), we find that firms with higher exposure to the CIV factor exhibit lower future returns. However, in contest with the negative relationship between idiosyncratic volatility and M&A activity, this relationship is not affected by M&A activity. In other words, economy-wide uncertainty as reflected in the CIV factor is not significantly influenced by M&A activity. M&A activity can in part explain the idiosyncratic volatility puzzle, but it does not subsume the negative relationship between CIV exposure and firm returns.

The remainder of this study proceeds as follows. In Section 2 we provide a brief review of the relevant literature and introduce our hypotheses. Section 3 describes our data and

methodology. The empirical results follow in Sections 4 to 7. The paper concludes with a summary in Section 8.

3.2 Literature Review

3.2.1 Firm Level Idiosyncratic Volatility and Stock Returns

Ang et al. (2006) find that stocks with higher idiosyncratic volatility have lower returns. This result is puzzling, in that conventional theory suggests that idiosyncratic volatility should not be priced, as it is diversifiable. If idiosyncratic volatility cannot be diversified away, then investors would demand compensation for bearing the idiosyncratic risk and this should be translated into stock with higher idiosyncratic volatility associated with higher returns. More recent theoretical extensions have looked at the effects of risk tolerance, information (firm visibility), transaction costs, and short selling constraints in establishing a premium for idiosyncratic volatility (e.g. Levy (1978), Merton (1987), Jones and Rhodes-Kropf (2003), and Malkiel and Xu (2006), and Boehme, Danielsen, Kumar, and Sorescu (2009)). These papers show that stocks that face short-sale constraints and belong to less visible firms exhibit a positive relationship between expected returns and idiosyncratic volatility). Ang et al. (2009) find that the idiosyncratic volatility effect is not limited to the USA: it is also observed for other G7 countries.

A considerable body of work has emerged that addresses this puzzle as a model based problem and/or a returns distribution problem. Brockman and Schutte (2007) show that using an EGARCH to model expected idiosyncratic volatility would lead to a positive relationship between idiosyncratic volatility and stock returns in the international market. They attribute the negative relationship to the use of the previous month's idiosyncratic volatility as a proxy to the next month's expected volatility. Fu (2009) argues in this vein and in line with Huang, Liu, Rhee, and Zhang (2009), shows that return reversal of stocks with high idiosyncratic volatility also plays a role. More specifically, stocks with high idiosyncratic volatility may exhibit high contemporaneous returns. The positive abnormal returns tend to reverse, resulting in negative abnormal returns in the following month. From this perspective, the negative relationship found between idiosyncratic volatility and expected stock returns may be explained by two combined effects: the negative serial correlation in monthly returns of individual stocks and the positive contemporaneous relation between realized monthly idiosyncratic volatility and stock returns. Spiegel and Wang (2007) show that idiosyncratic volatility and stock liquidity are negatively

correlated. In addition, they demonstrate that stocks are decreasing in liquidity and increasing in idiosyncratic volatility and that the idiosyncratic volatility effect dominates the liquidity effect when tested together. In contrast to Ang et al. (2006), they use monthly return observations rather than daily returns observations in estimating their idiosyncratic volatility. They also test the contemporaneous relationship between idiosyncratic volatility and returns and not a lead-lag relationship as in Ang et al. (2006). Bali and Cakici (2008) show that if only stocks listed on NYSE are used to create the portfolio quintiles cut-off point, (in line with Fama and French '1993' portfolio creation approach), rather than the entire CRSP universe, then the relationship between idiosyncratic volatility and stock expected returns becomes insignificant. In addition, forming equally weighted portfolios instead of value-weighted portfolio dilutes the significance of puzzle. Finally, they demonstrate that the negative relationship between idiosyncratic volatility and expected stock returns is not significant, when monthly data instead of intra month daily data are used to estimate idiosyncratic volatility. Boehme, Danielsen, Kumar, and Sorescu (2009) show that stocks that face short-sale constraints and belong to less visible firms exhibit a positive relationship between expected returns and idiosyncratic volatility. Switzer and Picard (2015) incorporate momentum and liquidity into the Fama and French (1993) three-factor model to estimate idiosyncratic volatility. They found no idiosyncratic volatility effect for developed markets using this model.

Another branch of literature links the idiosyncratic volatility puzzle to market imperfections and microstructure noise. Han and Lesmond (2011) argue that the idiosyncratic volatility puzzle diminishes if we use the quoted mid-point based returns instead of using the closing price returns. They interpret their result by explaining that the mid-point quoted prices would correct for microstructure noise (bid-ask bounce) argued by Blume and Stambaugh (1983). Jiang, Xu, and Yao (2009) link the idiosyncratic volatility puzzle to earning shocks and firm visibility. They show that idiosyncratic volatility is inversely related to expected earnings and earning shocks. This relationship between idiosyncratic volatility and expected earning is inducing the negative relationship observed between idiosyncratic volatility and expected returns. In other words, controlling for earning shocks would remove the significance of the negative relationship between idiosyncratic volatility and expected returns. In addition, they also link the relationship between idiosyncratic volatility and expected earning to selective corporate disclosure practices. This link is more robust for firms with less sophisticated investors. Chen

and Petkova (2012) associate the idiosyncratic volatility puzzle with a missing systematic risk factor in the Fama-French model. They show that portfolios with high idiosyncratic volatility have positive exposure to innovations in the average stock variances and consequently they have a lower expected return. More recently, Hou and Loh (2016) try to measure how much of the idiosyncratic volatility puzzle is explained by market frictions factors (including return reversals, bid-ask spread, Amihud illiquidity, clustered zero-return observations), investors preferences for lottery stocks (exhibiting skewness, co- skewness, maximum daily return), and other factors including earnings surprises. They find that while much of the idiosyncratic volatility puzzle is explained by the previously mentioned factors, a significant portion of the puzzle remains unexplained.

Our work sheds new light on firm level idiosyncratic volatility puzzle in two ways. First we show that the idiosyncratic volatility puzzle is stronger in high M&A activity periods than in low M&A activity periods. This result is consistent with the existence of a spillover effect from the uncertainty about the future prospects of companies (target and acquirer) involved in an M&A deal to the firm specific uncertainty that is incorporated into the firms' idiosyncratic volatility. Second, we show that using daily or monthly returns in the performance estimation window and Fama and French's (1993) three-factors model or Fama and French's (2015) five-factor model affects the robustness of the puzzle across our total sample but does not mitigate our basic result that the negative relationship between idiosyncratic volatility and the next month's performance is clustered in periods of high M&A activity relative to periods of low M&A activity.

3.2.2 Aggregate Idiosyncratic Volatility, Common Factor Idiosyncratic Volatility and Stock Returns

A related branch of literature assesses the effect of aggregate idiosyncratic volatility as a risk factor on stock returns. Goyal and Santa-Clara (2003) report that the equal-weighted total volatility is positively and significantly related to future stock market returns, although stock market volatility is not. Guo and Savickas (2008) show that idiosyncratic volatility has predictive power over aggregate stock market returns. They also show that the aggregate idiosyncratic volatility and aggregate B/M ratio are significantly negatively correlated and that the idiosyncratic volatility factor explains the cross-section of stock returns as well as the B/M ratio when tested on the 25 Fama and French (1993) portfolios. Duarte, Kamara, Siegle, and Sun

(2014) show that the pricing of aggregate idiosyncratic volatility is due to unaccounted systematic risk factor. They call their factor Predicted Idiosyncratic Volatility (PIV). They show that the first common idiosyncratic volatility component is significantly correlated with business cycle variables such as default spread as well as average stock volatility. They constructed a PIV risk factor in the footsteps from Fama and French's (1993) factors by obtaining the difference between the return on a portfolio of stocks in the highest quintile of predicted idiosyncratic volatility and the return on a portfolio of the stocks in the lowest quintile of predicted idiosyncratic volatility. Their PIV explains the excess return of the 30 Fama and French (1993) industry portfolios and is priced even in the presence of momentum and liquidity factor. Herskovic, Kelly, and Lustig (2016) show that the firm-level idiosyncratic volatilities possess a high degree of co-movement that is described by a factor model; they called it a common factor in idiosyncratic volatility (CIV). They show that CIV is correlated to idiosyncratic income risk. They estimate their CIV as an equal-weighted average of market model residuals. They show that average returns are decreasing with CIV beta exposures: firms that have a more positive exposure to CIV innovations earn lower average returns. Their results are robust after accounting for the Pastor-Stambaugh liquidity measure. In this study, we build on their finding and test whether the results found by Herskovic et al (2016) are driven by model specification as well as by M&A activities.

3.2.3 Linking Takeover Waves to Idiosyncratic Volatility

As defined in Betton, Eckbo, and Thorburn (2008) on page 297 first paragraph: "A merger wave is a clustering in time of successful takeover bids at the industry or economy wide level". In this paper we focus our analysis on economy wide clustering of merger activities. There are two main hypotheses that compete in explaining merger waves: the neoclassical hypothesis pioneered by Lang et al. (1989) and Servaes (1991) and the inefficient markets hypothesis of Shleifer and Vishny (2003) and Rhodes-Kropf and Viswanathan (2004). Under the neoclassical hypothesis, merger waves are preceded by technological, regulatory, and economic shocks in the industry in which the wave is occurring. Managers, reacting to these shocks, engage in M&A activity in their attempt to compete for the optimal asset combination. Under the inefficient markets hypothesis, market misvaluation is the main driver of merger waves.

Lang, Stulz, and Walking (1989) study tender offers in an efficient markets neoclassical framework, using Tobin's Q as a proxy for management skill. They find that takeovers of poorly managed targets (low Tobin's Q) by better-managed bidders (high Tobin's Q) have higher bidder, target, and total (bidder plus target) gains. Servaes (1991) extends the analyses of Lang, Stulz and Walking (1989) by covering both mergers and tender offers. He shows that targets', bidders' and total returns are larger when targets have low Tobin's Q ratios and bidders have high Tobin's Q ratios. This finding is consistent with the argument that value is created when well-managed bidders overtake poorly managed targets. Mitchell and Mulherin (1996) show that takeover activities in the 1980's are clustered in industries that experience fundamental shocks to technology, government policies, and demand and supply conditions, which is also consistent with the efficient markets neoclassical framework. Jovanovic and Rousseau (2002) contend that the merger waves of the 1900 and the 1920s, 1980s, and 1990s were a response to profitable reallocation opportunities, in contrast to the 1960s wave, which remains unexplained. Harford (2005) presents evidence in support of the neoclassical hypothesis with minor modifications: industry shocks would lead to merger waves in a particular industry only when there was enough liquidity to accommodate the reallocation of asset. Thus industry merger activities may have to wait until enough liquidity is present in the market. Consequently, industry merger waves may cluster leading to an aggregate economy wide merger waves.

Shleifer and Vishny (2003) assume that financial markets are inefficient, leading to firm mispricing. Rational managers seek to exploit this mispricing by acquiring less valued targets through stock rather than cash acquisitions. Shleifer and Vishny (2003) show that merger activities coincide with higher market valuations, similar to Maksimovic and Phillips (2001) and Jovanovic and Rousseau (2001). Their findings are consistent with the inefficient markets approach. Dong et al. (2003) find that more highly valued bidders are more likely to use stock, less likely to use cash, willing to pay more relative to target market price and earn lower announcement period returns. Rhodes-Kropf, Robinson, and Viswanathan (2005) decompose the M/B ratio into three components: the firm specific pricing deviation from short-run industry pricing; the short-run deviations from firms' long-run pricing; and the long-run pricing to book, which serves as a proxy for the firm's growth potential. Based on this decomposition, they uncover several relevant findings: the large difference in the target and acquirer M/B is mainly driven by the higher firm specific error in the acquirer M/B. The target M/B has a minimal

portion of firm specific error. They also demonstrate that acquirers and targets cluster in sectors with high time-series sector error. They both have a common misvaluation component in their M/B. It seems that overvalued firms buy less overvalued firms that are by themselves overvalued. In addition, firms with higher firm specific error are more likely to become acquirers of firms with transactions that are financed by stock issuance. These results suggest that although economic shocks maybe driving merger activities in an industry, misvaluation plays an important role in determining who buys whom. Ang and Cheng (2006) show that acquirers are more overvalued in successful stock mergers than in withdrawn mergers. They also find that the probability of a firm becoming a stock acquirer increases with its overvaluation. In addition, they show that if the acquirer level of overvaluation is greater than the premium adjusted overvaluation then the acquirer firms are better off than their non-merged peers, consistent with positive synergy in mergers.

Mitchell and Mulherin (1996) allude to industry shocks as drivers of merger waves, such as monopoly creation as the main driver of the 1890s merger wave, oligopoly creation for the 1920s merger wave, conglomerate diversification for 1960s merger wave, break-down of the 1960's conglomerate cohort for the 1980s merger wave, and deregulation for the 1990s wave. More recently, Duchin and Schmidt (2013) demonstrate that acquisitions initiated during industry specific merger waves are associated with poorer quality of analysts' forecasts, greater uncertainty, and weaker CEO turnover-performance sensitivity. These factors inhibit monitoring, giving rise to more inefficient mergers. We hypothesize that shocks' propagation and misvaluations would find their way into the firm level idiosyncratic volatility if they do not span the whole economy, the market as well as the risk factors' inherent in the model used as a benchmark in the estimation of the firm's expected returns. In other words, we expect that merger waves should impact directly on the estimation of idiosyncratic volatility per se, and in turn on the robustness of the idiosyncratic volatility puzzle.

We propose to test for the first time the mergers wave effect as a driver of idiosyncratic volatility shocks that systematically affect stock returns. Hypothesis 1: M&A waves are associated with increased misvaluations that are due to increased uncertainty about the firm's future prospects that are incorporated into the firm's actual idiosyncratic volatility. This will influence the observed relationship between measured idiosyncratic volatility and the next

month's expected returns. As a consequence, the idiosyncratic volatility puzzle is stronger in periods of high M&A activity than in periods of low M&A activity. Hypothesis 2: The negative relationship between CIV exposure and firm returns is related to changes in uncertainties in firms' opportunity sets, including uncertainties in marginal returns investment associated with M&A waves.

3.3 Data and Methodology

The sample for our study spans the period 1960-2013. Harford (2005) analyzes two aggregate merger waves in the 1980s and 1990s: one spanning from 1986 to 1988 and another spanning from 1996 to 1999. Martynova and Renneboog (2008) identify five merger waves in the US as: wave 1 (1890s-1903), wave 2 (1910s-1929), wave 3 (1950s-1973), wave 4 (1981-1989), wave 5 (1993-2001). Ahern and Harford's (2014) (2003-2008) merger wave overlaps with Martynova and Renneboog (2008) sixth merger wave. Our analyses cover the following five merger wave periods from 1960-2013: Wave A (1960-1972), Wave B (1982-1989), Wave C (1993-2000), Wave D (2004-2007), and Wave E (2013); the latter represents the onset of the most recent merger wave, based on Mergerstat.[20] The corresponding periods of no merger wave ('1973-1981', '1990-1992', '2001-2003', '2008-2012') as those with low mergers and acquisitions activity.

Stock price and return data are obtained from CRSP covering stocks listed on NYSE, NYSE MKT (formerly AMEX), and NASDAQ. Consistent with the previous literature, we have removed ETFs, Closed End Funds, and REITS from our sample.

Our initial benchmark for testing the effect of lagged monthly idiosyncratic volatility on monthly performances uses the Ang et al. (2006) specification. We divide our sample period between periods with high M&A activity versus period with low M&A activity. Idiosyncratic volatility is measured as the realized volatility of the residuals obtained after estimating the Fama and French (1993) three-factor model. Using daily data, for each stock in our sample, for every month, we estimate the Fama-French (1993) three-factor model:

$$r_{i,t} - R_{f,t} = \alpha_i + \beta_{MKT,i}(R_{m,t} - R_{f,t}) + \beta_{SMB,i}SMB_t + \beta_{HML,i}HML_t + \epsilon_t. \qquad (1)$$

[20] See Cretin, Dieudonné, and Bouacha (2014).

$r_{i,t} - R_{f,t}$ corresponds to the excess daily return of stock i on day t, $\alpha_i$is the Fama-French adjusted alpha, $R_{m,t} - R_{f,t}, SMB_t$, HML_t correspond to the market risk premium, small cap premium factor and the value premium factor respectively.

As complementary tests, we estimate the idiosyncratic volatility using the Fama and French (2015) five-factor model:

$$r_{i,t} - R_{f,t} = \alpha_i + \beta_{MKT,i}(R_{m,t} - R_{f,t}) + \beta_{SMB,i}SMB_t + \beta_{HML,i}HML_t + \beta_{RMW,i}RMW_t + \beta_{CMA,i}CMA_t + \epsilon_t \quad (2)$$

where $R_{m,t} - R_{f,t}, SMB_t$, HML_t are as defined as in (1), RMW_t is the difference between the returns on a diversified portfolios of stocks with robust and weak profitability, and CMA_t is the difference between the returns on diversified portfolios of stocks with low and high investment firms. As such, RMW and CMA would proxy for profitability and investment respectively. We estimate the idiosyncratic volatility for the Fama and French (2015) model in exactly the same way we did for the Fama and French (1993) model. In addition, once stocks are sorted into quintiles based on their respective lagged idiosyncratic volatility, value-weighted portfolios are formed and their Five-Factor Alpha as well as their average returns are estimated. The Fama and French (1993; 2015) factors are obtained from Kenneth French's webpage.

Once idiosyncratic volatilities are estimated, stocks are sorted into quintile portfolios based on their idiosyncratic volatility. The quintile portfolios are value-weighted, formed at the beginning of the month and kept for one month. The process is repeated recursively on a monthly basis and we end up having five quintile portfolios with value-weighted daily returns.

Next we estimate the Fama and French (1993) adjusted alpha for these portfolios as well as the average returns of these portfolios over our total sample period, high M&A activity sub-periods and low M&A activities sub-period. In order for a firm monthly idiosyncratic volatility to be included in our sample, we require the presence of at least 12 daily observations within the idiosyncratic volatility estimation month; otherwise the stock's monthly observation is dropped out from our sample and consequently it is not included in forming next month quintile portfolios.

We also estimate the performance of the portfolios using monthly returns for comparative purposes.

3.4 Trends in Aggregate Volatilities

Table 3.1 presents summary statistics (mean and standard deviation) of the monthly returns of all the stocks in our sample per year of observation as well as the number of stocks in the sample for each year. We also report the average monthly idiosyncratic volatilities estimated using daily returns using the Fama-French three-factor model. In addition, we report the ratios of idiosyncratic volatility to total volatility. Table 3.1 reports the estimates using equal-weighted idiosyncratic volatility. Table 3.2 shows the results using value weighted idiosyncratic volatility. As can be seen therein, there is considerable variation through time of the volatility measures. There is some secular decline in the number of stocks in the sample each year since 1999.

Considerable volatility spikes are observed for the OPEC Oil Crisis period 1973-74, for the stock market crash year of 1987, and the Russian Default and Long term Capital Management Crises of 1998; peak volatilities for the sample are observed during the Great Financial Crisis of 2008-9.

<Please insert Table 3.1 and Table 3.2 here>

Volatility changes for firms occur due to external forces that have impact on all firms, such as the crises above. To get a clearer picture about the behavior of the impact of M&A intensity on idiosyncratic volatility, we also provide Table 3.1 and Table 3.2 to show scaled measures of volatility, computed as the ratio of the monthly aggregate idiosyncratic volatility to the monthly aggregate return volatility. In Table 3.3 below, we note that the scaled equal weighted volatility and scaled value weighted volatility measures are significantly higher in the periods of high merger activity. For the merger wave periods, the scaled value-weighted idiosyncratic volatility is approximately 5.8% higher than during the corresponding non-wave periods. The difference is statistically significant with a t-value of 9.3. For the scaled equal-weighted idiosyncratic volatility the difference is somewhat smaller, but remains significant, with a t-value of 5.9.

<Please insert Table 3.3 here.

Figures 3.1 and 3.2 present graphs of the time series of the equal-weighted as well as value-weighted aggregate idiosyncratic volatility from July, 1963 to December, 2013. All stocks listed on NYSE, NYSE MKT (formerly AMEX), and NASDAQ, and having data on the CRSP database, are included in our sample. In Figure 3.1, idiosyncratic volatility is calculated as the

standard deviation of the residuals resulting from estimating the Fama and French (1993) three-factor model; in Figure 3.2, the estimates are from the Fama and French (2015) five-factor model. Merger Wave Periods are highlighted in grey. Both of these show similar patterns. Equal weighted idiosyncratic volatility measures are considerably higher than their value weighted counterparts, reflecting the larger relative influence of small stocks in the equal-weighted measure. The cyclical relationship between idiosyncratic volatility is most apparent for the longest merger wave period from 1990 to 2000, when all of the aggregate idiosyncratic volatility measures rise in tandem, and then show a distinct downward trend in the 2001-03 no wave period.

<Please insert Figures 3.1 and 3.2 here>

Figure 3.3 graphs the scaled measures of idiosyncratic volatility over the sample period. Value-weighted estimates are shown based on the Fama-French (1993) three-factor and Fama-French (2015) five-factor models. Scaled volatility measures again are computed by dividing monthly aggregate idiosyncratic volatility by monthly aggregate returns' volatility.

<Please insert Figure 3.3 here >

The pattern shown in Table 3.4 is consistent with the study's basic motivation: as we move into period of high merger intensity, the importance of idiosyncratic volatility as a share of total volatility tends to rise. As we move out of a merger wave period, the role of idiosyncratic volatility falls. Similar results are observed using equal-weighted volatilities.

3.5 The Relationship between the Idiosyncratic Volatility Puzzle and M&A Activity using Daily Returns for Performance Estimation

Table 3.4 presents a summary of the main results for the analyses relating to the performance for alternative portfolios that are sorted into portfolios based on the previous month's idiosyncratic volatility. The analyses use daily returns for the idiosyncratic volatility estimation and daily returns for the subsequent performance estimation. The table reports the results showing the returns from a zero-investment portfolio constructed by being long the fifth (highest idiosyncratic volatility) quintile and short the first (lowest idiosyncratic volatility) quintile.

Detailed results are documented in Appendix A. For presentation reasons only, we have transformed the daily performance measures into monthly performance measures.[21].

<Please insert Table 3.4 here>

For both the Fama and French (1993) three-factor model as well as the Fama and French (2015) five-factor model, we corroborate the existence of the idiosyncratic volatility puzzle if the zero-investment portfolio (Q5 'high idiosyncratic volatility portfolio' – Q1 'low idiosyncratic volatility portfolio') has a negative and significant performance measure. If in addition to the zero-investment portfolio negative significant performance, we observe a strictly decreasing trend while moving from the lowest to the highest quintile, then this would be of great support to the existence of the puzzle. However, this latter is not always observed in the literature as highlighted by Bali and Cakici (2008). We also treat a non-significant performance measure (whether positive or negative) and a positive significant performance measure as an indication that the puzzle cannot be supported by the corresponding test.

Our results show that when idiosyncratic volatility is estimated using the Fama and French (1993) three-factor model, the idiosyncratic volatility puzzle persists as the alpha of the zero-investment portfolio is negative and significant. However, the average return of the zero-investment portfolio is not significant. This leads us to conclude that using daily return in estimating our performance measure weakens the idiosyncratic volatility puzzle but does not eliminate it (previous papers mostly use monthly returns in estimating their quintile portfolio performances instead of daily returns). On the other side, using the Fama and French (2015) five-factor model, the puzzle is not evident: both alpha and the average return of the zero-investment portfolio are no more significant.

When the sample is divided into high M&A activity periods and the low M&A activity periods, the results that we obtain are consistent with Hypothesis 1: the idiosyncratic volatility puzzle is present in the high intensity sample and is not present in the low intensity sample. In particular, the results of our tests show that there is a negative relationship between idiosyncratic volatility and the next month's stock performance when performance is measured by both alpha and average returns and the three-factor model is used to estimate the idiosyncratic volatility.

[21] We use the following formula to transfer daily effective returns into monthly effective returns:
$r_{effective\ monthly} = \left(1 + r_{effective\ daily}\right)^{30} - 1$

When the five-factor model is used to estimate the idiosyncratic volatility, only the average returns performance measure is still negatively related to idiosyncratic volatility. For the period of low M&A activity, the relationship between idiosyncratic volatility and the next month's performance is either positive or non-significant.

Given this provocative finding that is consistent with Hypothesis 1, we also estimate our performance measures over the high M&A activity sub-periods and the low M&A activity sub-periods. We find that the high M&A activity sub-periods exhibit mostly a negative significant or a non-significant relationship between performances and lagged idiosyncratic volatility whereas low M&A activity sub-periods exhibit mostly a positive significant or non-significant relationship between performances and lagged idiosyncratic volatility. These results are also obtained if we are to use the five-factor model instead of the three-factor model. What is intriguing is that for the high M&A activity sub-period spanning 1982 to 1989, the idiosyncratic volatility puzzle exhibits its strongest form: all performance measures of the zero investment portfolio are negative and significant. In addition, a decreasing trend can be clearly observed.[22] In a nutshell, our results seem to support that the idiosyncratic volatility puzzle intensifies in high M&A activity periods and weakens in low M&A activity periods, consistent with Hypothesis 1.

3.6 The Relationship between the Idiosyncratic Volatility Puzzle and M&A Activity using Monthly Returns for Performance Estimation

Much of the previous literature on the idiosyncratic volatility puzzle uses monthly returns to estimate the performances of the quintile portfolios obtained after sorting stocks based on their idiosyncratic volatility. We repeated our tests using our monthly portfolio returns.

Table 3.5 presents a summary of the main results for the analyses relating to the performance for alternative portfolios that are sorted into portfolios based on the previous month's idiosyncratic volatility. The analyses use daily returns for the idiosyncratic volatility estimation and monthly returns for the subsequent performance estimation. The table reports the results showing the returns from a zero-investment portfolio constructed by being long the fifth (highest idiosyncratic volatility) quintile and short the first (lowest idiosyncratic volatility) quintile. Detailed results are documented in Appendix B in Tables B.1 to B.8.

[22] In unreported tests, we limit this sub-period to span from 1982 to 1987 but similar results are obtained.

In contrast to the results using daily returns, we find that the idiosyncratic volatility puzzle is now strong for our total sample: both the alpha and the average returns of the zero-investment portfolio are negative and significant. Second, using the Fama and French (2015) five-factor model does not mitigate the puzzle as reported for the daily performance measure: both alpha and average returns of the zero-investment portfolio are still negative and significant. Third, when we divide the sample into high M&A activity periods versus low M&A activity periods it seems that the puzzle is still strong for the high M&A activity period: both alpha and average return are negative and significant for the zero-investment portfolio. For the period of the low M&A activity period: both alpha and average return of the zero investment portfolios are negative but only the alpha is significant. The idiosyncratic volatility puzzle exists mildly for the low M&A activity period but its effect is still weaker than in the high M&A activity period. Consistent with the results using daily data, the strongest idiosyncratic volatility effect is still observed in the period spanning from 1982 to 1989. To summarize, our results using monthly returns are in line with Hypothesis 1 supporting a link between the IV puzzle and M&A intensity.

3.7 The Relationship between the Exposure to the Common Idiosyncratic Volatility Factor and M&A Activity

Herskovic et al. (2016) show that shocks to the common idiosyncratic volatility (CIV) factor are priced and that stocks with lower CIV-exposure in a particular month perform better than their higher CIV-exposure peers in the next month. CIV factor is correlated with income risk faced by households, not related to risk of firms in M&A. In this section, we test whether this relationship is persistent across periods of high and low mergers and acquisitions activities.

We construct our common idiosyncratic volatility factor following the approach of Herskovic et al. (2016). For each month, we estimate a regression of daily individual stock returns on the CRSP value-weighted index (our proxy for market return in this case: $R_{m,t}$) for all the CRSP stocks with non-missing data for that month as per the model below:

$$r_{i,t} = \alpha_i + \beta_{MKT,i}(R_{m,t}) + \epsilon_t$$

Next, individual stocks monthly variances are estimated as the variance of the residuals resulting from the above model: $\text{Idiosyncratic\_Variance}_{i,t} = \sigma^2(\epsilon_t)$. Once individual variances are obtained, an equal-weighted average of them is calculated for each month in our sample. This

latter would serve as our Common Idiosyncratic Volatility (CIV) factor. Shocks to the CIV factors are obtained as the month-to-month difference between the previously constructed CIV values.

Herskovic et al. (2016) also compute a market variance (MV) factor as a control variable for testing the predictive power of the CIV factor. Following their approach, we also construct our MV factor by estimating the variance of the CRSP value-weighted index each month by relying on the daily observations within this month. Similar to CIV shocks, MV shocks are obtained as the first difference in the MV factor from one month to the other.

Once CIV and MV shocks are obtained, and for every month and for every stock in our sample, monthly stocks excess returns are regressed on CIV and MV shocks using a 60-month historical window. As in the idiosyncratic volatility analysis, we limited the sample to stocks with share codes 10, 11, and 12. We require stocks to have at least 60 historical monthly return observations to be kept in our sample of stocks. These regressions would lead to a monthly series of stocks' exposure to CIV shocks and MV shocks; the CIV-Betas and the MV-Betas.

Next, we sort stocks into equal-weighted quintile portfolios based on their CIV-Betas and estimate the next month returns for these portfolios as well as the next month return on a self-financing portfolio that is long the highest CIV-Beta quintile portfolio and short the lowest CIV-Beta quintile portfolio. We use equally weighted portfolios as per Herskovic et al. (2016). In addition, both the Fama and French (1993) three-factor and Fama and French (2015) five-factor models are used to estimate the stocks' idiosyncratic variances and in turn, the common idiosyncratic volatility factor. Monthly first differences are used to generate the factors' shocks. The exposure to the CIV factor is obtained by regressing monthly stocks excess-returns on the CIV-factor, the Market Variance factor, the SMB Variance factor as well as the HML Variance factor for the case of Fama and French (1993) three-factor model benchmark.

Table 3.6 presents a summary of the main results. The table reports the results showing the returns from a zero-investment portfolio constructed by being long the fifth (highest CIV exposure) quintile and short the first (lowest CIV exposure) quintile. Detailed results are documented in Appendix C.

<Please insert Table 3.6 here>

At first, we check whether the results documented by Herskovic et al. (2016) are model specific. The authors build their work by estimating the idiosyncratic volatility relying on the single factor market model. Consistent with the factor model reported in this paper, we redo their tests using the Fama and French (1993) and the Fama and French (2015) factor models. Our findings are consistent with those reported by Herskovic et al. (2016) and similar across the different model specifications; the negative relationship between stock performance and lagged exposure to the CIV factor is significant whether we use the Market Model, the Fama and French (1993) three-factor model or the Fama and French (2015) five-factor model. The results are also robust to whether we use an average return, the Fama and French (1993) three-factor alpha, or the Fama and French (2015) five-factor alpha to estimate our portfolio performances.

Since the different factor models exhibit similar behavior, we rely on the market model used by Herskovic et al. (2016) to test whether the relationship between expected return and lagged exposure to the CIV factor is affected by mergers and acquisitions activities. Our findings are not supportive of Hypothesis 2. M&A activity does not affect the relationship between expected returns and lagged exposure to the CIV factor: the relationship is negative and significant for the high M&A activity period, the low M&A activity period as well as most of their constituents' sub-periods. Hence the results do not support Hypothesis 2. These reported findings might be due to the long window (60 months) used to estimate the exposure to the CIV factor. A 60-month window might easily span more than one adjacent sub-period and cover both high and low M&A activity periods. Hence, we redo our tests while re-estimating stocks' exposure to the CIV factor over a 12-month estimation window rather than a 60-month window. The results of these tests are summarized in Table 3.7 below with detailed estimates shown in Appendix D.

<Please insert Table 3.7 here>

Again, we fail to detect observable differences between the high and low M&A activity periods and their corresponding sub-periods. Considering that the first year of every sub-period would still rely on some observations from the previous sub-period, we decided to remove the first year of every sub-period while estimating our portfolio performances. Table 3.8 below summarizes the results that are reported in Appendix E.

<Please insert Table 3.8 here>

As we notice these extra tests did not change our initial findings: stock exposure to the CIV factor is still negatively related to stocks expected performances independent of the M&A activity.

When conditioned on M&A activity, the difference in behavior exhibited by stocks while ranked based on their previous month idiosyncratic volatility and their previous month exposure to the common idiosyncratic volatility factor reveals that these two measures are capturing different firms' characteristics or risk exposure.

3.8 Conclusion

The idiosyncratic volatility puzzle revolves around a negative relationship between stocks' idiosyncratic volatility and the next month's expected performance. This observation is documented by Ang et al. (2006) and has been a topic of considerable interest lately. In this paper, we establish a relationship between the intensity of merger and acquisition activity and the idiosyncratic volatility puzzle. In particular, we demonstrate that the puzzle is stronger in periods of high merger and acquisition activity than in periods of low merger and acquisition activity. This suggests the existence of a relationship between the intensity of M&A activity and the way in which idiosyncratic volatility affects stock expected returns. We classify nationwide merger waves as periods of high M&A activity and the periods when no waves are reported as low M&A activity. The M&A literature suggests that a nationwide M&A wave is a clustering of a series of M&A waves in different industries. This clustering is mainly boosted or facilitated by liquidity and misvaluations. The industry waves are usually initiated by internal shocks that are usually the results of technological changes in the corresponding industry. Merger waves are also associated with changes in legal and regulatory regimes. Both industry internal shocks and market misvaluation create uncertainty related to the future prospects of firms that are varying from one industry to another and from one company to another within the same industry according to the exposure of this company to the new way of the industry operation. In addition, a company involved in an M&A deal would pass through a period of instability related to its own future prospects as the deal being negotiated and until both firms combine their operation under one management, one vision and one culture. Uncertainty about the firm's future prospects induces shocks to the firm's idiosyncratic volatility that enhances the negative relationship between idiosyncratic volatility and the next month's expected returns.

We show that the link between idiosyncratic volatility puzzle and mergers and acquisitions is robust to whether or not we use daily or monthly data in the analyses, as well as to different model specifications: whether we use the Fama and French (1993) three-factor model or the Fama and French (2015) five-factor model to estimate our idiosyncratic volatility.

Our attempts to link the mergers and acquisitions activity to the negative relationship between stocks' expected returns and the previous month's exposure to the common idiosyncratic volatility (CIV) factor proved futile. This leads us to conclude that firms' idiosyncratic volatility and firms' exposure to the CIV factor are catching two distinct firms' characteristics or firms' risk exposure. M&A activity can in part explain the idiosyncratic volatility puzzle but it does not subsume the negative relationship between CIV exposure and firm returns. Our paper identifies a number of questions and challenges for future research. One important challenge is to isolate the link between factors responsible for different merger waves that may account for the variations in the intensity of the IV puzzle. Our results show that the idiosyncratic volatility puzzle is stronger in high M&A activity periods. Indeed, during the 1982-1989 merger wave period, all performance measures of the zero-investment portfolio are negative and significant. As noted by Betton, Eckbo, and Thorburn (2008), this period has been dubbed as the refocusing wave, where several mergers were either designed for firms to specialize their operations or to downsize. This is also a period in which the number of hostile bids reached a peak. To the extent that misvaluations that lead to the IV puzzle are greater for firms that restructure, or downsize, or that the takeovers are hostile as opposed to friendly bids, remains as issues for future investigation.

3.9 References Cited

Ang, A., Hodrick, R. J., Xing, Y., & Zhang, X. (2006). The cross-section of volatility and expected returns. Journal of Finance, 61(1), 259-299.

Ang, A., Hodrick, R. J., Xing, Y., & Zhang, X. (2009). High idiosyncratic volatility and low returns: International and further US evidence. Journal of Financial Economics, 91(1), 1-23.

Ang, J. S., & Cheng, Y. (2006). Direct evidence on the market-driven acquisition theory. Journal of Financial Research, 29(2), 199-216.

Ahern, K. R., & Harford, J. (2014). The importance of industry links in merger waves. Journal of Finance, 69(2), 527-576.

Bali, T. G., & Cakici, N. (2008). Idiosyncratic volatility and the cross section of expected returns. Journal of Financial and Quantitative Analysis, 43(01), 29-58.

Bekaert, G., Hodrick, R. J., & Zhang, X. (2012). Aggregate idiosyncratic volatility. Journal of Financial and Quantitative Analysis, 47(06), 1155-1185.

Betton, S., Eckbo, B.E. & and Thorburn, K.S. (2008), "Corporate Takeovers", in B. Espen Eckbo (ed.), Handbook of Corporate Finance: Empirical Corporate Finance, Volume 2, (Elsevier/North-Holland Handbook of Finance Series), Ch. 15, 291- 430, Blume, M. E., & Stambaugh, R. F. (1983). Biases in computed returns: An application to the size effect. Journal of Financial Economics, 12(3), 387-404.

Boehme, R. D., Danielsen, B. R., Kumar, P., & Sorescu, S. M. (2009). Idiosyncratic risk and the cross-section of stock returns: Merton (1987) meets Miller (1977). Journal of Financial Markets, 12(3), 438-468.

Brandt, M. W., Brav, A., Graham, J. R., & Kumar, A. (2010). The idiosyncratic volatility puzzle: Time trend or speculative episodes?. Review of Financial Studies, 23(2), 863-899.

Brockman, P., & Schutte, M. (2007). Is idiosyncratic volatility priced? The international evidence. Unpublished working paper. University of Missouri U Columbia.

Campbell, J. Y., Lettau, M., Malkiel, B. G., & Xu, Y. (2001). Have individual stocks become more volatile? An empirical exploration of idiosyncratic risk.Journal of Finance, 56(1), 1-43.

Chen, Z., & Petkova, R. (2012). Does idiosyncratic volatility proxy for risk exposure?. Review of Financial Studies, 25(9), 2745-2787.

Chua, C. T., Goh, J., & Zhang, Z. (2010). Expected volatility, unexpected volatility, and the cross-section of stock returns. Journal of Financial Research, 33(2), 103-123.

Cretin, F, Dieudonné, S., and Bouacha, (2014). M&A activity: where are we in the cycle? Electronic copy available at: http://ssrn.com/abstract=2504412

Dong, M., Hirshleifer, D., Richardson, S., & Teoh, S. H. (2006). Does investor misvaluation drive the takeover market?. Journal of Finance, 61(2), 725-762.

Duarte, J., Kamara, A., Siegel, S., & Sun, C. (2014). The systematic risk of idiosyncratic volatility. Available at SSRN 1905731.

Duchin, R., & Schmidt, B. (2013). Riding the merger wave: Uncertainty, reduced monitoring,

and bad acquisitions. Journal of Financial Economics 107, 69-88.

Fama, E. F., & French, K. R. (1993). Common Risk Factors in the Returns on

Stocks and Bonds." Journal of Financial Economics 33, 3–56.

Fama, E. F., & French, K. R. (2015). A five-factor asset pricing model. Journal of Financial Economics, 116(1), 1-22.

Fu, F. (2009). Idiosyncratic risk and the cross-section of expected stock returns. Journal of Financial Economics, 91(1), 24-37.

Gaspar, J. M., & Massa, M. (2006). Idiosyncratic Volatility and Product Market Competition*. Journal of Business, 79(6), 3125-3152.

Goyal, A., & Santa-Clara, P. (2003). Idiosyncratic risk matters!. Journal of Finance, 58(3), 975-1007.

Guo, H., & Savickas, R. (2008). Average idiosyncratic volatility in G7 countries. Review of Financial Studies, 21(3), 1259-1296.

Han, Y., & Lesmond, D. (2011). Liquidity biases and the pricing of cross-sectional idiosyncratic volatility. Review of Financial Studies, 24(5), 1590-1629.

Harford, J. (2005). What drives merger waves?. Journal of financial economics, 77(3), 529-560.

Herskovic, B., Kelly, B., Lustig, H., & Van Nieuwerburgh, S. (2015). The common factor in idiosyncratic volatility: Quantitative asset pricing implications. Journal of Financial Economics.

Hou, K., & Loh, R. (2016). Have we solved the idiosyncratic volatility puzzle? Journal of Financial Economics. 121, (1), 167-194..

Huang, W., Liu, Q., Rhee, S. G., & Zhang, L. (2009). Return reversals, idiosyncratic risk, and expected returns. Review of Financial Studies, hhp015.

Irvine, P. J., & Pontiff, J. (2009). Idiosyncratic return volatility, cash flows, and product market competition. Review of Financial Studies, 22(3), 1149-1177.

Jiang, G. J., Xu, D., & Yao, T. (2009). The information content of idiosyncratic volatility. Journal of Financial and Quantitative Analysis, 44(01), 1-28.

Jovanovic, B., & Rousseau, P. L. (2001). Mergers and technological change: 1885-1998. Unpublished working paper, Vanderbilt University.

Jovanovic, B., & Rousseau, P. L. (2002). The Q-theory of mergers (No. w8740). National Bureau of Economic Research.

Lang, L., Stulz, R., Walkling, R., 1989. Managerial performance, Tobin's q, and the gains from successful tender offers. Journal of Financial Economics 24, 137–154.

Lang, L. H., Stulz, R., & Walkling, R. A. (1991). A test of the free cash flow hypothesis: The case of bidder returns. Journal of Financial Economics,29(2), 315-335.

Maksimovic, V., & Phillips, G. (2001). The market for corporate assets: Who engages in mergers and asset sales and are there efficiency gains?. Journal of Finance, 56(6), 2019-2065.

Martynova, M., & Renneboog, L. (2008). A century of corporate takeovers: What have we learned and where do we stand?. Journal of Banking & Finance, 32(10), 2148-2177.

Merton, R. C. (1987). A simple model of capital market equilibrium with incomplete information. Journal of Finance, 42(3), 483-510.

Mitchell, M. L., & Mulherin, J. H. (1996). The impact of industry shocks on takeover and restructuring activity. Journal of Financial Economics, 41(2), 193-229.

Rhodes-Kropf, M., & Viswanathan, S. (2004). Market valuation and merger waves. Journal of Finance, 59(6), 2685-2718.

Rhodes–Kropf, M., Robinson, D. T., & Viswanathan, S. (2005). Valuation waves and merger activity: The empirical evidence. Journal of Financial Economics, 77(3), 561-603.

Servaes, H. (1991). Tobin's Q and the Gains from Takeovers. The Journal of Finance, 46(1), 409-419.

Shleifer, A., & Vishny, R. W. (2003). Stock market driven acquisitions. Journal of Financial Economics, 70(3), 295-311.

Spiegel, M., & Wang, X. (2007). Cross-sectional Variation in Stock Returns: Liquidity and Idiosyncratic Risk. Unpublished working paper.

Switzer, L. N., & Picard, A. (2015). Idiosyncratic Volatility, Momentum, Liquidity, and Expected Stock Returns in Developed and Emerging Markets. Multinational Finance Journal, 19(3), 169-221.

Xu, Y., & Malkiel, B. G. (2003). Investigating the behavior of idiosyncratic volatility*. The Journal of Business, 76(4), 613-645.

Zhang, C. (2010). A reexamination of the causes of time-varying stock return volatilities.

Figure 3-1 Aggregate Idiosyncratic Volatility (using the Three-Factor Model)

The below graphs present the aggregate idiosyncratic volatility from Jul 1963 to Dec 2013. All stocks listed on NYSE, NYSE MKT (formerly AMEX), and NASDAQ and having data on CRSP database are included in our sample. Idiosyncratic volatility is calculated as the standard deviation of the residuals resulting from estimating the Fama and French (1993) three-factor model:
$r_{i,t} - R_{f,t} = \alpha + \beta_{MKT,i}(R_{m,t} - R_{f,t}) + \beta_{SMB,i}SMB_t + \beta_{HML,i}HML_t + \epsilon_t$. The model is estimated using daily observations every month for every stock in our sample. Next, and for every month, we estimate the value weighted and equal weighted averages for all our stocks' idiosyncratic volatilities available within this month. We use these averages as our proxy for value-weighted and equal-weighted idiosyncratic volatility respectively. Merger Waves Periods are highlighted in grey.

Figure 3.1 – A – Value Weighted Aggregate Idiosyncratic Volatility

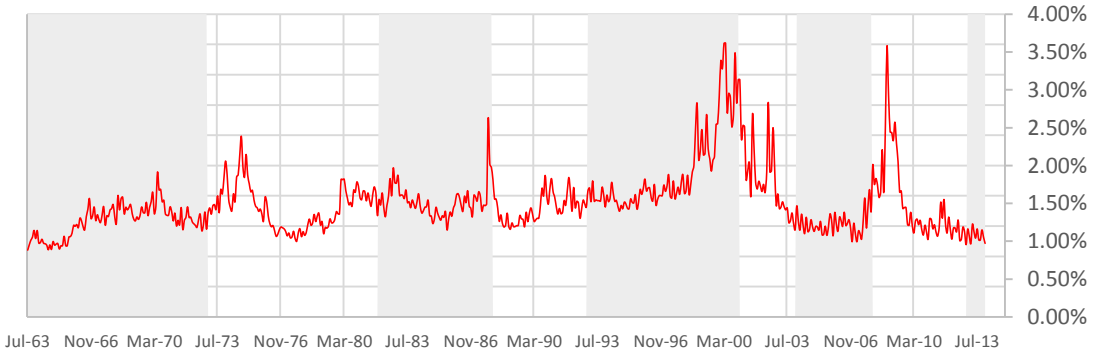


Figure 3.1 – B – Equal Weighted Aggregate Idiosyncratic Volatility

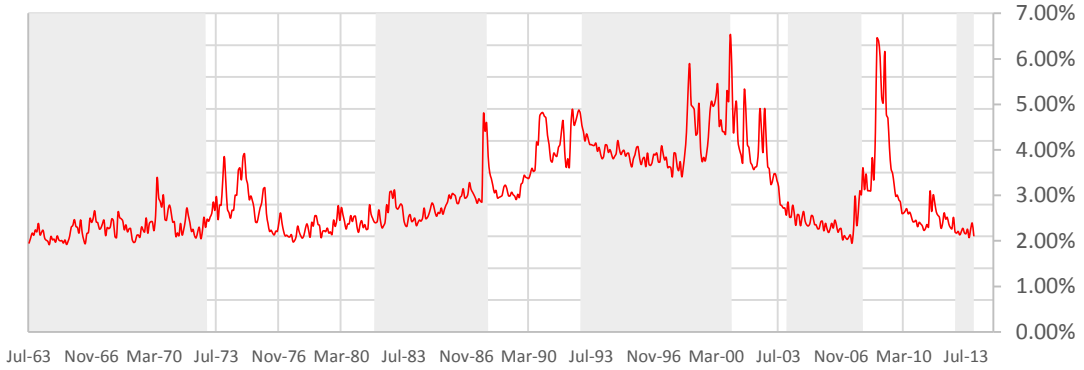


Figure 3-2 Aggregate Idiosyncratic Volatility (using the Five-Factor Model)

The below graphs present the aggregate idiosyncratic volatility from Jul 1963 to Dec 2013. All stocks listed on NYSE, NYSE MKT (formerly AMEX), and NASDAQ and having data on CRSP database are included in our sample. Idiosyncratic volatility is calculated as the standard deviation of the residuals resulting from estimating the Fama and French (2015) five-factor model:
$r_{i,t} - R_{f,t} = \alpha + \beta_{MKT,i}(R_{m,t} - R_{f,t}) + \beta_{SMB,i}SMB_t + \beta_{HML,i}HML_t + \beta_{RMW,i}RMW_t + \beta_{CMA,i}CMA_t + \epsilon_t$. The model is estimated using daily observations every month for every stock in our sample. Next, and for every month, we estimate the value weighted and equal weighted averages for all our stocks' idiosyncratic volatilities available within this month. We use these averages as our proxy for value-weighted and equal-weighted idiosyncratic volatility respectively. Merger Waves Periods are highlighted in grey.

Figure 3.2 – A – Value Weighted Aggregate Idiosyncratic Volatility

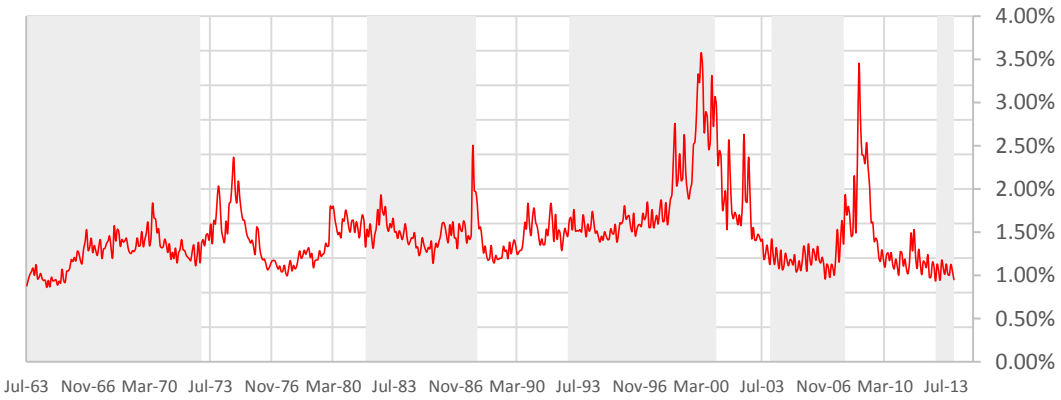


Figure 3.2 – B – Equal Weighted Aggregate Idiosyncratic Volatility

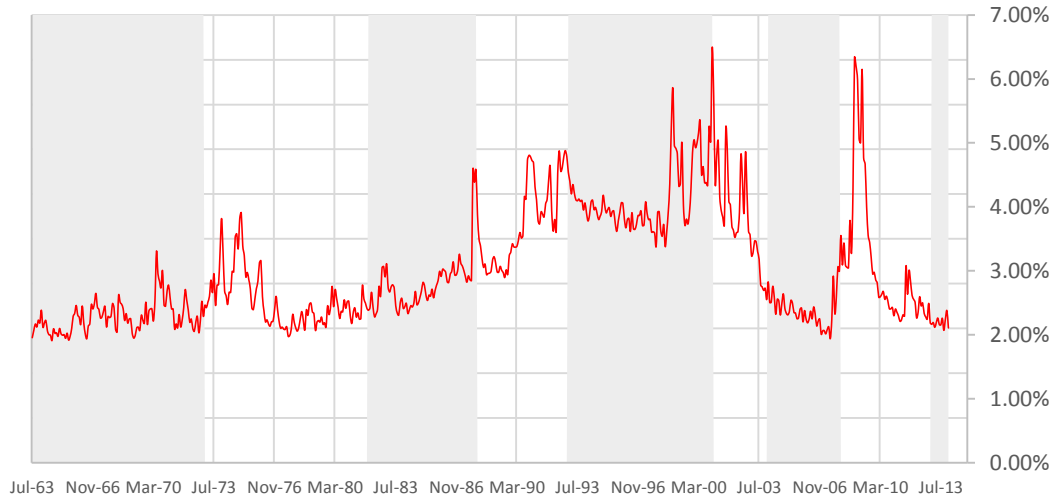


Figure 3-3 Value Weighted Scaled Idiosyncratic Volatility

The below graphs present the aggregate scaled idiosyncratic volatility from Jul 1963 to Dec 2013. All stocks listed on NYSE MKT (formerly AMEX), and NASDAQ and having data on CRSP database are included in our sample. Idiosyncratic volatility is calculated as the standard deviation of the residuals resulting from estimating the Fama and French (1993) three-factor model: $r_{i,t} - R_{f,t} = \alpha + \beta_{MKT,i}(R_{m,t} - R_{f,t}) + \beta_{SMB,i}SMB_t + \beta_{HML,i}HML_t + \epsilon_t$ and the Fama and French (2015) five-factor model: $r_{i,t} - R_{f,t} = \alpha + \beta_{MKT,i}(R_{m,t} - R_{f,t}) + \beta_{SMB,i}SMB_t + \beta_{HML,i}HML_t + \beta_{RMW,i}RMW_t + \beta_{CMA,i}CMA_t + \epsilon_t$. The model is estimated using daily observations every month for every stock in our sample. Next, and for every month, we estimate the value weighted and equal weighted averages for all our stocks' idiosyncratic volatilities available within this month. We use these averages as our proxy for value-weighted and equal-weighted idiosyncratic volatility respectively. The idiosyncratic volatility are scaled by the returns volatility by dividing monthly aggregate idiosyncratic volatility by monthly aggregate returns' volatility. Merger Waves Periods are highlighted in grey.

Figure 3.3 – A – Value Weighted FF3 Scaled Idiosyncratic Volatility

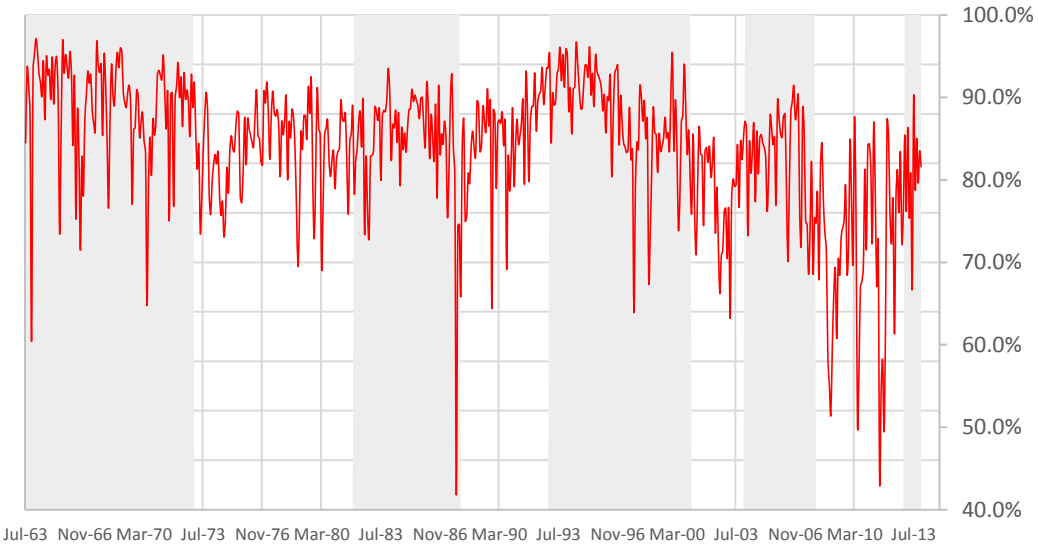


Figure 3.3 – B – Value Weighted FF5 Scaled Idiosyncratic Volatility

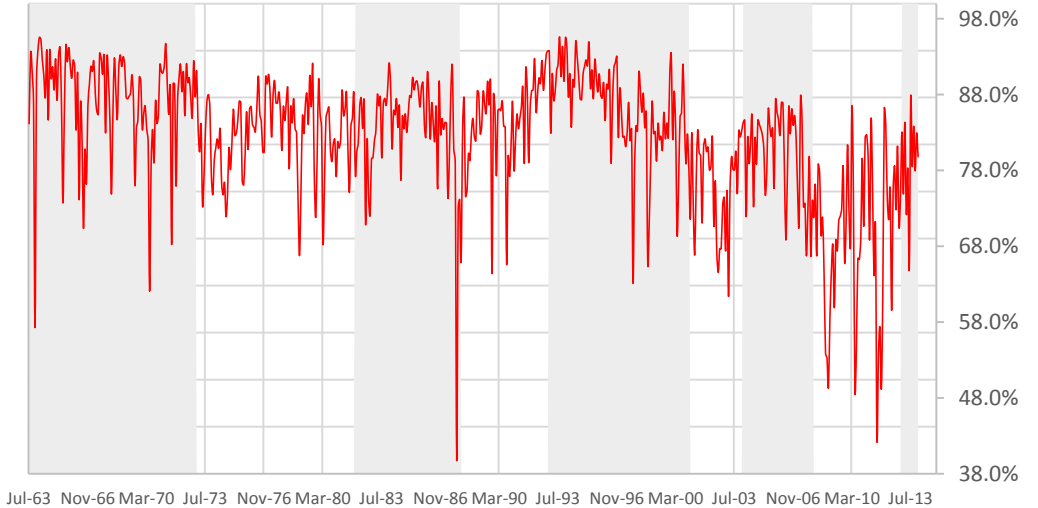


Table 3-1 Descriptive Statistics – Equal-Weighted Volatility, Idiosyncratic Volatility, and Scaled Volatility

In the table below we provide the average statistics for our sample. The monthly return is obtained every month for every firm in our sample. Then equal (value) weighted average for all firm's return is obtained. The reported returns are then averaged for the 12 months within every year to obtain our yearly observations. The idiosyncratic volatility is estimated every month for every firm relative to the Fama and French (1993) three-factor model using the daily returns within this month. Then, equal (value) weighted average for all firm's idiosyncratic volatility is obtained. The reported idiosyncratic volatilities are then averaged for the 12 months within every year to obtain our yearly observations. The return's volatility is estimated every month for every firm using the daily returns within this month. Then, equal (value) weighted average for all firm's return's volatility is obtained. Then, equal (value) weighted average for all firm's volatility is obtained. The reported volatilities are then averaged for the 12 months within every year to obtain our yearly observations. Scaled Idiosyncratic Volatility is obtained by dividing the monthly aggregate idiosyncratic volatility by the monthly aggregate return volatility. The reported scaled idiosyncratic volatilities are then averaged for the 12 months within every year to obtain our yearly observations. The number of stocks per year is the total number of firms that are used within any month during this year (each firm is counted once within any year).

Year	Average Monthly Return	Average Firms' Volatility	Average Firms' Idiosyncratic Volatility	Average Firms' Scaled Idiosyncratic Volatility	Number of Stocks per Year	Year	Average Monthly Return	Average Firms' Volatility	Average Firms' Idiosyncratic Volatility	Average Firms' Scaled Idiosyncratic Volatility	Number of Stocks per Year
1963	0.28%	2.24%	2.13%	95.55%	2073	1989	0.90%	3.14%	3.09%	98.25%	6723
1964	1.42%	2.12%	2.09%	98.63%	2155	1990	-1.98%	4.01%	3.91%	97.67%	6547
1965	2.66%	2.17%	2.10%	96.90%	2208	1991	3.78%	4.22%	4.14%	98.18%	6514
1966	-0.44%	2.44%	2.26%	92.91%	2229	1992	2.29%	4.44%	4.39%	98.84%	6699
1967	5.06%	2.46%	2.36%	96.10%	2271	1993	2.00%	4.22%	4.20%	99.32%	7058
1968	3.09%	2.46%	2.33%	94.79%	2293	1994	-0.38%	4.01%	3.95%	98.55%	7529
1969	-2.25%	2.35%	2.18%	92.81%	2361	1995	2.38%	3.93%	3.89%	99.14%	7864
1970	-0.65%	2.97%	2.68%	91.11%	2430	1996	1.45%	3.88%	3.80%	98.11%	8396
1971	1.73%	2.53%	2.38%	94.20%	2516	1997	1.69%	3.88%	3.77%	97.29%	8621
1972	0.49%	2.35%	2.27%	96.57%	2649	1998	0.02%	4.45%	4.28%	96.39%	8441
1973	-3.46%	2.98%	2.81%	94.76%	5697	1999	2.76%	4.43%	4.34%	97.93%	8093
1974	-2.21%	3.25%	3.07%	94.47%	5115	2000	-0.91%	5.27%	4.99%	94.92%	7737
1975	4.63%	3.04%	2.92%	96.09%	4922	2001	2.37%	4.80%	4.52%	94.41%	6989
1976	3.64%	2.53%	2.46%	97.05%	4993	2002	-0.89%	4.31%	4.03%	93.69%	6265
1977	1.83%	2.20%	2.15%	97.56%	4974	2003	5.12%	3.30%	3.10%	93.90%	5814
1978	2.26%	2.44%	2.29%	94.36%	4931	2004	1.79%	2.76%	2.56%	92.70%	5631
1979	3.07%	2.37%	2.26%	95.29%	4875	2005	0.44%	2.54%	2.37%	93.44%	5604
1980	3.30%	2.70%	2.50%	93.24%	5048	2006	1.40%	2.46%	2.28%	92.66%	5527
1981	0.09%	2.55%	2.40%	94.36%	5416	2007	-0.40%	2.66%	2.39%	90.42%	5518
1982	1.97%	2.77%	2.63%	94.96%	5647	2008	-4.64%	4.93%	4.16%	86.32%	5220
1983	2.86%	2.73%	2.63%	96.34%	6228	2009	4.91%	4.71%	4.09%	87.63%	4893
1984	-1.00%	2.60%	2.51%	96.57%	6523	2010	2.33%	2.98%	2.57%	86.79%	4715
1985	2.00%	2.77%	2.72%	98.15%	6578	2011	-0.85%	3.15%	2.54%	82.71%	4568
1986	0.69%	3.05%	2.97%	97.54%	6876	2012	1.50%	2.68%	2.42%	90.28%	4414
1987	-0.31%	3.65%	3.39%	94.97%	7082	2013	3.07%	2.41%	2.20%	91.55%	4397
1988	1.53%	3.28%	3.20%	97.69%	7040	Total Sample	1.23%	3.20%	3.02%	94.78%	24644

Table 3-2 Descriptive Statistics – Value-Weighted Volatility, Idiosyncratic Volatility, and Scaled Volatility

In the table below we provide the average statistics for our sample. The monthly return is obtained every month for every firm in our sample. Then equal (value) weighted average for all firm's return is obtained. The reported returns are then averaged for the 12 months within every year to obtain our yearly observations. The idiosyncratic volatility is estimated every month for every firm relative to the Fama and French (1993) three-factor model using the daily returns within this month. Then, equal (value) weighted average for all firm's idiosyncratic volatility is obtained. The reported idiosyncratic volatilities are then averaged for the 12 months within every year to obtain our yearly observations. The return's volatility is estimated every month for every firm using the daily returns within this month. Then, equal (value) weighted average for all firm's return's volatility is obtained. Then, equal (value) weighted average for all firm's volatility is obtained. The reported volatilities are then averaged for the 12 months within every year to obtain our yearly observations. Scaled Idiosyncratic Volatility is obtained by dividing the monthly aggregate idiosyncratic volatility by the monthly aggregate return volatility. The reported scaled idiosyncratic volatilities are then averaged for the 12 months within every year to obtain our yearly observations. The number of stocks per year is the total number of firms that are used within any month during this year (each firm is counted once within any year).

Year	Average Monthly Return	Average Firms' Volatility	Average Firms' Idiosyncratic Volatility	Average Firms' Scaled Idiosyncratic Volatility	Number of Stocks per Year	Year	Average Monthly Return	Average Firms' Volatility	Average Firms' Idiosyncratic Volatility	Average Firms' Scaled Idiosyncratic Volatility	Number of Stocks per Year
1963	1.63%	1.23%	1.01%	85.13%	2073	1989	2.63%	1.49%	1.26%	85.53%	6723
1964	1.49%	1.05%	0.97%	92.95%	2155	1990	0.21%	1.79%	1.47%	83.41%	6547
1965	1.42%	1.11%	1.01%	91.11%	2208	1991	3.17%	1.81%	1.54%	85.39%	6514
1966	-0.30%	1.53%	1.29%	85.13%	2229	1992	1.31%	1.68%	1.52%	90.71%	6699
1967	2.62%	1.47%	1.34%	91.42%	2271	1993	1.53%	1.74%	1.59%	92.10%	7058
1968	1.65%	1.60%	1.45%	90.65%	2293	1994	0.53%	1.69%	1.54%	91.09%	7529
1969	-0.45%	1.56%	1.37%	87.96%	2361	1995	3.21%	1.66%	1.54%	92.72%	7864
1970	0.71%	1.86%	1.53%	83.77%	2430	1996	2.35%	1.84%	1.63%	89.09%	8396
1971	1.73%	1.50%	1.32%	88.58%	2516	1997	3.11%	2.05%	1.69%	82.92%	8621
1972	1.77%	1.39%	1.25%	90.37%	2649	1998	3.01%	2.40%	1.99%	84.26%	8441
1973	-0.93%	1.89%	1.56%	83.17%	5697	1999	3.76%	2.70%	2.32%	86.06%	8093
1974	-1.68%	2.28%	1.79%	79.13%	5115	2000	1.91%	3.68%	3.09%	84.66%	7737
1975	3.52%	1.89%	1.58%	83.74%	4922	2001	0.71%	2.76%	2.19%	80.32%	6989
1976	2.50%	1.44%	1.24%	85.94%	4993	2002	-0.75%	2.55%	1.93%	76.45%	6265
1977	0.10%	1.25%	1.09%	87.38%	4974	2003	3.05%	1.79%	1.38%	78.33%	5814
1978	1.26%	1.50%	1.23%	83.05%	4931	2004	1.50%	1.48%	1.23%	83.05%	5631
1979	2.39%	1.48%	1.26%	85.55%	4875	2005	1.07%	1.41%	1.18%	83.80%	5604
1980	3.45%	2.04%	1.67%	82.06%	5048	2006	1.70%	1.46%	1.23%	85.05%	5527
1981	0.48%	1.86%	1.58%	84.90%	5416	2007	1.15%	1.65%	1.26%	77.56%	5518
1982	2.39%	2.00%	1.62%	81.80%	5647	2008	-2.47%	3.30%	2.16%	69.49%	5220
1983	2.45%	1.81%	1.57%	87.25%	6228	2009	3.58%	2.58%	1.81%	71.82%	4893
1984	0.89%	1.66%	1.42%	85.43%	6523	2010	2.00%	1.72%	1.20%	71.60%	4715
1985	2.88%	1.51%	1.34%	88.88%	6578	2011	0.51%	1.96%	1.25%	67.71%	4568
1986	1.94%	1.77%	1.51%	85.82%	6876	2012	1.73%	1.47%	1.13%	77.22%	4414
1987	1.26%	2.34%	1.70%	79.21%	7082	2013	2.81%	1.35%	1.08%	80.78%	4397
1988	1.92%	1.70%	1.36%	81.23%	7040	Total Sample	1.58%	1.82%	1.50%	83.96%	24644

Table 3-3 Average Equal Weighted, Value Weighted and Scaled Idiosyncratic Volatility

In the table below we provide the average idiosyncratic volatility for the stocks included in our sample while dividing the period into higher M&A activities (M&A waves) and low M&A activities (No M&A waves). The idiosyncratic volatility is estimated every month for every firm relative to the Fama and French (1993) three-factor model using the daily returns within this month. Then, equal (value) weighted average for all firm's idiosyncratic volatility is obtained. The reported idiosyncratic volatilities are then averaged across the specified periods. The return's volatility is estimated every month for every firm using the daily returns within this month. Then, equal (value) weighted average for all firm's return's volatility is obtained. Scaled Idiosyncratic Volatility is obtained by dividing the monthly aggregate idiosyncratic volatility by the monthly aggregate return volatility. The reported scaled idiosyncratic volatilities are then averaged across the specified periods.

Panel A: Equal Weighted Idiosyncratic Volatility			
Wave 4: 1960-1972	2.29%	No Wave 1: 1973-1981	2.54%
Wave 5: 1982-1989	2.89%	No Wave 2: 1990-1992	4.15%
Wave 6: 1993-2000	4.15%	No Wave 3: 2001-2003	3.88%
Wave 7: 2004-2007	2.40%	No Wave 4: 2008-2012	3.16%
Wave 8: 2013	2.20%		
All Merger Waves	**2.96%**	**No Merger Waves**	**3.12%**
Total Sample		3.02%	
Panel B: Scaled Equal Weighted Idiosyncratic Volatility			
Wave 4: 1960-1972	94.92%	No Wave 1: 1973-1981	95.24%
Wave 5: 1982-1989	96.81%	No Wave 2: 1990-1992	98.23%
Wave 6: 1993-2000	97.71%	No Wave 3: 2001-2003	94.00%
Wave 7: 2004-2007	92.30%	No Wave 4: 2008-2012	86.75%
Wave 8: 2013	91.55%		
All Merger Waves	**95.96%**	**No Merger Waves**	**93.38%**
Total Sample		94.78%	
Difference in Means between Mergers Waves and No Merger Waves: 2.3% (t-stat: 5.9 *)**			
Panel C: Value Weighted Idiosyncratic Volatility			
Wave 4: 1960-1972	1.27%	No Wave 1: 1973-1981	1.44%
Wave 5: 1982-1989	1.47%	No Wave 2: 1990-1992	1.51%
Wave 6: 1993-2000	1.93%	No Wave 3: 2001-2003	1.83%
Wave 7: 2004-2007	1.23%	No Wave 4: 2008-2012	1.51%
Wave 8: 2013	1.08%		
All Merger Waves	**1.49%**	**No Merger Waves**	**1.51%**
Total Sample		1.50%	
Panel D: Scaled Value Weighted Idiosyncratic Volatility			
Wave 4: 1960-1972	88.89%	No Wave 1: 1973-1981	83.88%
Wave 5: 1982-1989	84.39%	No Wave 2: 1990-1992	86.50%
Wave 6: 1993-2000	87.86%	No Wave 3: 2001-2003	78.37%
Wave 7: 2004-2007	82.37%	No Wave 4: 2008-2012	71.57%
Wave 8: 2013	80.78%		
All Merger Waves	**86.26%**	**No Merger Waves**	**80.47%**
Total Sample		83.96%	
Difference in Means between Mergers Waves and No Merger Waves: 5.8% (t-stat: 9.3 *)**			

Table 3-4 Summary of the Portfolio Performance tests for portfolios constructed using the zero investment Idiosyncratic Volatility ranked portfolios using daily data (From Appendix A)

Portfolios are formed based on previous month idiosyncratic volatility using daily Returns for the idiosyncratic volatility estimation and daily returns for the subsequent performance estimation. The table reports the results related to the zero investment portfolio obtained by being long the fifth (highest idiosyncratic volatility) quintile and short the first (lowest idiosyncratic volatility) quintile.

Daily Returns – Fama and French (1993) Model										
	Total Sample		High M&A Activity		Low M&A Activity					
Alpha	-ve	Sig	-ve	Sig	-ve	Non-Sig				
Average Return	-ve	Non-Sig	-ve	Sig	+ve	Non-Sig				
Daily Returns – Fama and French (2015) Model										
	Total Sample		High M&A Activity		Low M&A Activity					
Alpha	-ve	Non-Sig	-ve	Non-Sig	+ve	Sig				
Average Return	-ve	Non-Sig	-ve	Sig	+ve	Non-Sig				
Daily Returns – Fama and French (1993) Model – Sub-Periods of High M&A Activity										
	1960-1972		1982-1989		1993-2000		2004-2007		2013	
Alpha	-ve	Sig	-ve	Sig	-ve	Non-Sig	-ve	Non-Sig	-ve	Non-Sig
Average Return	-ve	Non-Sig	-ve	Sig	-ve	Non-Sig	+ve	Non-Sig	+ve	Non-Sig
Daily Returns – Fama and French (1993) Model – Sub-Periods of Low M&A Activity										
	1973-1981		1990-1992		2001-2003		2008-2012			
Alpha	-ve	Sig	+ve	Non-Sig	-ve	Non-Sig	+ve	Non-Sig		
Average Return	+ve	Non-Sig	+ve	Sig	+ve	Non-Sig	+ve	Non-Sig		
Daily Returns – Fama and French (2015) Model – Sub-Periods of High M&A Activity										
	1960-1972		1982-1989		1993-2000		2004-2007		2013	
Alpha	-ve	Sig	-ve	Sig	+ve	Non-Sig	-ve	Non-Sig	+ve	Non-Sig
Average Return	-ve	Non-Sig	-ve	Sig	-ve	Non-Sig	+ve	Non-Sig	+ve	Non-Sig
Daily Returns – Fama and French (2015) Model – Sub-Periods of Low M&A Activity										
	1973-1981		1990-1992		2001-2003		2008-2012			
Alpha	-ve	Sig	+ve	Sig	+ve	Sig	+ve	Non-Sig		
Average Return	+ve	Non-Sig	+ve	Sig	-ve	Non-Sig	+ve	Non-Sig		

Table 3-5 Summary of the Portfolio Performance tests for portfolios constructed using the zero investment Idiosyncratic Volatility ranked portfolios using monthly data (From Appendix B)

Portfolios are formed based on previous month idiosyncratic volatility using monthly Returns for the idiosyncratic volatility estimation and monthly returns for the subsequent performance estimation. The table reports the results related to the zero investment portfolio obtained by being long the fifth (highest idiosyncratic volatility) quintile and short the first (lowest idiosyncratic volatility) quintile.

Monthly Returns – Fama and French (1993) Model										
	Total Sample		High M&A Activity		Low M&A Activity					
Alpha	-ve	Sig	-ve	Sig	-ve	Sig				
Average Return	-ve	Sig	-ve	Sig	-ve	Non-Sig				
Monthly Returns – Fama and French (2015) Model										
	Total Sample		High M&A Activity		Low M&A Activity					
Alpha	-ve	Sig	-ve	Sig	-ve	Sig				
Average Return	-ve	Sig	-ve	Sig	-ve	Non-Sig				
Monthly Returns – Fama and French (1993) Model – Sub-Periods of High M&A Activity										
	1960-1972		1982-1989		1993-2000		2004-2007		2013	
Alpha	-ve	Sig	-ve	Sig	-ve	Sig	-ve	Non-Sig	+ve	Non-Sig
Average Return	-ve	Non-Sig	-ve	Sig	-ve	Non-Sig	-ve	Non-Sig	+ve	Non-Sig
Monthly Returns – Fama and French (1993) Model – Sub-Periods of Low M&A Activity										
	1973-1981		1990-1992		2001-2003		2008-2012			
Alpha	-ve	Sig	-ve	Sig	+ve	Non-Sig	-ve	Non-Sig		
Average Return	-ve	Non-Sig	-ve	Sig	+ve	Non-Sig	-ve	Non-Sig		
Monthly Returns – Fama and French (2015) Model – Sub-Periods of High M&A Activity										
	1960-1972		1982-1989		1993-2000		2004-2007		2013	
Alpha	-ve	Sig	-ve	Sig	-ve	Sig	-ve	Non-Sig	+ve	Non-Sig
Average Return	-ve	Non-Sig	-ve	Sig	-ve	Non-Sig	+ve	Non-Sig	+ve	Non-Sig
Monthly Returns – Fama and French (2015) Model – Sub-Periods of Low M&A Activity										
	1973-1981		1990-1992		2001-2003		2008-2012			
Alpha	-ve	Sig	-ve	Sig	+ve	Non-Sig	-ve	Non-Sig		
Average Return	-ve	Non-Sig	-ve	Non-Sig	-ve	Non-Sig	-ve	Non-Sig		

Table 3-6 Summary of the Portfolio Performance tests for portfolios constructed using the zero investment factor Idiosyncratic Volatility ranked portfolios using monthly data (60 months window) (From Appendix C)

Portfolios are formed based on previous month exposure to factor idiosyncratic volatility using monthly, using the Herskovic et al. (16) methodology. Returns for the idiosyncratic volatility estimation and monthly returns for the subsequent performance estimation. The table reports the results related to the zero investment portfolio obtained by being long the fifth (highest idiosyncratic volatility) quintile and short the first (lowest idiosyncratic volatility) quintile. The Table reports the results related to the zero investment portfolio obtained by being long the fifth (highest exposure to common idiosyncratic volatility factor) quintile and short the first (lowest exposure to common idiosyncratic volatility factor) quintile.

CIV Constructed based on Market Model vs. CIV Constructed based on Fama and French (1993) Three-factor model vs. CIV Constructed based on Fama and French (2015) Five-Factor Model										
	Market Model CIV		Three-factor model CIV		Five-Factor Model CIV					
Three-Factor Alpha	-ve	Sig	-ve	Sig	-ve	Sig				
Five-Factor Alpha	-ve	Sig	-ve	Sig	-ve	Sig				
Average Return	-ve	Sig	-ve	Sig	-ve	Sig				
CIV Constructed based on Market Model										
	Total Sample		High M&A Activity		Low M&A Activity					
Three-Factor Alpha	-ve	Sig	-ve	Sig	-ve	Sig				
Five-Factor Alpha	-ve	Sig	-ve	Sig	-ve	Sig				
Average Return	-ve	Sig	-ve	Sig	-ve	Sig				
CIV Constructed based on Market Model – Sub-Periods of High M&A Activity										
	1960-1972		1982-1989		1993-2000		2004-2007		2013	
Three-Factor Alpha	-ve	Sig	-ve	Sig	-ve	Sig	-ve	Sig	-ve	Non-Sig
Five-Factor Alpha	-ve	Sig	-ve	Sig	-ve	Sig	-ve	Non-Sig	-ve	Non-Sig
Average Return	-ve	Non-Sig	+ve	Non-Sig	-ve	Sig	-ve	Non-Sig	-ve	Non-Sig
CIV Constructed based on Market Model – Sub-Periods of Low M&A Activity										
	1973-1981		1990-1992		2001-2003		2008-2012			
Three-Factor Alpha	-ve	Sig	-ve	Sig	-ve	Non-Sig	-ve	Non-Sig		
Five-Factor Alpha	-ve	Sig	-ve	Sig	-ve	Non-Sig	-ve	Sig		
Average Return	-ve	Sig	-ve	Non-Sig	-ve	Non-Sig	-ve	Non-Sig		

Table 3-7 Summary of the Portfolio Performance tests for portfolios constructed using the zero investment factor Idiosyncratic Volatility ranked portfolios using monthly data (12 months window) (From Appendix D)

Summary of the main results related to sorting portfolios based on previous month exposure to common factor idiosyncratic volatility following Herskovic et al. (2016) Methodology but using 12 months to estimate the exposure to CIV instead of 60 months. The Table reports the results related to the zero investment portfolio obtained by being long the fifth (highest exposure to common idiosyncratic volatility factor) quintile and short the first (lowest exposure to common idiosyncratic volatility factor) quintile.

CIV Constructed based on Market Model										
	High M&A Activity		Low M&A Activity							
Three-Factor Alpha	-ve	Sig	-ve	Sig						
Five-Factor Alpha	-ve	Sig	-ve	Sig						
Average Return	-ve	Non-Sig	-ve	Sig						
CIV Constructed based on Market Model – Sub-Periods of High M&A Activity										
	1960-1972		1982-1989		1993-2000		2004-2007		2013	
Three-Factor Alpha	-ve	Sig	-ve	Sig	-ve	Non-Sig	+ve	Non-Sig	+ve	Sig
Five-Factor Alpha	-ve	Sig	-ve	Sig	-ve	Non-Sig	+ve	Non-Sig	+ve	Sig
Average Return	-ve	Non-Sig	-ve	Non-Sig	-ve	Non-Sig	+ve	Non-Sig	-ve	Non-Sig
CIV Constructed based on Market Model – Sub-Periods of Low M&A Activity										
	1973-1981		1990-1992		2001-2003		2008-2012			
Three-Factor Alpha	-ve	Sig	-ve	Sig	-ve	Non-Sig	-ve	Sig		
Five-Factor Alpha	-ve	Sig	-ve	Sig	+ve	Non-Sig	-ve	Sig		
Average Return	-ve	Non-Sig	-ve	Non-Sig	-ve	Non-Sig	-ve	Non-Sig		

Table 3-8 Summary of the Portfolio Performance tests for portfolios constructed using the zero investment factor Idiosyncratic Volatility ranked portfolios using monthly data (12 months window with no estimation overlap) (From Appendix E)

Summary of the main results related to sorting portfolios based on previous month exposure to common factor idiosyncratic volatility following Herskovic et al. (2016) Methodology but using 12 months to estimate the exposure to CIV instead of 60 months and removing the first year of every sub-sample period. The Table reports the results related to the zero investment portfolio obtained by being long the fifth (highest exposure to common idiosyncratic volatility factor) quintile and short the first (lowest exposure to common idiosyncratic volatility factor) quintile.

CIV Constructed based on Market Model								
	High M&A Activity		Low M&A Activity					
Three-Factor Alpha	-ve	Sig	-ve	Sig				
Five-Factor Alpha	-ve	Sig	-ve	Sig				
Average Return	-ve	Non-Sig	-ve	Sig				
CIV Constructed based on Market Model – Sub-Periods of High M&A Activity								
	1961-1972		1983-1989		1994-2000		2005-2007	
Three-Factor Alpha	-ve	Sig	-ve	Sig	-ve	Non-Sig	+ve	Non-Sig
Five-Factor Alpha	-ve	Sig	-ve	Sig	-ve	Non-Sig	+ve	Non-Sig
Average Return	-ve	Non-Sig	-ve	Non-Sig	-ve	Non-Sig	+ve	Sig
CIV Constructed based on Market Model – Sub-Periods of Low M&A Activity								
	1974-1981		1991-1992		2002-2003		2009-2012	
Three-Factor Alpha	-ve	Sig	-ve	Non-Sig	+ve	Non-Sig	-ve	Non-Sig
Five-Factor Alpha	-ve	Sig	-ve	Non-Sig	+ve	Sig	-ve	Non-Sig
Average Return	-ve	Non-Sig	-ve	Non-Sig	+ve	Non-Sig	-ve	Sig

3.10 Appendix A

Table 3-9 Portfolio Sorted by Idiosyncratic Volatility estimated using Fama and French (1993) Three-factor model - Daily

We have formed value-weighted quintile portfolios every month by sorting stocks based on the previous month idiosyncratic volatility estimated using daily returns and relative to the Fama and French (1993) model: $r_{i,t} - R_{f,t} = \alpha_i + \beta_{MKT,i}(R_{m,t} - R_{f,t}) + \beta_{SMB,i}SMB_t + \beta_{HML,i}HML_t + \epsilon_t$. The idiosyncratic volatility was estimated as $Idiosyncratic\_Vol_{i,t} = \sqrt{\sigma^2(\epsilon_t)}$. A stock should at least have 12 varying daily returns per month to be included in our sample. Portfolio 1(5) is the portfolio of stocks with the lower (highest) idiosyncratic volatilities. Once portfolios are formed, daily portfolio returns are obtained and regressed against the Fama and French (1993) daily factors. The table reports the Fama and French (1993) Three-Factor Alpha as well as the Average Daily Return with the t-statistics underneath. Column (5-1) reports the corresponding parameters estimated by regressing the difference in daily returns of the fifth quintile and the first quintile (the zero investment portfolio). Our sample spans from August 1963 and till December 2013. Consistent with previous literature, we have removed from our sample all CRSP stocks whose code is not equal to 10, 11, and 12. We made sure that there is at least 20 stocks in every month of our sample before creating our five quintiles. The *,**,*** represent significance at 1%, 5%, and 10% respectively. Robust white's t-stat is reported for the alphas. We present daily returns that are monthly adjusted using the following formula: $r_{monthly} = (1 + r_{daily})^{30} - 1$.

Sorting Statistics	Quintile Portfolio					5-1 portfolio
	1 Low	2	3	4	5 High	5-1
Intercept	0.16%***	0.03%	0.15%	-0.32%*	-0.59%***	-1.34%***
(t-value)	3.31	0.5	1.47	-1.95	-2.83	-5.66
Average Daily Return	1.39%***	1.49%***	1.71%***	1.38%***	1.19%***	-0.21%
(t-value)	5.82	5.09	4.86	3.31	2.71	-0.62

Table 3-10 Portfolio Sorted by Idiosyncratic Volatility estimated using Fama and French (2015) Five-Factor Model - Daily

We have formed value-weighted quintile portfolios every month by sorting stocks based on the previous month idiosyncratic volatility estimated using daily returns and relative to the Fama and French (2015) model: $r_{i,t} - R_{f,t} = \alpha_i + \beta_{MKT,i}(R_{m,t} - R_{f,t}) + \beta_{SMB,i}SMB_t + \beta_{HML,i}HML_t + \beta_{RMW,i}RMW_t + \beta_{CMA,i}CMA_t + \epsilon_t$. The idiosyncratic volatility was estimated as $Idiosyncratic\_Vol_{i,t} = \sqrt{\sigma^2(\epsilon_t)}$. A stock should at least have 12 varying daily returns per month to be included in our sample. Portfolio 1(5) is the portfolio of stocks with the lower (highest) idiosyncratic volatilities. Once portfolios are formed, daily portfolio returns are obtained and regressed against the Fama and French (2015) daily factors. The table reports the Fama and French (2015) Five-Factor Alpha as well as the Average Daily Return with the t-statistics underneath. Column (5-1) reports the corresponding parameters estimated by regressing the difference in daily returns of the fifth quintile and the first quintile (the zero investment portfolio). Our sample spans from August 1963 and till December 2013. Consistent with previous literature, we have removed from our sample all CRSP stocks whose code is not equal to 10, 11, and 12. We made sure that there is at least 20 stocks in every month of our sample before creating our five quintiles. The *,**,*** represent significance at 1%, 5%, and 10% respectively. Robust white's t-stat is reported for the alphas. We present daily returns that are monthly adjusted using the following formula: $r_{monthly} = (1 + r_{daily})^{30} - 1$.

Sorting Statistics	Quintile Portfolio					5-1 portfolio
	1 Low	2	3	4	5 High	5-1
Intercept	-0.07%*	0.11%*	0.51%***	0.38%***	0.23%	-0.29%
(t-value)	-1.69	1.9	5.39	2.77	1.26	-1.45
Average Daily Return	1.37%***	1.52%***	1.69%***	1.37%***	1.21%***	-0.15%
(t-value)	5.68	5.15	4.84	3.36	2.8	-0.52

Table 3-11 Portfolio Sorted by Idiosyncratic Volatility estimated using Fama and French (1993) Three-factor model – M&A Waves Daily

We have formed value-weighted quintile portfolios every month by sorting stocks based on the previous month idiosyncratic volatility estimated using daily returns and relative to the Fama and French (1993) model: $r_{i,t} - R_{f,t} = \alpha_i + \beta_{MKT,i}(R_{m,t} - R_{f,t}) + \beta_{SMB,i}SMB_t + \beta_{HML,i}HML_t + \epsilon_t$. The idiosyncratic volatility was estimated as $Idiosyncratic\_Vol_{i,t} = \sqrt{\sigma^2(\epsilon_t)}$. A stock should at least have 12 varying daily returns per month to be included in our sample. Portfolio 1(5) is the portfolio of stocks with the lower (highest) idiosyncratic volatilities. Once portfolios are formed, daily portfolio returns are obtained and regressed against the Fama and French (1993) daily factors. The table reports the Fama and French (1993) Three-Factor Alpha as well as the Average Daily Return with the t-statistics underneath. Column (5-1) reports the corresponding parameters estimated by regressing the difference in daily returns of the fifth quintile and the first quintile (the zero investment portfolio). Our sample spans from August 1963 and till December 2013. Consistent with previous literature, we have removed from our sample all CRSP stocks whose code is not equal to 10, 11, and 12. We made sure that there is at least 20 stocks in every month of our sample before creating our five quintiles. We divided our sample into tow sub-periods: high Mergers and Acquisitions (M&A) activities and low Merger and Acquisitions (M&A) activities. The high M&A activity periods span: 1960-1972], 1982-1989, 1993-2000, 2004-2007, and 2013-2015. The low M&A activity periods span: 1973-1981, 1990-1992, 2001-2003, 2008-2012. The *,**,*** represent significance at 1%, 5%, and 10% respectively. Robust white's t-stat is reported for the alphas. We present daily returns that are monthly adjusted using the following formula: $r_{monthly} = (1 + r_{daily})^{30} - 1$.

Period of High Mergers and Acquisitions Activities						
Sorting Statistics	Quintile Portfolio					5-1 portfolio
	1 Low	2	3	4	5 High	5-1
Intercept	0.17%***	0.05%	0.16%	-0.21%	-0.53%**	-1.30%***
(t-value)	3.04	0.65	1.42	-1.28	-2.44	-5.35
Average Daily Return	1.88%***	1.81%***	1.94%***	1.56%***	1.16%**	-0.69%*
(t-value)	6.99	5.82	5.13	3.51	2.42	-1.89
Period of Low Mergers and Acquisitions Activities						
Sorting Statistics	Quintile Portfolio					5-1 portfolio
	1 Low	2	3	4	5 High	5-1
Intercept	0.02%	0.13%	0.38%*	-0.05%	-0.15%	-0.73%
(t-value)	0.18	1.24	1.9	-0.15	-0.36	-1.61
Average Daily Return	0.66%	1.02%*	1.35%**	1.10%	1.24%	0.58%
(t-value)	1.49	1.8	2.01	1.37	1.49	1.02

Table 3-12 Portfolio Sorted by Idiosyncratic Volatility estimated using Fama and French (2015) Five-Factor Model - Daily

We have formed value-weighted quintile portfolios every month by sorting stocks based on the previous month idiosyncratic volatility estimated using daily returns and relative to the Fama and French (2015) model: $r_{i,t} - R_{f,t} = \alpha_i + \beta_{MKT,i}\left(R_{m,t} - R_{f,t}\right) + \beta_{SMB,i}SMB_t + \beta_{HML,i}HML_t + \beta_{RMW,i}RMW_t + \beta_{CMA,i}CMA_t + \epsilon_t$. The idiosyncratic volatility was estimated as $Idiosyncratic\_Vol_{i,t} = \sqrt{\sigma^2(\epsilon_t)}$. A stock should at least have 12 varying daily returns per month to be included in our sample. Portfolio 1(5) is the portfolio of stocks with the lower (highest) idiosyncratic volatilities. Once portfolios are formed, daily portfolio returns are obtained and regressed against the Fama and French (2015) daily factors. The table reports the Fama and French (2015) Five-Factor Alpha as well as the Average Daily Return with the t-statistics underneath. Column (5-1) reports the corresponding parameters estimated by regressing the difference in daily returns of the fifth quintile and the first quintile (the zero investment portfolio). Our sample spans from August 1963 and till December 2013. Consistent with previous literature, we have removed from our sample all CRSP stocks whose code is not equal to 10, 11, and 12. We made sure that there is at least 20 stocks in every month of our sample before creating our five quintiles. We divided our sample into tow sub-periods: high Mergers and Acquisitions (M&A) activities and low Merger and Acquisitions (M&A) activities. The high M&A activity periods span: 1960-1972], 1982-1989, 1993-2000, 2004-2007, and 2013-2015. The low M&A activity periods span: 1973-1981, 1990-1992, 2001-2003, 2008-2012. The *,**,*** represent significance at 1%, 5%, and 10% respectively. Robust white's t-stat is reported for the alphas. We present daily returns that are monthly adjusted using the following formula: $r_{monthly} = \left(1 + r_{daily}\right)^{30} - 1$.

Period of High Mergers and Acquisitions Activities						
Sorting Statistics	Quintile Portfolio					5-1 portfolio
	1 Low	2	3	4	5 High	5-1
Intercept	0.00%	0.00%	0.41%***	0.30%	0.25%	-0.39%
(t-value)	0.07	0	3.01	1.64	0.99	-1.44
Average Daily Return	2.17%***	2.04%***	2.12%***	1.58%***	1.26%**	-0.90%*
(t-value)	6.07	4.92	4.31	2.77	2.12	-1.92
Period of Low Mergers and Acquisitions Activities						
Sorting Statistics	Quintile Portfolio					5-1 portfolio
	1 Low	2	3	4	5 High	5-1
Intercept	-0.30%***	0.29%***	0.93%***	1.00%***	0.91%***	0.63%*
(t-value)	-3.91	2.8	5.39	3.98	2.64	1.68
Average Daily Return	0.63%	1.04%*	1.31%*	1.16%	1.22%	0.58%
(t-value)	1.43	1.81	1.95	1.49	1.49	1.05

Table 3-13 Portfolio Sorted by Idiosyncratic Volatility estimated using Fama and French (1993) Three-factor model - Daily

We have formed value-weighted quintile portfolios every month by sorting stocks based on the previous month idiosyncratic volatility estimated using daily returns and relative to the Fama and French (1993) model: $r_{i,t} - R_{f,t} = \alpha_i + \beta_{MKT,i}(R_{m,t} - R_{f,t}) + \beta_{SMB,i}SMB_t + \beta_{HML,i}HML_t + \epsilon_t$. The idiosyncratic volatility was estimated as $Idiosyncratic\_Vol_{i,t} = \sqrt{\sigma^2(\epsilon_t)}$. A stock should at least have 12 varying daily returns per month to be included in our sample. Portfolio 1(5) is the portfolio of stocks with the lower (highest) idiosyncratic volatilities. Once portfolios are formed, daily portfolio returns are obtained and regressed against the Fama and French (1993) daily factors. The table reports the Fama and French (1993) Three-Factor Alpha as well as the Average Daily Return with the t-statistics underneath. Column (5-1) reports the corresponding parameters estimated by regressing the difference in daily returns of the fifth quintile and the first quintile (the zero investment portfolio). Our sample spans from August 1963 and till December 2013. Consistent with previous literature, we have removed from our sample all CRSP stocks whose code is equal to 10, 11, and 12. We made sure that there is at least 20 stocks in every month of our sample before creating our five quintiles. We divided our sample into tow sub-periods: high Mergers and Acquisitions (M&A) activities and low Merger and Acquisitions (M&A) activities. The high M&A activity periods span: 1960-1972, 1982-1989, 1993-2000, 2004-2007, and 2013. The low M&A activity periods span: 1973-1981, 1990-1992, 2001-2003, 2008-2012. We present the parameters estimated for the high M&A activity sub-periods. The *,**,*** represent significance at 1%, 5%, and 10% respectively. Robust white's t-stat is reported for the alphas. We present daily returns that are monthly adjusted using the following formula: $r_{monthly} = \left(1 + r_{daily}\right)^{30} - 1$.

1960-1972 Sub-Period of High Mergers and Acquisitions Activities						
Sorting Statistics	Quintile Portfolio					5-1 portfolio
	1 Low	2	3	4	5 High	5-1
Intercept	0.16%***	0.16%	0.14%	-0.41%*	-0.79%**	-1.50%***
(t-value)	2.87	1.61	1.02	-1.84	-2.5	-4.41
Average Daily Return	1.16%***	1.35%***	1.61%***	1.32%**	1.10%	-0.06%
(t-value)	3.33	3.37	3.15	2.03	1.42	-0.12
1982-1989 Sub-Period of High Mergers and Acquisitions Activities						
Sorting Statistics	Quintile Portfolio					5-1 portfolio
	1 Low	2	3	4	5 High	5-1
Intercept	0.14%*	0.09%	-0.11%	-0.50%**	-1.75%***	-2.78%***
(t-value)	1.69	0.81	-0.67	-2.02	-5.39	-7.79
Average Daily Return	2.37%***	2.19%***	1.91%***	1.35%*	0.00%	-2.31%***
(t-value)	3.77	3.14	2.58	1.76	-0.01	-4.69
1993-2000 Sub-Period of High Mergers and Acquisitions Activities						
Sorting Statistics	Quintile Portfolio					5-1 portfolio
	1 Low	2	3	4	5 High	5-1
Intercept	0.29%*	0.03%	0.34%	-0.16%	0.24%	-0.61%
(t-value)	1.89	0.17	1.14	-0.4	0.44	-1.01
Average Daily Return	2.32%***	2.00%***	2.22%**	1.67%	1.96%	-0.36%
(t-value)	3.98	2.9	2.39	1.44	1.54	-0.32
2004-2007 Sub-Period of High Mergers and Acquisitions Activities						
Sorting Statistics	Quintile Portfolio					5-1 portfolio
	1 Low	2	3	4	5 High	5-1
Intercept	0.12%	-0.06%	0.44%	0.48%	0.16%	-0.36%
(t-value)	1.26	-0.34	1.46	1.29	0.33	-0.66
Average Daily Return	1.30%**	1.25%	1.78%*	1.75%	1.34%	0.04%
(t-value)	1.98	1.5	1.81	1.62	1.18	0.06
2013 Sub-Period of High Mergers and Acquisitions Activities						
Sorting Statistics	Quintile Portfolio					5-1 portfolio
	1 Low	2	3	4	5 High	5-1
Intercept	-0.04%	-0.16%	-0.56%	-0.55%	-0.15%	-0.12%
(t-value)	-0.18	-0.64	-0.88	-0.83	-0.11	-0.08
Average Daily Return	3.38%***	3.69%**	3.66%**	3.88%**	4.13%*	0.72%
(t-value)	2.62	2.55	2.17	2.16	1.95	0.47

Table 3-14 Portfolio Sorted by Idiosyncratic Volatility estimated using Fama and French (1993) Three-factor model - Daily

We have formed value-weighted quintile portfolios every month by sorting stocks based on the previous month idiosyncratic volatility estimated using daily returns and relative to the Fama and French (1993) model: $r_{i,t} - R_{f,t} = \alpha_i + \beta_{MKT,i}(R_{m,t} - R_{f,t}) + \beta_{SMB,i}SMB_t + \beta_{HML,i}HML_t + \epsilon_t$. The idiosyncratic volatility was estimated as $Idiosyncratic\_Vol_{i,t} = \sqrt{\sigma^2(\epsilon_t)}$. A stock should at least have 12 varying daily returns per month to be included in our sample. Portfolio 1(5) is the portfolio of stocks with the lower (highest) idiosyncratic volatilities. Once portfolios are formed, daily portfolio returns are obtained and regressed against the Fama and French (1993) daily factors. The table reports the Fama and French (1993) Three-Factor Alpha as well as the Average Daily Return with the t-statistics underneath. Column (5-1) reports the corresponding parameters estimated by regressing the difference in daily returns of the fifth quintile and the first quintile (the zero investment portfolio). Our sample spans from August 1963 and till December 2013. Consistent with previous literature, we have removed from our sample all CRSP stocks whose code is not equal to 10, 11, and 12. We made sure that there is at least 20 stocks in every month of our sample before creating our five quintiles. We divided our sample into tow sub-periods: high Mergers and Acquisitions (M&A) activities and low Merger and Acquisitions (M&A) activities. The high M&A activity periods span: 1960-1972, 1982-1989, 1993-2000, 2004-2007, and 2013. The low M&A activity periods span: 1973-1981, 1990-1992, 2001-2003, 2008-2012. We present the parameters estimated for the low M&A activity sub-periods. The *,**,*** represent significance at 1%, 5%, and 10% respectively. Robust white's t-stat is reported for the alphas. We present daily returns that are monthly adjusted using the following formula: $r_{monthly} = (1 + r_{daily})^{30} - 1$.

1973-1981 Sub-Period of Low Mergers and Acquisitions Activities						
Sorting Statistics	Quintile Portfolio					5-1 portfolio
	1 Low	2	3	4	5 High	5-1
Intercept	-0.21%**	0.44%***	0.67%***	0.41%*	-0.54%*	-1.26%***
(t-value)	-2.34	4.53	4.62	1.91	-1.66	-3.46
Average Daily Return	0.54%	1.27%**	1.64%**	1.55%**	0.88%	0.34%
(t-value)	1.09	2.18	2.47	2.03	1.12	0.69
1990-1992 Sub-Period of Low Mergers and Acquisitions Activities						
Sorting Statistics	Quintile Portfolio					5-1 portfolio
	1 Low	2	3	4	5 High	5-1
Intercept	0.06%	0.20%	0.33%	-0.25%	1.53%***	0.82%
(t-value)	0.76	1.01	0.99	-0.7	2.74	1.45
Average Daily Return	1.37%*	1.75%*	1.99%*	1.44%	3.07%***	1.67%**
(t-value)	1.65	1.78	1.82	1.29	2.97	2.08
2001-2003 Sub-Period of Low Mergers and Acquisitions Activities						
Sorting Statistics	Quintile Portfolio					5-1 portfolio
	1 Low	2	3	4	5 High	5-1
Intercept	0.04%	-0.16%	0.11%	-0.65%	-0.37%	-0.66%
(t-value)	0.11	-0.51	0.15	-0.52	-0.22	-0.35
Average Daily Return	0.19%	-0.03%	-0.06%	-0.90%	0.36%	0.17%
(t-value)	0.15	-0.03	-0.03	-0.31	0.12	0.07
2008-2012 Sub-Period of Low Mergers and Acquisitions Activities						
Sorting Statistics	Quintile Portfolio					5-1 portfolio
	1 Low	2	3	4	5 High	5-1
Intercept	0.17%	-0.04%	0.38%	0.26%	0.22%	0.00%
(t-value)	1.17	-0.16	0.73	0.33	0.25	0
Average Daily Return	0.73%	0.77%	1.30%	1.30%	1.32%	0.59%
(t-value)	0.59	0.46	0.68	0.58	0.57	0.43

Table 3-15 Portfolio Sorted by Idiosyncratic Volatility estimated using Fama and French (2015) Five-Factor Model - Daily

We have formed value-weighted quintile portfolios every month by sorting stocks based on the previous month idiosyncratic volatility estimated using daily returns and relative to the Fama and French (2015) model: $r_{i,t} - R_{f,t} = \alpha_i + \beta_{MKT,i}(R_{m,t} - R_{f,t}) + \beta_{SMB,i}SMB_t + \beta_{HML,i}HML_t + \beta_{RMW,i}RMW_t + \beta_{CMA,i}CMA_t + \epsilon_t$. The idiosyncratic volatility was estimated as $Idiosyncratic\_Vol_{i,t} = \sqrt{\sigma^2(\epsilon_t)}$. A stock should at least have 12 varying daily returns per month to be included in our sample. Portfolio 1(5) is the portfolio of stocks with the lower (highest) idiosyncratic volatilities. Once portfolios are formed, daily portfolio returns are obtained and regressed against the Fama and French (2015) daily factors. The table reports the Fama and French (2015) Five-Factor Alpha as well as the Average Daily Return with the t-statistics underneath. Column (5-1) reports the corresponding parameters estimated by regressing the difference in daily returns of the fifth quintile and the first quintile (the zero investment portfolio). Our sample spans from August 1963 and till December 2013. Consistent with previous literature, we have removed from our sample all CRSP stocks whose code is not equal to 10, 11, and 12. We made sure that there is at least 20 stocks in every month of our sample before creating our five quintiles. We divided our sample into tow sub-periods: high Mergers and Acquisitions (M&A) activities and low Merger and Acquisitions (M&A) activities. The high M&A activity periods span: 1960-1972, 1982-1989, 1993-2000, 2004-2007, and 2013. The low M&A activity periods span: 1973-1981, 1990-1992, 2001-2003, 2008-2012. We present the parameters estimated for the high M&A activity sub-periods. The *,**,*** represent significance at 1%, 5%, and 10% respectively. Robust white's t-stat is reported for the alphas. We present daily returns that are monthly adjusted using the following formula: $r_{monthly} = (1 + r_{daily})^{30} - 1$.

1960-1972 Sub-Period of High Mergers and Acquisitions Activities						
Sorting Statistics	Quintile Portfolio					5-1 portfolio
	1 Low	2	3	4	5 High	5-1
Intercept	0.12%**	0.24%**	0.17%	-0.28%	-0.57%**	-1.24%***
(t-value)	2.16	2.44	1.31	-1.34	-2.02	-4.06
Average Daily Return	1.15%***	1.41%***	1.58%***	1.35%**	1.07%	-0.09%
(t-value)	3.28	3.54	3.1	2.08	1.42	-0.15
1982-1989 Sub-Period of High Mergers and Acquisitions Activities						
Sorting Statistics	Quintile Portfolio					5-1 portfolio
	1 Low	2	3	4	5 High	5-1
Intercept	0.02%	0.16%	0.14%	-0.33%	-1.31%***	-2.22%***
(t-value)	0.3	1.35	0.84	-1.39	-4.04	-6.2
Average Daily Return	2.37%***	2.19%***	1.99%***	1.19%	0.08%	-2.23%***
(t-value)	3.75	3.14	2.7	1.56	0.11	-4.41
1993-2000 Sub-Period of High Mergers and Acquisitions Activities						
Sorting Statistics	Quintile Portfolio					5-1 portfolio
	1 Low	2	3	4	5 High	5-1
Intercept	0.03%	0.09%	0.68%**	0.42%	1.02%**	0.44%
(t-value)	0.23	0.47	2.55	1.2	2.16	0.85
Average Daily Return	2.26%***	2.05%***	2.18%**	1.55%	2.05%	-0.21%
(t-value)	3.85	2.93	2.38	1.35	1.64	-0.2
2004-2007 Sub-Period of High Mergers and Acquisitions Activities						
Sorting Statistics	Quintile Portfolio					5-1 portfolio
	1 Low	2	3	4	5 High	5-1
Intercept	0.12%	0.03%	0.25%	0.56%*	0.29%	-0.23%
(t-value)	1.39	0.17	0.91	1.7	0.69	-0.51
Average Daily Return	1.28%*	1.34%	1.72%*	1.85%*	1.39%	0.11%
(t-value)	1.95	1.62	1.75	1.73	1.26	0.16
2013 Sub-Period of High Mergers and Acquisitions Activities						
Sorting Statistics	Quintile Portfolio					5-1 portfolio
	1 Low	2	3	4	5 High	5-1
Intercept	-0.14%	-0.27%	0.05%	-0.30%	0.06%	0.19%
(t-value)	-0.79	-1	0.11	-0.45	0.05	0.16
Average Daily Return	3.35%***	3.51%**	4.22%**	3.91%**	3.94%*	0.57%
(t-value)	2.6	2.43	2.53	2.19	1.93	0.4

Table 3-16 Portfolio Sorted by Idiosyncratic Volatility estimated using Fama and French (2015) Five-Factor Model - Daily

We have formed value-weighted quintile portfolios every month by sorting stocks based on the previous month idiosyncratic volatility estimated using daily returns and relative to the Fama and French (2015) model: $r_{i,t} - R_{f,t} = \alpha_i + \beta_{MKT,i}(R_{m,t} - R_{f,t}) + \beta_{SMB,i}SMB_t + \beta_{HML,i}HML_t + \beta_{RMW,i}RMW_t + \beta_{CMA,i}CMA_t + \epsilon_t$. The idiosyncratic volatility was estimated as $Idiosyncratic\_Vol_{i,t} = \sqrt{\sigma^2(\epsilon_t)}$. A stock should at least have 12 varying daily returns per month to be included in our sample. Portfolio 1(5) is the portfolio of stocks with the lower (highest) idiosyncratic volatilities. Once portfolios are formed, daily portfolio returns are obtained and regressed against the Fama and French (2015) daily factors. The table reports the Fama and French (2015) Five-Factor Alpha as well as the Average Daily Return with the t-statistics underneath. Column (5-1) reports the corresponding parameters estimated by regressing the difference in daily returns of the fifth quintile and the first quintile (the zero investment portfolio). Our sample spans from August 1963 and till December 2013. Consistent with previous literature, we have removed from our sample all CRSP stocks whose code is not equal to 10, 11, and 12. We made sure that there is at least 20 stocks in every month of our sample before creating our five quintiles. We divided our sample into tow sub-periods: high Mergers and Acquisitions (M&A) activities and low Merger and Acquisitions (M&A) activities. The high M&A activity periods span: 1960-1972, 1982-1989, 1993-2000, 2004-2007, and 2013. The low M&A activity periods span: 1973-1981, 1990-1992, 2001-2003, 2008-2012. We present the parameters estimated for the low M&A activity sub-periods. The *,**,*** represent significance at 1%, 5%, and 10% respectively. Robust white's t-stat is reported for the alphas. We present daily returns that are monthly adjusted using the following formula: $r_{monthly} = (1 + r_{daily})^{30} - 1$.

1973-1981 Sub-Period of Low Mergers and Acquisitions Activities						
Sorting Statistics	Quintile Portfolio					5-1 portfolio
	1 Low	2	3	4	5 High	5-1
Intercept	-0.29%***	0.50%***	0.56%***	0.53%***	-0.43%	-1.07%***
(t-value)	-3.34	5.27	4	2.68	-1.36	-3.06
Average Daily Return	0.53%	1.30%**	1.51%**	1.64%**	0.90%	0.37%
(t-value)	1.05	2.23	2.28	2.18	1.14	0.76
1990-1992 Sub-Period of Low Mergers and Acquisitions Activities						
Sorting Statistics	Quintile Portfolio					5-1 portfolio
	1 Low	2	3	4	5 High	5-1
Intercept	0.04%	0.23%	0.50%	-0.13%	2.10%***	1.41%**
(t-value)	0.48	1.17	1.54	-0.37	3.83	2.53
Average Daily Return	1.38%*	1.73%*	2.05%*	1.36%	3.26%***	1.84%**
(t-value)	1.66	1.74	1.85	1.22	3.12	2.28
2001-2003 Sub-Period of Low Mergers and Acquisitions Activities						
Sorting Statistics	Quintile Portfolio					5-1 portfolio
	1 Low	2	3	4	5 High	5-1
Intercept	-0.84%***	0.04%	1.93%***	2.59%***	2.44%**	3.04%**
(t-value)	-3.36	0.14	3.48	3.15	2	2.34
Average Daily Return	0.13%	-0.02%	0.01%	-0.45%	-0.27%	-0.42%
(t-value)	0.1	-0.01	0.01	-0.16	-0.1	-0.17
2008-2012 Sub-Period of Low Mergers and Acquisitions Activities						
Sorting Statistics	Quintile Portfolio					5-1 portfolio
	1 Low	2	3	4	5 High	5-1
Intercept	0.01%	0.35%	0.83%*	0.81%	1.08%	1.02%
(t-value)	0.06	1.29	1.95	1.31	1.3	1.16
Average Daily Return	0.69%	0.79%	1.28%	1.13%	1.48%	0.78%
(t-value)	0.56	0.46	0.67	0.53	0.65	0.58

3.11 Appendix B

Table 3-17 Portfolio Sorted by Idiosyncratic Volatility estimated using Fama and French (1993) Three-factor model - Monthly

We have formed value-weighted quintile portfolios every month by sorting stocks based on the previous month idiosyncratic volatility estimated using daily returns and relative to the Fama and French (1993) model: $r_{i,t} - R_{f,t} = \alpha_i + \beta_{MKT,i}(R_{m,t} - R_{f,t}) + \beta_{SMB,i}SMB_t + \beta_{HML,i}HML_t + \epsilon_t$. The idiosyncratic volatility was estimated as $Idiosyncratic\_Vol_{i,t} = \sqrt{\sigma^2(\epsilon_t)}$. A stock should at least have 12 varying daily returns per month to be included in our sample. Portfolio 1(5) is the portfolio of stocks with the lower (highest) idiosyncratic volatilities. Once portfolios are formed, monthly portfolio returns are obtained and regressed against the Fama and French (1993) monthly factors. The table reports the Fama and French (1993) Three-Factor Alpha as well as the Average Monthly Return with the t-statistics underneath. Column (5-1) reports the corresponding parameters estimated by regressing the difference in monthly returns of the fifth quintile and the first quintile (the zero investment portfolio). Our sample spans from August 1963 and till December 2013. Consistent with previous literature, we have removed from our sample all CRSP stocks whose code is not equal to 10, 11, and 12. We made sure that there is at least 20 stocks in every month of our sample before creating our five quintiles. The *,**,*** represent significance at 1%, 5%, and 10% respectively. Robust white's t-stat is reported for the alphas.

Sorting Statistics	Quintile Portfolio					5-1 portfolio
	1 Low	2	3	4	5 High	5-1
Intercept	0.08%**	-0.01%	0.02%	-0.43%***	-1.16%***	-1.65%***
(t-value)	2.34	-0.26	0.27	-4.32	-7.5	-9.54
Average Daily Return	0.93%***	0.98%***	1.08%***	0.75%**	0.14%	-0.79%***
(t-value)	6.01	4.84	4.33	2.42	0.4	-2.78

Table 3-18 Portfolio Sorted by Idiosyncratic Volatility estimated using Fama and French (2015) Five-Factor Model - Monthly

We have formed value-weighted quintile portfolios every month by sorting stocks based on the previous month idiosyncratic volatility estimated using daily returns and relative to the Fama and French (2015) model: $r_{i,t} - R_{f,t} = \alpha_i + \beta_{MKT,i}(R_{m,t} - R_{f,t}) + \beta_{SMB,i}SMB_t + \beta_{HML,i}HML_t + \beta_{RMW,i}RMW_t + \beta_{CMA,i}CMA_t + \epsilon_t$. The idiosyncratic volatility was estimated as $Idiosyncratic\_Vol_{i,t} = \sqrt{\sigma^2(\epsilon_t)}$. A stock should at least have 12 varying daily returns per month to be included in our sample. Portfolio 1(5) is the portfolio of stocks with the lower (highest) idiosyncratic volatilities. Once portfolios are formed, monthly portfolio returns are obtained and regressed against the Fama and French (2015) monthly factors. The table reports the Fama and French (2015) Five-Factor Alpha as well as the Average Monthly Return with the t-statistics underneath. Column (5-1) reports the corresponding parameters estimated by regressing the difference in monthly returns of the fifth quintile and the first quintile (the zero investment portfolio). Our sample spans from August 1963 and till December 2013. Consistent with previous literature, we have removed from our sample all CRSP stocks whose code is not equal to 10, 11, and 12. We made sure that there is at least 20 stocks in every month of our sample before creating our five quintiles. The *,**,*** represent significance at 1%, 5%, and 10% respectively. Robust white's t-stat is reported for the alphas.

Sorting Statistics	Quintile Portfolio					5-1 portfolio
	1 Low	2	3	4	5 High	5-1
Intercept	-0.03%	0.01%	0.16%**	-0.06%	-0.63%***	-1.02%***
(t-value)	-1.05	0.2	2.46	-0.73	-4.52	-6.48
Average Daily Return	0.92%***	1.00%***	1.07%***	0.76%**	0.15%	-0.76%***
(t-value)	5.88	4.91	4.3	2.47	0.44	-2.76

Table 3-19 Portfolio Sorted by Idiosyncratic Volatility estimated using Fama and French (1993) Three-factor model – M&A Waves - Monthly

We have formed value-weighted quintile portfolios every month by sorting stocks based on the previous month idiosyncratic volatility estimated using daily returns and relative to the Fama and French (1993) model: $r_{i,t} - R_{f,t} = \alpha_i + \beta_{MKT,i}(R_{m,t} - R_{f,t}) + \beta_{SMB,i}SMB_t + \beta_{HML,i}HML_t + \epsilon_t$. The idiosyncratic volatility was estimated as $Idiosyncratic\_Vol_{i,t} = \sqrt{\sigma^2(\epsilon_t)}$. A stock should at least have 12 varying daily returns per month to be included in our sample. Portfolio 1(5) is the portfolio of stocks with the lower (highest) idiosyncratic volatilities. Once portfolios are formed, monthly portfolio returns are obtained and regressed against the Fama and French (1993) monthly factors. The table reports the Fama and French (1993) Three-Factor Alpha as well as the Average Monthly Return with the t-statistics underneath. Column (5-1) reports the corresponding parameters estimated by regressing the difference in montly returns of the fifth quintile and the first quintile (the zero investment portfolio). Our sample spans from August 1963 and till December 2013. Consistent with previous literature, we have removed from our sample all CRSP stocks whose code is not equal to 10, 11, and 12. We made sure that there is at least 20 stocks in every month of our sample before creating our five quintiles. We divided our sample into tow sub-periods: high Mergers and Acquisitions (M&A) activities and low Merger and Acquisitions (M&A) activities. The high M&A activity periods span: 1960-1972], 1982-1989, 1993-2000, 2004-2007, and 2013-2015. The low M&A activity periods span: 1973-1981, 1990-1992, 2001-2003, 2008-2012. The *,**,*** represent significance at 1%, 5%, and 10% respectively. Robust white's t-stat is reported for the alphas.

Period of High Mergers and Acquisitions Activities						
Sorting Statistics	Quintile Portfolio					5-1 portfolio
	1 Low	2	3	4	5 High	5-1
Intercept	0.10%***	-0.04%	-0.04%	-0.38%***	-1.07%***	-1.60%***
(t-value)	2.76	-0.76	-0.48	-3.63	-5.91	-7.97
Average Daily Return	1.28%***	1.20%***	1.25%***	0.90%***	0.16%	-1.12%***
(t-value)	6.96	5.41	4.48	2.6	0.39	-3.27
Period of Low Mergers and Acquisitions Activities						
Sorting Statistics	Quintile Portfolio					5-1 portfolio
	1 Low	2	3	4	5 High	5-1
Intercept	-0.03%	0.09%	0.14%	-0.36%*	-1.02%***	-1.39%***
(t-value)	-0.51	1.17	1.15	-1.87	-3.53	-4.3
Average Daily Return	0.42%	0.65%*	0.82%*	0.51%	0.12%	-0.29%
(t-value)	1.52	1.69	1.76	0.89	0.19	-0.59

Table 3-20 Portfolio Sorted by Idiosyncratic Volatility estimated using Fama and French (2015) Five-Factor Model – M&A Waves - Monthly

We have formed value-weighted quintile portfolios every month by sorting stocks based on the previous month idiosyncratic volatility estimated using daily returns and relative to the Fama and French (2015) model: $r_{i,t} - R_{f,t} = \alpha_i + \beta_{MKT,i}(R_{m,t} - R_{f,t}) + \beta_{SMB,i}SMB_t + \beta_{HML,i}HML_t + \beta_{RMW,i}RMW_t + \beta_{CMA,i}CMA_t + \epsilon_t$. The idiosyncratic volatility was estimated as $Idiosyncratic\_Vol_{i,t} = \sqrt{\sigma^2(\epsilon_t)}$. A stock should at least have 12 varying daily returns per month to be included in our sample. Portfolio 1(5) is the portfolio of stocks with the lower (highest) idiosyncratic volatilities. Once portfolios are formed, monthly portfolio returns are obtained and regressed against the Fama and French (2015) monthly factors. The table reports the Fama and French (2015) Five-Factor Alpha as well as the Average Monthly Return with the t-statistics underneath. Column (5-1) reports the corresponding parameters estimated by regressing the difference in monthly returns of the fifth quintile and the first quintile (the zero investment portfolio). Our sample spans from August 1963 and till December 2013. Consistent with previous literature, we have removed from our sample all CRSP stocks whose code is not equal to 10, 11, and 12. We made sure that there is at least 20 stocks in every month of our sample before creating our five quintiles. We divided our sample into tow sub-periods: high Mergers and Acquisitions (M&A) activities and low Merger and Acquisitions (M&A) activities. The high M&A activity periods span: 1960-1972], 1982-1989, 1993-2000, 2004-2007, and 2013-2015. The low M&A activity periods span: 1973-1981, 1990-1992, 2001-2003, 2008-2012. The *,**,*** represent significance at 1%, 5%, and 10% respectively. Robust white's t-stat is reported for the alphas.

Period of High Mergers and Acquisitions Activities						
Sorting Statistics	Quintile Portfolio					5-1 portfolio
	1 Low	2	3	4	5 High	5-1
Intercept	0.02%	-0.11%	0.07%	-0.17%	-0.66%***	-1.12%***
(t-value)	0.51	-1.55	0.67	-1.44	-2.99	-4.76
Average Daily Return	1.47%***	1.35%***	1.34%***	0.88%**	0.11%	-1.36%***
(t-value)	6.42	4.86	3.94	2.04	0.21	-3.19
Period of Low Mergers and Acquisitions Activities						
Sorting Statistics	Quintile Portfolio					5-1 portfolio
	1 Low	2	3	4	5 High	5-1
Intercept	-0.16%***	0.18%**	0.37%***	0.23%	-0.41%*	-0.67%**
(t-value)	-2.64	2.28	3.49	1.59	-1.76	-2.45
Average Daily Return	0.40%	0.66%*	0.78%*	0.59%	0.10%	-0.30%
(t-value)	1.45	1.7	1.68	1.04	0.15	-0.63

Table 3-21 Portfolio Sorted by Idiosyncratic Volatility estimated using Fama and French (1993) Three-factor model - Monthly

We have formed value-weighted quintile portfolios every month by sorting stocks based on the previous month idiosyncratic volatility estimated using daily returns and relative to the Fama and French (1993) model: $r_{i,t} - R_{f,t} = \alpha_i + \beta_{MKT,i}(R_{m,t} - R_{f,t}) + \beta_{SMB,i}SMB_t + \beta_{HML,i}HML_t + \epsilon_t$. The idiosyncratic volatility was estimated as $Idiosyncratic\_Vol_{i,t} = \sqrt{\sigma^2(\epsilon_t)}$. A stock should at least have 12 varying daily returns per month to be included in our sample. Portfolio 1(5) is the portfolio of stocks with the lower (highest) idiosyncratic volatilities. Once portfolios are formed, monthly portfolio returns are obtained and regressed against the Fama and French (1993) monthly factors. The table reports the Fama and French (1993) Three-Factor Alpha as well as the Average Monthly Return with the t-statistics underneath. Column (5-1) reports the corresponding parameters estimated by regressing the difference in monthly returns of the fifth quintile and the first quintile (the zero investment portfolio). Our sample spans from August 1963 and till December 2013. Consistent with previous literature, we have removed from our sample all CRSP stocks whose code is not equal to 10, 11, and 12. We made sure that there is at least 20 stocks in every month of our sample before creating our five quintiles. We divided our sample into tow sub-periods: high Mergers and Acquisitions (M&A) activities and low Merger and Acquisitions (M&A) activities. The high M&A activity periods span: 1960-1972, 1982-1989, 1993-2000, 2004-2007, and 2013. The low M&A activity periods span: 1973-1981, 1990-1992, 2001-2003, 2008-2012. We present the parameters estimated for the high M&A activity sub-periods. The *,**,*** represent significance at 1%, 5%, and 10% respectively. Robust white's t-stat is reported for the alphas.

1960-1972 Sub-Period of High Mergers and Acquisitions Activities						
Sorting Statistics	Quintile Portfolio					5-1 portfolio
	1 Low	2	3	4	5 High	5-1
Intercept	0.09%**	0.07%	0.05%	-0.38%**	-1.02%***	-1.49%***
(t-value)	2.17	1.22	0.49	-2.47	-5.96	-7.87
Average Daily Return	0.80%***	0.92%**	1.08%**	0.84%	0.39%	-0.41%
(t-value)	2.69	2.48	2.29	1.45	0.58	-0.79
1982-1989 Sub-Period of High Mergers and Acquisitions Activities						
Sorting Statistics	Quintile Portfolio					5-1 portfolio
	1 Low	2	3	4	5 High	5-1
Intercept	0.14%**	-0.04%	-0.19%	-0.64%***	-2.14%***	-2.91%***
(t-value)	2.07	-0.45	-1.64	-4.16	-8.54	-10.04
Average Daily Return	1.63%***	1.49%***	1.27%**	0.77%	-0.72%	-2.35%***
(t-value)	3.74	2.79	2.15	1.21	-1.2	-5.99
1993-2000 Sub-Period of High Mergers and Acquisitions Activities						
Sorting Statistics	Quintile Portfolio					5-1 portfolio
	1 Low	2	3	4	5 High	5-1
Intercept	0.15%	-0.06%	-0.11%	-0.62%***	-1.22%***	-1.76%***
(t-value)	1.28	-0.43	-0.55	-2.87	-2.81	-3.56
Average Daily Return	1.55%***	1.28%***	1.30%**	0.76%	0.14%	-1.41%
(t-value)	4.15	2.97	2.11	0.89	0.13	-1.36
2004-2007 Sub-Period of High Mergers and Acquisitions Activities						
Sorting Statistics	Quintile Portfolio					5-1 portfolio
	1 Low	2	3	4	5 High	5-1
Intercept	0.06%	-0.02%	0.33%	0.30%	-0.01%	-0.35%
(t-value)	1.17	-0.2	1.52	1.13	-0.02	-0.98
Average Daily Return	0.87%***	0.81%*	1.18%**	1.12%*	0.82%	-0.05%
(t-value)	3.03	1.93	2.08	1.69	1.13	-0.1
2013 Sub-Period of High Mergers and Acquisitions Activities						
Sorting Statistics	Quintile Portfolio					5-1 portfolio
	1 Low	2	3	4	5 High	5-1
Intercept	-0.16%	-0.43%**	-0.23%	-0.48%	0.10%	0.26%
(t-value)	-0.53	-2.33	-0.43	-0.72	0.07	0.16
Average Daily Return	2.33%***	2.53%***	2.50%**	2.62%**	2.43%**	0.10%
(t-value)	3.04	3.3	3.09	2.98	2.36	0.11

Table 3-22 Portfolio Sorted by Idiosyncratic Volatility estimated using Fama and French (1993) Three-factor model - Monthly

We have formed value-weighted quintile portfolios every month by sorting stocks based on the previous month idiosyncratic volatility estimated using daily returns and relative to the Fama and French (1993) model: $r_{i,t} - R_{f,t} = \alpha_i + \beta_{MKT,i}(R_{m,t} - R_{f,t}) + \beta_{SMB,i}SMB_t + \beta_{HML,i}HML_t + \epsilon_t$. The idiosyncratic volatility was estimated as $Idiosyncratic\_Vol_{i,t} = \sqrt{\sigma^2(\epsilon_t)}$. A stock should at least have 12 varying daily returns per month to be included in our sample. Portfolio 1(5) is the portfolio of stocks with the lower (highest) idiosyncratic volatilities. Once portfolios are formed, monthly portfolio returns are obtained and regressed against the Fama and French (1993) monthly factors. The table reports the Fama and French (1993) Three-Factor Alpha as well as the Average Monthly Return with the t-statistics underneath. Column (5-1) reports the corresponding parameters estimated by regressing the difference in daily returns of the fifth quintile and the first quintile (the zero investment portfolio). Our sample spans from August 1963 and till December 2013. Consistent with previous literature, we have removed from our sample all CRSP stocks whose code is not equal to 10, 11, and 12. We made sure that there is at least 20 stocks in every month of our sample before creating our five quintiles. We divided our sample into tow sub-periods: high Mergers and Acquisitions (M&A) activities and low Merger and Acquisitions (M&A) activities. The high M&A activity periods span: 1960-1972, 1982-1989, 1993-2000, 2004-2007, and 2013. The low M&A activity periods span: 1973-1981, 1990-1992, 2001-2003, 2008-2012. We present the parameters estimated for the low M&A activity sub-periods. The *,**,*** represent significance at 1%, 5%, and 10% respectively. Robust white's t-stat is reported for the alphas.

1973-1981 Sub-Period of Low Mergers and Acquisitions Activities						
Sorting Statistics	Quintile Portfolio					5-1 portfolio
	1 Low	2	3	4	5 High	5-1
Intercept	-0.19%**	0.32%***	0.40%***	-0.03%	-1.11%***	-1.58%***
(t-value)	-2.21	3.54	3.3	-0.15	-5.05	-5.62
Average Daily Return	0.39%	0.92%*	1.16%*	1.02%	0.36%	-0.04%
(t-value)	0.99	1.76	1.86	1.37	0.43	-0.06
1990-1992 Sub-Period of Low Mergers and Acquisitions Activities						
Sorting Statistics	Quintile Portfolio					5-1 portfolio
	1 Low	2	3	4	5 High	5-1
Intercept	0.01%	0.08%	0.05%	-0.72%***	-1.89%***	-2.36%***
(t-value)	0.1	0.48	0.22	-3.46	-4.41	-5.47
Average Daily Return	0.95%	1.18%	1.23%	0.52%	-0.78%	-1.72%*
(t-value)	1.45	1.36	1.21	0.43	-0.67	-1.81
2001-2003 Sub-Period of Low Mergers and Acquisitions Activities						
Sorting Statistics	Quintile Portfolio					5-1 portfolio
	1 Low	2	3	4	5 High	5-1
Intercept	-0.03%	-0.17%	-0.16%	-0.49%	0.56%	0.42%
(t-value)	-0.22	-0.79	-0.56	-0.65	0.57	0.4
Average Daily Return	0.03%	-0.10%	-0.19%	-0.84%	0.30%	0.28%
(t-value)	0.04	-0.1	-0.12	-0.42	0.12	0.13
2008-2012 Sub-Period of Low Mergers and Acquisitions Activities						
Sorting Statistics	Quintile Portfolio					5-1 portfolio
	1 Low	2	3	4	5 High	5-1
Intercept	0.11%	-0.15%	0.03%	-0.32%	-0.48%	-0.62%
(t-value)	1.23	-1.03	0.11	-0.7	-0.77	-0.92
Average Daily Return	0.37%	0.29%	0.54%	0.42%	0.13%	-0.23%
(t-value)	0.59	0.32	0.54	0.33	0.1	-0.26

Table 3-23 Portfolio Sorted by Idiosyncratic Volatility estimated using Fama and French (2015) Five-Factor Model - Monthly

We have formed value-weighted quintile portfolios every month by sorting stocks based on the previous month idiosyncratic volatility estimated using daily returns and relative to the Fama and French (2015) model: $r_{i,t} - R_{f,t} = \alpha_i + \beta_{MKT,i}(R_{m,t} - R_{f,t}) + \beta_{SMB,i}SMB_t + \beta_{HML,i}HML_t + \beta_{RMW,i}RMW_t + \beta_{CMA,i}CMA_t + \epsilon_t$. The idiosyncratic volatility was estimated as $Idiosyncratic\_Vol_{i,t} = \sqrt{\sigma^2(\epsilon_t)}$. A stock should at least have 12 varying daily returns per month to be included in our sample. Portfolio 1(5) is the portfolio of stocks with the lower (highest) idiosyncratic volatilities. Once portfolios are formed, monthly portfolio returns are obtained and regressed against the Fama and French (2015) monthly factors. The table reports the Fama and French (2015) Five-Factor Alpha as well as the Average Monthly Return with the t-statistics underneath. Column (5-1) reports the corresponding parameters estimated by regressing the difference in monthly returns of the fifth quintile and the first quintile (the zero investment portfolio). Our sample spans from August 1963 and till December 2013. Consistent with previous literature, we have removed from our sample all CRSP stocks whose code is not equal to 10, 11, and 12. We made sure that there is at least 20 stocks in every month of our sample before creating our five quintiles. We divided our sample into tow sub-periods: high Mergers and Acquisitions (M&A) activities and low Merger and Acquisitions (M&A) activities. The high M&A activity periods span: 1960-1972, 1982-1989, 1993-2000, 2004-2007, and 2013. The low M&A activity periods span: 1973-1981, 1990-1992, 2001-2003, 2008-2012. We present the parameters estimated for the high M&A activity sub-periods. The *,**,*** represent significance at 1%, 5%, and 10% respectively. Robust white's t-stat is reported for the alphas.

1960-1972 Sub-Period of High Mergers and Acquisitions Activities						
Sorting Statistics	Quintile Portfolio					5-1 portfolio
	1 Low	2	3	4	5 High	5-1
Intercept	0.07%*	0.12%/	0.05%	-0.31%**	-0.96%***	-1.41%***
(t-value)	1.74	1.78	0.57	-2.31	-5.52	-7.68
Average Daily Return	0.79%***	0.96%**	1.06%**	0.86%	0.38%	-0.41%
(t-value)	2.66	2.61	2.25	1.49	0.57	-0.81
1982-1989 Sub-Period of High Mergers and Acquisitions Activities						
Sorting Statistics	Quintile Portfolio					5-1 portfolio
	1 Low	2	3	4	5 High	5-1
Intercept	0.07%	-0.09%	-0.11%	-0.58%***	-1.89%***	-2.59%***
(t-value)	0.96	-1.04	-0.9	-3.35	-7.6	-8.67
Average Daily Return	1.63%***	1.49%***	1.32%**	0.68%	-0.65%	-2.27%***
(t-value)	3.74	2.75	2.26	1.06	-1.07	-5.75
1993-2000 Sub-Period of High Mergers and Acquisitions Activities						
Sorting Statistics	Quintile Portfolio					5-1 portfolio
	1 Low	2	3	4	5 High	5-1
Intercept	0.00%	0.04%	0.10%	-0.39%**	-0.73%*	-1.12%***
(t-value)	0.01	0.32	0.54	-2.06	-1.89	-2.76
Average Daily Return	1.51%***	1.30%***	1.28%**	0.70%	0.19%	-1.32%
(t-value)	4.02	3.05	2.09	0.81	0.17	-1.33
2004-2007 Sub-Period of High Mergers and Acquisitions Activities						
Sorting Statistics	Quintile Portfolio					5-1 portfolio
	1 Low	2	3	4	5 High	5-1
Intercept	0.08%	0.02%	0.18%	0.21%	0.22%	-0.16%
(t-value)	1.51	0.13	0.9	0.92	0.82	-0.55
Average Daily Return	0.86%***	0.87%**	1.13%**	1.19%*	0.86%	0.00%
(t-value)	3.01	2.05	2.02	1.82	1.18	0
2013 Sub-Period of High Mergers and Acquisitions Activities						
Sorting Statistics	Quintile Portfolio					5-1 portfolio
	1 Low	2	3	4	5 High	5-1
Intercept	-0.05%	-0.45%**	-0.62%*	-0.83%	0.02%	0.07%
(t-value)	-0.25	-2.88	-2.37	-1.63	0.02	0.06
Average Daily Return	2.31%**	2.41%***	2.87%***	2.56%**	2.49%**	0.18%
(t-value)	3.04	3.52	3.17	2.92	2.53	0.21

Table 3-24 Portfolio Sorted by Idiosyncratic Volatility estimated using Fama and French (2015) Five-Factor Model - Monthly

We have formed value-weighted quintile portfolios every month by sorting stocks based on the previous month idiosyncratic volatility estimated using daily returns and relative to the Fama and French (2015) model: $r_{i,t} - R_{f,t} = \alpha_i + \beta_{MKT,i}(R_{m,t} - R_{f,t}) + \beta_{SMB,i}SMB_t + \beta_{HML,i}HML_t + \beta_{RMW,i}RMW_t + \beta_{CMA,i}CMA_t + \epsilon_t$. The idiosyncratic volatility was estimated as $Idiosyncratic\_Vol_{i,t} = \sqrt{\sigma^2(\epsilon_t)}$. A stock should at least have 12 varying daily returns per month to be included in our sample. Portfolio 1(5) is the portfolio of stocks with the lower (highest) idiosyncratic volatilities. Once portfolios are formed, monthly portfolio returns are obtained and regressed against the Fama and French (2015) monthly factors. The table reports the Fama and French (2015) Five-Factor Alpha as well as the Average Monthly Return with the t-statistics underneath. Column (5-1) reports the corresponding parameters estimated by regressing the difference in monthly returns of the fifth quintile and the first quintile (the zero investment portfolio). Our sample spans from August 1963 and till December 2013. Consistent with previous literature, we have removed from our sample all CRSP stocks whose code is not equal to 10, 11, and 12. We made sure that there is at least 20 stocks in every month of our sample before creating our five quintiles. We divide our sample into two sub-periods: high Mergers and Acquisitions (M&A) activities and low Merger and Acquisitions (M&A) activities. The high M&A activity periods span: 1960-1972, 1982-1989, 1993-2000, 2004-2007, and 2013. The low M&A activity periods span: 1973-1981, 1990-1992, 2001-2003, 2008-2012. We present the parameters estimated for the low M&A activity sub-periods. The *,**,*** represent significance at 1%, 5%, and 10% respectively. Robust white's t-stat is reported for the alphas.

1973-1981 Sub-Period of Low Mergers and Acquisitions Activities						
Sorting Statistics	Quintile Portfolio					5-1 portfolio
	1 Low	2	3	4	5 High	5-1
Intercept	-0.23%**	0.37%***	0.38%***	0.08%	-1.04%***	-1.47%***
(t-value)	-2.48	4.58	3.15	0.62	-5.18	-5.6
Average Daily Return	0.38%	0.94%*	1.07%*	1.09%	0.36%	-0.02%
(t-value)	0.96	1.78	1.72	1.47	0.44	-0.04
1990-1992 Sub-Period of Low Mergers and Acquisitions Activities						
Sorting Statistics	Quintile Portfolio					5-1 portfolio
	1 Low	2	3	4	5 High	5-1
Intercept	0.00%	0.10%	0.02%	-0.58%**	-1.20%***	-1.67%***
(t-value)	-0.03	0.6	0.12	-2.36	-2.92	-3.89
Average Daily Return	0.95%	1.16%	1.29%	0.44%	-0.57%	-1.52%
(t-value)	1.46	1.34	1.21	0.38	-0.48	-1.54
2001-2003 Sub-Period of Low Mergers and Acquisitions Activities						
Sorting Statistics	Quintile Portfolio					5-1 portfolio
	1 Low	2	3	4	5 High	5-1
Intercept	-0.28%	-0.13%	0.43%	1.13%**	1.56%	1.66%
(t-value)	-1.61	-0.55	1.28	2.23	1.67	1.67
Average Daily Return	-0.01%	-0.10%	-0.17%	-0.47%	-0.08%	-0.07%
(t-value)	-0.01	-0.09	-0.11	-0.23	-0.03	-0.04
2008-2012 Sub-Period of Low Mergers and Acquisitions Activities						
Sorting Statistics	Quintile Portfolio					5-1 portfolio
	1 Low	2	3	4	5 High	5-1
Intercept	-0.01%	-0.03%	0.37%	0.26%	-0.05%	-0.06%
(t-value)	-0.12	-0.17	1.22	0.67	-0.08	-0.11
Average Daily Return	0.34%	0.28%	0.51%	0.43%	0.13%	-0.21%
(t-value)	0.54	0.31	0.51	0.35	0.1	-0.25

3.12 Appendix C

Table 3-25 Portfolio Sorted by Exposure to Common Factor in Idiosyncratic Volatility estimated using 60 Months Window – Alphas are estimated using Fama and French (1993) Three-Factors Model

Following Herskovic et al. (2016), we form equal-weighted quintile portfolios every month by sorting stocks based on their previous month exposure to the Common Idiosyncratic Volatility (CIV) Factor. We construct the exposure to CIV as per the following: for each month, we estimate a regression of daily individual stock returns on the CRSP value-weighted index: $r_{i,t} = \alpha_i + \beta_{MKT,i}(R_{m,t}) + \epsilon_t$. Next individual stocks monthly variances are estimated as the variance of the residuals resulting from the above model: $Idiosyncratic\_Variance_{i,t} = \sigma^2(\epsilon_t)$. Once individual variances are obtained, then an equal-weighted average of them is calculated for each month in our sample. This latter would serve as our Common Idiosyncratic Volatility (CIV) factor. Shocks to the CIV factors are obtained as the month-to-month difference between the previously constructed CIV values. We also construct the Market Variance (MV) factor by estimating the variance of the CRSP value-weighted index each month by relying on the daily observations within this month. Similar to CIV shocks, MV shocks are obtained as the first difference in the MV factor from one month to the other. Next, monthly stocks excess returns are regressed on CIV and MV shocks using a 60 months historical window and the corresponding CIV coefficient would serve as the exposure to the CIV factor. Portfolio 1(5) is the portfolio of stocks with the lower (highest) CIV exposures. Once portfolios are formed, monthly portfolio returns are obtained and regressed against the Fama and French (1993) monthly factors. The table reports the Fama and French (1993) Three-Factor Alpha as well as the Average Monthly Return with the t-statistics underneath. Column (5-1) reports the corresponding parameters estimated by regressing the difference in monthly returns of the fifth quintile and the first quintile (the zero investment portfolio). Our sample spans from August 1963 and till December 2013. Consistent with previous literature, we have removed from our sample all CRSP stocks whose code is not equal to 10, 11, and 12. The same methodology is followed when constructing the CIV Factor using the Fama and French (1993) three-factor model and the Fama and French (2015) five-factors model However, instead of using the single factor market model above we use: $r_{i,t} - R_{f,t} = \alpha_i + \beta_{MKT,i}(R_{m,t} - R_{f,t}) + \beta_{SMB,i}SMB_t + \beta_{HML,i}HML_t + \epsilon_t$ and $r_{i,t} - R_{f,t} = \alpha_i + \beta_{MKT,i}(R_{m,t} - R_{f,t}) + \beta_{SMB,i}SMB_t + \beta_{HML,i}HML_t + \beta_{RMW,i}RMW_t + \beta_{CMA,i}CMA_t + \epsilon_t$ respectively in estimating our stocks' idiosyncratic volatility and instead of estimating the market variance (MV) for the single CRSP Value-weighted Index, we estimate the Variance of the three-factors and five-factors included in our models. The *,**,*** represent significance at 1%, 5%, and 10% respectively. Robust white's t-stat is reported for the alphas.

Herskovic et al (2016) Approach - CIV Exposure Constructed Based on Market Model)						
Sorting Statistics	Quintile Portfolio					5-1 portfolio
	1 Low	2	3	4	5 High	5-1
Intercept	0.30%**	0.19%**	0.07%	0.08%	-0.09%	-0.82%***
(t-value)	2.32	2.58	1.2	1.3	-1.03	-6.87
Average Daily Return	1.55%***	1.36%***	1.21%***	1.23%***	1.08%***	-0.47%***
(t-value)	5.33	5.93	5.52	5.37	3.73	-3.76
CIV Exposure Constructed Based on Fama and French (1993) Three-Factors Model						
Sorting Statistics	Quintile Portfolio					5-1 portfolio
	1 Low	2	3	4	5 High	5-1
Intercept	0.29%**	0.18%**	0.10%	0.05%	-0.06%	-0.78%***
(t-value)	2.24	2.34	1.65	0.84	-0.69	-6.62
Average Daily Return	1.55%***	1.34%***	1.25%***	1.20%***	1.11%***	-0.45%***
(t-value)	5.33	5.87	5.7	5.16	3.81	-3.51
CIV Exposure Constructed Based on Fama and French (2015) Five-Factors Model						
Sorting Statistics	Quintile Portfolio					5-1 portfolio
	1 Low	2	3	4	5 High	5-1
Intercept	0.26%*	0.18%**	0.10%*	0.07%	-0.05%	-0.74%***
(t-value)	1.95	2.39	1.71	1.12	-0.62	-6.09
Average Daily Return	1.52%***	1.36%***	1.24%***	1.21%***	1.11%***	-0.41%***
(t-value)	5.16	5.85	5.7	5.28	3.88	-3.22

Table 3-26 Portfolio Sorted by Exposure to Common Factor in Idiosyncratic Volatility estimated using 60 Months Window – Alphas are estimated using Fama and French (2015) Five-Factors Model

Following Herskovic et al (2016), we form equal-weighted quintile portfolios every month by sorting stocks based on their previous month exposure to the Common Idiosyncratic Volatility (CIV) Factor. We construct the exposure to CIV as per the following: for each month, we estimate a regression of daily individual stock returns on the CRSP value-weighted index: $r_{i,t} = \alpha_i + \beta_{MKT,i}(R_{m,t}) + \epsilon_t$. Next individual stocks monthly variances are estimated as the variance of the residuals resulting from the above model: $Idiosyncratic\_Variance_{i,t} = \sigma^2(\epsilon_t)$. Once individual variances are obtained, then an equal-weighted average of them is calculated for each month in our sample. This latter would serve as our Common Idiosyncratic Volatility (CIV) factor. Shocks to the CIV factors are obtained as the month-to-month difference between the previously constructed CIV values. We also construct the Market Variance (MV) factor by estimating the variance of the CRSP value-weighted index each month by relying on the daily observations within this month. Similar to CIV shocks, MV shocks are obtained as the first difference in the MV factor from one month to the other. Next, monthly stocks excess returns are regressed on CIV and MV shocks using a 60 months historical window and the corresponding CIV coefficient would serve as the exposure to the CIV factor. Portfolio 1(5) is the portfolio of stocks with the lower (highest) CIV exposures. Once portfolios are formed, monthly portfolio returns are obtained and regressed against the Fama and French (2015) monthly factors. The table reports the Fama and French (2015) Five-Factor Alpha as well as the Average Monthly Return with the t-statistics underneath. Column (5-1) reports the corresponding parameters estimated by regressing the difference in monthly returns of the fifth quintile and the first quintile (the zero investment portfolio). Our sample spans from August 1963 and till December 2013. Consistent with previous literature, we have removed from our sample all CRSP stocks whose code is not equal to 10, 11, and 12. The same methodology is followed when constructing the CIV Factor using the Fama and French (1993) three-factor model and the Fama and French (2015) five-factors model However, instead of using the single factor market model above we use: $r_{i,t} - R_{f,t} = \alpha_i + \beta_{MKT,i}(R_{m,t} - R_{f,t}) + \beta_{SMB,i}SMB_t + \beta_{HML,i}HML_t + \epsilon_t$ and $r_{i,t} - R_{f,t} = \alpha_i + \beta_{MKT,i}(R_{m,t} - R_{f,t}) + \beta_{SMB,i}SMB_t + \beta_{HML,i}HML_t + \beta_{RMW,i}RMW_t + \beta_{CMA,i}CMA_t + \epsilon_t$ respectively in estimating our stocks' idiosyncratic volatility and instead of estimating the market variance (MV) for the single CRSP Value-weighted Index, we estimate the variance of the three-factors and five-factors included in our models. The *,**,*** represent significance at 1%, 5%, and 10% respectively. Robust white's t-stat is reported for the alphas.

Herskovic et al (2016) Approach - CIV Exposure Constructed Based on Market Model)						
Sorting Statistics	Quintile Portfolio					5-1 portfolio
	1 Low	2	3	4	5 High	5-1
Intercept	0.48%***	0.19%**	0.03%	0.04%	0.08%	-0.83%***
(t-value)	3.03	2.37	0.5	0.57	0.79	-6.08
Average Daily Return	1.55%***	1.36%***	1.21%***	1.23%***	1.08%***	-0.47%***
(t-value)	5.33	5.93	5.52	5.37	3.73	-3.76
CIV Exposure Constructed Based on Fama and French (1993) Three-Factors Model						
Sorting Statistics	Quintile Portfolio					5-1 portfolio
	1 Low	2	3	4	5 High	5-1
Intercept	0.47%***	0.18%**	0.05%	0.00%	0.10%	-0.81%***
(t-value)	3.06	2.25	0.86	0.06	0.96	-6.09
Average Daily Return	1.55%***	1.34%***	1.25%***	1.20%***	1.11%***	-0.45%***
(t-value)	5.33	5.87	5.7	5.16	3.81	-3.51
CIV Exposure Constructed Based on Fama and French (2015) Five-Factors Model						
Sorting Statistics	Quintile Portfolio					5-1 portfolio
	1 Low	2	3	4	5 High	5-1
Intercept	0.46%***	0.20%**	0.04%	0.02%	0.08%	-0.81%***
(t-value)	2.9	2.43	0.75	0.28	0.86	-5.9
Average Daily Return	1.52%***	1.36%***	1.24%***	1.21%***	1.11%***	-0.41%***
(t-value)	5.16	5.85	5.7	5.28	3.88	-3.22

Table 3-27 Portfolio Sorted by Exposure to Common Factor in Idiosyncratic Volatility estimated using 60 Months using Window – Alphas are estimated using Fama and French (1993) Three-Factors Model

Following Herskovic et al (2016), we form equal-weighted quintile portfolios every month by sorting stocks based on their previous month exposure to the Common Idiosyncratic Volatility (CIV) Factor. We construct the exposure to CIV as per the following: for each month, we estimate a regression of daily individual stock returns on the CRSP value-weighted index: $r_{i,t} = \alpha_i + \beta_{MKT,i}(R_{m,t}) + \epsilon_t$. Next individual stocks monthly variances are estimated as the variance of the residuals resulting from the above model: $Idiosyncratic\_Variance_{i,t} = \sigma^2(\epsilon_t)$. Once individual variances are obtained, then an equal-weighted average of them is calculated for each month in our sample. This latter would serve as our Common Idiosyncratic Volatility (CIV) factor. Shocks to the CIV factors are obtained as the month-to-month difference between the previously constructed CIV values. We also construct the Market Variance (MV) factor by estimating the variance of the CRSP value-weighted index each month by relying on the daily observations within this month. Similar to CIV shocks, MV shocks are obtained as the first difference in the MV factor from one month to the other. Next, monthly stocks excess returns are regressed on CIV and MV shocks using a 60 months historical window and the corresponding CIV coefficient would serve as the exposure to the CIV factor. Portfolio 1(5) is the portfolio of stocks with the lower (highest) CIV exposures. Once portfolios are formed, monthly portfolio returns are obtained and regressed against the Fama and French (1993) monthly factors. The table reports the Fama and French (1993) Three-Factor Alpha as well as the Average Monthly Return with the t-statistics underneath. Column (5-1) reports the corresponding parameters estimated by regressing the difference in monthly returns of the fifth quintile and the first quintile (the zero investment portfolio). Our sample spans from August 1963 and till December 2013. Consistent with previous literature, we have removed from our sample all CRSP stocks whose code is not equal to 10, 11, and 12. The same methodology is followed when constructing the CIV Factor using the Fama and French (1993) three-factor model and the Fama and French (2015) five-factors model However, instead of using the single factor market model above we use: $r_{i,t} - R_{f,t} = \alpha_i + \beta_{MKT,i}(R_{m,t} - R_{f,t}) + \beta_{SMB,i}SMB_t + \beta_{HML,i}HML_t + \epsilon_t$ and $r_{i,t} - R_{f,t} = \alpha_i + \beta_{MKT,i}(R_{m,t} - R_{f,t}) + \beta_{SMB,i}SMB_t + \beta_{HML,i}HML_t + \beta_{RMW,i}RMW_t + \beta_{CMA,i}CMA_t + \epsilon_t$ respectively in estimating our stocks' idiosyncratic volatility and instead of estimating the market variance (MV) for the single CRSP Value-weighted Index, we estimate the Variance of the three-factors and five-factors included in our models. We divide our sample into two sub-periods: high Mergers and Acquisitions (M&A) activities and low Merger and Acquisitions (M&A) activities. The high M&A activity periods span: 1960-1972, 1982-1989, 1993-2000, 2004-2007, and 2013. The low M&A activity periods span: 1973-1981, 1990-1992, 2001-2003, 2008-2012. The *,**,*** represent significance at 1%, 5%, and 10% respectively. Robust white's t-stat is reported for the alphas.

Period of High Mergers and Acquisitions Activities						
Sorting Statistics	Quintile Portfolio					5-1 portfolio
	1 Low	2	3	4	5 High	5-1
Intercept	0.13%	0.05%	-0.06%	-0.08%	-0.27%**	-0.84%***
(t-value)	0.98	0.7	-0.77	-0.88	-2.18	-6.06
Average Daily Return	1.25%***	1.28%***	1.21%***	1.24%***	0.96%***	-0.29%**
(t-value)	4.14	5.31	4.87	4.64	2.73	-2.04
Period of Low Mergers and Acquisitions Activities						
Sorting Statistics	Quintile Portfolio					5-1 portfolio
	1 Low	2	3	4	5 High	5-1
Intercept	0.54%**	0.31%***	0.16%*	0.19%**	0.13%	-0.81%***
(t-value)	2.55	2.66	1.93	2.49	1	-4.29
Average Daily Return	1.94%***	1.46%***	1.21%***	1.23%***	1.23%**	-0.71%***
(t-value)	3.6	3.47	3.14	3.09	2.56	-3.19

Table 3-28 Portfolio Sorted by Exposure to Common Factor in Idiosyncratic Volatility estimated using 60 Months Window – Alphas are estimated using Fama and French (2015) Five-Factors Model

Following Herskovic et al. (2016), we form equal-weighted quintile portfolios every month by sorting stocks based on their previous month exposure to the Common Idiosyncratic Volatility (CIV) Factor. We construct the exposure to CIV as per the following: for each month, we estimate a regression of daily individual stock returns on the CRSP value-weighted index: $r_{i,t} = \alpha_i + \beta_{MKT,i}(R_{m,t}) + \epsilon_t$. Next individual stocks monthly variances are estimated as the variance of the residuals resulting from the above model: $Idiosyncratic\_Variance_{i,t} = \sigma^2(\epsilon_t)$. Once individual variances are obtained, then an equal-weighted average of them is calculated for each month in our sample. This latter would serve as our Common Idiosyncratic Volatility (CIV) factor. Shocks to the CIV factors are obtained as the month-to-month difference between the previously constructed CIV values. We also construct the Market Variance (MV) factor by estimating the variance of the CRSP value-weighted index each month by relying on the daily observations within this month. Similar to CIV shocks, MV shocks are obtained as the first difference in the MV factor from one month to the other. Next, monthly stocks excess returns are regressed on CIV and MV shocks using a 60 months historical window and the corresponding CIV coefficient would serve as the exposure to the CIV factor. Portfolio 1(5) is the portfolio of stocks with the lower (highest) CIV exposures. Once portfolios are formed, monthly portfolio returns are obtained and regressed against the Fama and French (2015) monthly factors. The table reports the Fama and French (2015) Five-Factor Alpha as well as the Average Monthly Return with the t-statistics underneath. Column (5-1) reports the corresponding parameters estimated by regressing the difference in monthly returns of the fifth quintile and the first quintile (the zero investment portfolio). Our sample spans from August 1963 and till December 2013. Consistent with previous literature, we have removed from our sample all CRSP stocks whose code is not equal to 10, 11, and 12. The same methodology is followed when constructing the CIV Factor using the Fama and French (1993) three-factor model and the Fama and French (2015) five-factors model However, instead of using the single factor market model above we use: $r_{i,t} - R_{f,t} = \alpha_i + \beta_{MKT,i}(R_{m,t} - R_{f,t}) + \beta_{SMB,i}SMB_t + \beta_{HML,i}HML_t + \epsilon_t$ and $r_{i,t} - R_{f,t} = \alpha_i + \beta_{MKT,i}(R_{m,t} - R_{f,t}) + \beta_{SMB,i}SMB_t + \beta_{HML,i}HML_t + \beta_{RMW,i}RMW_t + \beta_{CMA,i}CMA_t + \epsilon_t$ respectively in estimating our stocks' idiosyncratic volatility and instead of estimating the market variance (MV) for the single CRSP Value-weighted Index, we estimate the variance of the three-factors and five-factors included in our models. We divide our sample into two sub-periods: high Mergers and Acquisitions (M&A) activities and low Merger and Acquisitions (M&A) activities. The high M&A activity periods span: 1960-1972, 1982-1989, 1993-2000, 2004-2007, and 2013. The low M&A activity periods span: 1973-1981, 1990-1992, 2001-2003, 2008-2012. The *,**,*** represent significance at 1%, 5%, and 10% respectively. Robust white's t-stat is reported for the alphas.

Period of High Mergers and Acquisitions Activities						
Sorting Statistics	Quintile Portfolio					5-1 portfolio
	1 Low	2	3	4	5 High	5-1
Intercept	0.21%	0.05%	-0.07%	-0.08%	-0.11%	-0.75%***
(t-value)	1.6	0.66	-1.13	-1	-0.9	-5.2
Average Daily Return	1.25%***	1.28%***	1.21%***	1.24%***	0.96%***	-0.29%**
(t-value)	4.14	5.31	4.87	4.64	2.73	-2.04
Period of Low Mergers and Acquisitions Activities						
Sorting Statistics	Quintile Portfolio					5-1 portfolio
	1 Low	2	3	4	5 High	5-1
Intercept	0.81%***	0.36%***	0.14%	0.16%*	0.31%**	-0.91%***
(t-value)	3	2.79	1.52	1.92	2.04	-4.04
Average Daily Return	1.94%***	1.46%***	1.21%***	1.23%***	1.23%**	-0.71%***
(t-value)	3.6	3.47	3.14	3.09	2.56	-3.19

Table 3-29 Portfolio Sorted by Exposure to Common Factor in Idiosyncratic Volatility estimated using 60 Months Window – Alphas are estimated using Fama and French (1993) Three-Factors Model

Following Herskovic et al. (2016), we form equal-weighted quintile portfolios every month by sorting stocks based on their previous month exposure to the Common Idiosyncratic Volatility (CIV) Factor. We construct the exposure to CIV as per the following: for each month, we estimate a regression of daily individual stock returns on the CRSP value-weighted index: $r_{i,t} = \alpha_i + \beta_{MKT,i}(R_{m,t}) + \epsilon_t$. Next individual stocks monthly variances are estimated as the variance of the residuals resulting from the above model: $Idiosyncratic\_Variance_{i,t} = \sigma^2(\epsilon_t)$. Once individual variances are obtained, then an equal-weighted average of them is calculated for each month in our sample. This latter would serve as our Common Idiosyncratic Volatility (CIV) factor. Shocks to the CIV factors are obtained as the month-to-month difference between the previously constructed CIV values. We also construct the Market Variance (MV) factor by estimating the variance of the CRSP value-weighted index each month by relying on the daily observations within this month. Similar to CIV shocks, MV shocks are obtained as the first difference in the MV factor from one month to the other. Next, monthly stocks excess returns are regressed on CIV and MV shocks using a 60 months historical window and the corresponding CIV coefficient would serve as the exposure to the CIV factor. Portfolio 1(5) is the portfolio of stocks with the lower (highest) CIV exposures. Once portfolios are formed, monthly portfolio returns are obtained and regressed against the Fama and French (1993) monthly factors. The table reports the Fama and French (1993) Three-Factor Alpha as well as the Average Monthly Return with the t-statistics underneath. Column (5-1) reports the corresponding parameters estimated by regressing the difference in monthly returns of the fifth quintile and the first quintile (the zero investment portfolio). Our sample spans from August 1963 and till December 2013. Consistent with previous literature, we have removed from our sample all CRSP stocks whose code is not equal to 10, 11, and 12. The same methodology is followed when constructing the CIV Factor using the Fama and French (1993) three-factor model and the Fama and French (2015) five-factors model However, instead of using the single factor market model above we use: $r_{i,t} - R_{f,t} = \alpha_i + \beta_{MKT,i}(R_{m,t} - R_{f,t}) + \beta_{SMB,i}SMB_t + \beta_{HML,i}HML_t + \epsilon_t$ and $r_{i,t} - R_{f,t} = \alpha_i + \beta_{MKT,i}(R_{m,t} - R_{f,t}) + \beta_{SMB,i}SMB_t + \beta_{HML,i}HML_t + \beta_{RMW,i}RMW_t + \beta_{CMA,i}CMA_t + \epsilon_t$ respectively in estimating our stocks' idiosyncratic volatility and instead of estimating the market variance (MV) for the single CRSP Value-weighted Index, we estimate the Variance of the three-factors and five-factors included in our models. We divide our sample into two sub-periods: high Mergers and Acquisitions (M&A) activities and low Merger and Acquisitions (M&A) activities. The high M&A activity periods span: 1960-1972, 1982-1989, 1993-2000, 2004-2007, and 2013. The low M&A activity periods span: 1973-1981, 1990-1992, 2001-2003, 2008-2012. The *,**,*** represent significance at 1%, 5%, and 10% respectively. Robust white's t-stat is reported for the alphas.

1960-1972 Sub-Period of High Mergers and Acquisitions Activities						
Sorting Statistics	Quintile Portfolio					5-1 portfolio
	1 Low	2	3	4	5 High	5-1
Intercept	0.01%	0.10%	0.07%	0.05%	-0.44%*	-0.88%***
(t-value)	0.04	1.26	0.72	0.52	-1.94	-2.91
Average Daily Return	0.39%	0.55%	0.44%	0.32%	-0.38%	-0.77%
(t-value)	0.57	0.81	0.55	0.35	-0.33	-1.32
1982-1989 Sub-Period of High Mergers and Acquisitions Activities						
Sorting Statistics	Quintile Portfolio					5-1 portfolio
	1 Low	2	3	4	5 High	5-1
Intercept	-0.23%	-0.05%	0.09%	0.11%	-0.10%	-0.51%***
(t-value)	-1.2	-0.66	1.12	1.64	-0.71	-3.46
Average Daily Return	1.26%**	1.40%***	1.51%***	1.52%***	1.30%**	0.04%
(t-value)	2.28	2.98	3.11	3.03	2.24	0.25
1993-2000 Sub-Period of High Mergers and Acquisitions Activities						
Sorting Statistics	Quintile Portfolio					5-1 portfolio
	1 Low	2	3	4	5 High	5-1
Intercept	0.40%	0.16%	0.09%	0.02%	-0.05%	-0.84%***
(t-value)	1.19	0.89	0.6	0.13	-0.21	-3.76
Average Daily Return	1.61%***	1.50%***	1.41%***	1.35%***	1.15%*	-0.46%**
(t-value)	2.64	3.73	3.84	3.66	1.9	-2
2004-2007 Sub-Period of High Mergers and Acquisitions Activities						
Sorting Statistics	Quintile Portfolio					5-1 portfolio
	1 Low	2	3	4	5 High	5-1
Intercept	0.05%	0.14%	-0.03%	0.13%	0.04%	-0.30%**
(t-value)	0.23	1.46	-0.38	1.05	0.15	-2.17
Average Daily Return	0.89%	0.94%**	0.77%*	0.94%*	0.87%	-0.02%
(t-value)	1.54	2.14	1.74	1.86	1.22	-0.12
2013 Sub-Period of High Mergers and Acquisitions Activities						
Sorting Statistics	Quintile Portfolio					5-1 portfolio
	1 Low	2	3	4	5 High	5-1
Intercept	0.06%	-0.05%	-0.24%	0.64%**	-0.10%	-0.17%
(t-value)	0.17	-0.17	-1.28	2.65	-0.18	-0.39
Average Daily Return	3.58%***	3.04%***	2.55%***	3.25%***	3.14%***	-0.44%
(t-value)	3.38	3.3	3.16	4.04	3.14	-1.7

Table 3-30 Portfolio Sorted by Exposure to Common Factor in Idiosyncratic Volatility estimated using 60 Months Window – Alphas are estimated using Fama and French (1993) Three-Factors Model

Following Herskovic et al. (2016), we form equal-weighted quintile portfolios every month by sorting stocks based on their previous month exposure to the Common Idiosyncratic Volatility (CIV) Factor. We construct the exposure to CIV as per the following: for each month, we estimate a regression of daily individual stock returns on the CRSP value-weighted index: $r_{i,t} = \alpha_i + \beta_{MKT,i}(R_{m,t}) + \epsilon_t$. Next individual stocks monthly variances are estimated as the variance of the residuals resulting from the above model: $Idiosyncratic\_Variance_{i,t} = \sigma^2(\epsilon_t)$. Once individual variances are obtained, then an equal-weighted average of them is calculated for each month in our sample. This latter would serve as our Common Idiosyncratic Volatility (CIV) factor. Shocks to the CIV factors are obtained as the month-to-month difference between the previously constructed CIV values. We also construct the Market Variance (MV) factor by estimating the variance of the CRSP value-weighted index each month by relying on the daily observations within this month. Similar to CIV shocks, MV shocks are obtained as the first difference in the MV factor from one month to the other. Next, monthly stocks excess returns are regressed on CIV and MV shocks using a 60 months historical window and the corresponding CIV coefficient would serve as the exposure to the CIV factor. Portfolio 1(5) is the portfolio of stocks with the lower (highest) CIV exposures. Once portfolios are formed, monthly portfolio returns are obtained and regressed against the Fama and French (1993) monthly factors. The table reports the Fama and French (1993) Three-Factor Alpha as well as the Average Monthly Return with the t-statistics underneath. Column (5-1) reports the corresponding parameters estimated by regressing the difference in monthly returns of the fifth quintile and the first quintile (the zero investment portfolio). Our sample spans from August 1963 and till December 2013. Consistent with previous literature, we have removed from our sample all CRSP stocks whose code is not equal to 10, 11, and 12. The same methodology is followed when constructing the CIV Factor using the Fama and French (1993) three-factor model and the Fama and French (2015) five-factors model However, instead of using the single factor market model above we use: $r_{i,t} - R_{f,t} = \alpha_i + \beta_{MKT,i}(R_{m,t} - R_{f,t}) + \beta_{SMB,i}SMB_t + \beta_{HML,i}HML_t + \epsilon_t$ and $r_{i,t} - R_{f,t} = \alpha_i + \beta_{MKT,i}(R_{m,t} - R_{f,t}) + \beta_{SMB,i}SMB_t + \beta_{HML,i}HML_t + \beta_{RMW,i}RMW_t + \beta_{CMA,i}CMA_t + \epsilon_t$ respectively in estimating our stocks' idiosyncratic volatility and instead of estimating the market variance (MV) for the single CRSP Value-weighted Index, we estimate the Variance of the three-factors and five-factors included in our models. We divide our sample into two sub-periods: high Mergers and Acquisitions (M&A) activities and low Merger and Acquisitions (M&A) activities. The high M&A activity periods span: 1960-1972, 1982-1989, 1993-2000, 2004-2007, and 2013. The low M&A activity periods span: 1973-1981, 1990-1992, 2001-2003, 2008-2012. The *,**,*** represent significance at 1%, 5%, and 10% respectively. Robust white's t-stat is reported for the alphas.

1973-1981 Sub-Period of Low Mergers and Acquisitions Activities						
Sorting Statistics	Quintile Portfolio					5-1 portfolio
	1 Low	2	3	4	5 High	5-1
Intercept	0.22%	0.18%*	0.01%	0.04%	-0.02%	-0.91%***
(t-value)	1.04	1.72	0.08	0.41	-0.23	-3.79
Average Daily Return	1.94%**	1.62%**	1.34%**	1.32%**	1.26%*	-0.69%**
(t-value)	2.53	2.51	2.18	2.1	1.78	-2.26
1990-1992 Sub-Period of Low Mergers and Acquisitions Activities						
Sorting Statistics	Quintile Portfolio					5-1 portfolio
	1 Low	2	3	4	5 High	5-1
Intercept	1.25%**	0.52%*	0.11%	0.23%	0.17%	-1.55%***
(t-value)	2.58	1.93	0.7	1.69	1.06	-3.32
Average Daily Return	2.28%*	1.58%	1.10%	1.20%	1.11%	-1.17%
(t-value)	1.75	1.53	1.36	1.61	1.54	-1.4
2001-2003 Sub-Period of Low Mergers and Acquisitions Activities						
Sorting Statistics	Quintile Portfolio					5-1 portfolio
	1 Low	2	3	4	5 High	5-1
Intercept	1.56%**	0.94%***	0.82%***	0.80%***	1.24%***	-0.50%
(t-value)	2.13	3.48	4.11	4.12	3.15	-0.91
Average Daily Return	2.96%*	2.01%**	1.92%**	1.84%*	2.20%	-0.76%
(t-value)	1.92	2.26	2.28	1.93	1.44	-1.18
2008-2012 Sub-Period of Low Mergers and Acquisitions Activities						
Sorting Statistics	Quintile Portfolio					5-1 portfolio
	1 Low	2	3	4	5 High	5-1
Intercept	0.38%	0.16%	0.12%	0.15%	0.04%	-0.37%
(t-value)	0.95	0.71	0.76	1.06	0.14	-1.3
Average Daily Return	1.12%	0.76%	0.64%	0.71%	0.67%	-0.45%
(t-value)	0.98	0.83	0.76	0.82	0.64	-1.39

Table 3-31 Portfolio Sorted by Exposure to Common Factor in Idiosyncratic Volatility estimated using 60 Months Window – Alphas are estimated using Fama and French (2015) Five-Factors Model

Following Herskovic et al. (2016), we form equal-weighted quintile portfolios every month by sorting stocks based on their previous month exposure to the Common Idiosyncratic Volatility (CIV) Factor. We construct the exposure to CIV as per the following: for each month, we estimate a regression of daily individual stock returns on the CRSP value-weighted index: $r_{i,t} = \alpha_i + \beta_{MKT,i}(R_{m,t}) + \epsilon_t$. Next individual stocks monthly variances are estimated as the variance of the residuals resulting from the above model: $Idiosyncratic\_Variance_{i,t} = \sigma^2(\epsilon_t)$. Once individual variances are obtained, then an equal-weighted average of them is calculated for each month in our sample. This latter would serve as our Common Idiosyncratic Volatility (CIV) factor. Shocks to the CIV factors are obtained as the month-to-month difference between the previously constructed CIV values. We also construct the Market Variance (MV) factor by estimating the variance of the CRSP value-weighted index each month by relying on the daily observations within this month. Similar to CIV shocks, MV shocks are obtained as the first difference in the MV factor from one month to the other. Next, monthly stocks excess returns are regressed on CIV and MV shocks using a 60 months historical window and the corresponding CIV coefficient would serve as the exposure to the CIV factor. Portfolio 1(5) is the portfolio of stocks with the lower (highest) CIV exposures. Once portfolios are formed, monthly portfolio returns are obtained and regressed against the Fama and French (1993) monthly factors. The table reports the Fama and French (2015) Five-Factor Alpha as well as the Average Monthly Return with the t-statistics underneath. Column (5-1) reports the corresponding parameters estimated by regressing the difference in monthly returns of the fifth quintile and the first quintile (the zero investment portfolio). Our sample spans from August 1963 and till December 2013. Consistent with previous literature, we have removed from our sample all CRSP stocks whose code is not equal to 10, 11, and 12. The same methodology is followed when constructing the CIV Factor using the Fama and French (1993) three-factor model and the Fama and French (2015) five-factors model However, instead of using the single factor market model above we use: $r_{i,t} - R_{f,t} = \alpha_i + \beta_{MKT,i}(R_{m,t} - R_{f,t}) + \beta_{SMB,i}SMB_t + \beta_{HML,i}HML_t + \epsilon_t$ and $r_{i,t} - R_{f,t} = \alpha_i + \beta_{MKT,i}(R_{m,t} - R_{f,t}) + \beta_{SMB,i}SMB_t + \beta_{HML,i}HML_t + \beta_{RMW,i}RMW_t + \beta_{CMA,i}CMA_t + \epsilon_t$ respectively in estimating our stocks' idiosyncratic volatility and instead of estimating the market variance (MV) for the single CRSP Value-weighted Index, we estimate the Variance of the three-factors and five-factors included in our models. We divide our sample into two sub-periods: high Mergers and Acquisitions (M&A) activities and low Merger and Acquisitions (M&A) activities. The high M&A activity periods span: 1960-1972, 1982-1989, 1993-2000, 2004-2007, and 2013. The low M&A activity periods span: 1973-1981, 1990-1992, 2001-2003, 2008-2012. The *,**,*** represent significance at 1%, 5%, and 10% respectively. Robust white's t-stat is reported for the alphas.

1960-1972 Sub-Period of High Mergers and Acquisitions Activities						
Sorting Statistics	Quintile Portfolio					5-1 portfolio
	1 Low	2	3	4	5 High	5-1
Intercept	0.00%	0.04%	0.06%	0.07%	-0.23%	-0.67%***
(t-value)	0.02	0.42	0.67	0.67	-1.16	-2.59
Average Daily Return	0.39%	0.55%	0.44%	0.32%	-0.38%	-0.77%
(t-value)	0.57	0.81	0.55	0.35	-0.33	-1.32
1982-1989 Sub-Period of High Mergers and Acquisitions Activities						
Sorting Statistics	Quintile Portfolio					5-1 portfolio
	1 Low	2	3	4	5 High	5-1
Intercept	-0.04%	-0.01%	0.11%	0.19%***	0.09%	-0.51%***
(t-value)	-0.18	-0.12	1.08	3.15	0.64	-2.9
Average Daily Return	1.26%**	1.40%***	1.51%***	1.52%***	1.30%**	0.04%
(t-value)	2.28	2.98	3.11	3.03	2.24	0.25
1993-2000 Sub-Period of High Mergers and Acquisitions Activities						
Sorting Statistics	Quintile Portfolio					5-1 portfolio
	1 Low	2	3	4	5 High	5-1
Intercept	0.58%*	0.24%	0.15%	0.10%	0.24%	-0.73%***
(t-value)	1.68	1.44	1.15	0.77	1.15	-2.91
Average Daily Return	1.61%***	1.50%***	1.41%***	1.35%***	1.15%*	-0.46%**
(t-value)	2.64	3.73	3.84	3.66	1.9	-2
2004-2007 Sub-Period of High Mergers and Acquisitions Activities						
Sorting Statistics	Quintile Portfolio					5-1 portfolio
	1 Low	2	3	4	5 High	5-1
Intercept	0.09%	0.14%	-0.07%	0.13%	0.20%	-0.18%
(t-value)	0.4	1.4	-0.94	1.11	0.9	-1.6
Average Daily Return	0.89%	0.94%**	0.77%*	0.94%*	0.87%	-0.02%
(t-value)	1.54	2.14	1.74	1.86	1.22	-0.12
2013 Sub-Period of High Mergers and Acquisitions Activities						
Sorting Statistics	Quintile Portfolio					5-1 portfolio
	1 Low	2	3	4	5 High	5-1
Intercept	-0.18%	-0.25%	-0.25%*	0.62%**	-0.41%	-0.23%
(t-value)	-0.46	-0.94	-1.99	2.86	-1.02	-0.6
Average Daily Return	3.58%***	3.04%***	2.55%***	3.25%***	3.14%***	-0.44%
(t-value)	3.38	3.3	3.16	4.04	3.14	-1.7

Table 3-32 Portfolio Sorted by Exposure to Common Factor in Idiosyncratic Volatility estimated using 60 Months Window – Alphas are estimated using Fama and French (2015) Five-Factors Model

Following Herskovic et al. (2016), we form equal-weighted quintile portfolios every month by sorting stocks based on their previous month exposure to the Common Idiosyncratic Volatility (CIV) Factor. We construct the exposure to CIV as per the following: for each month, we estimate a regression of daily individual stock returns on the CRSP value-weighted index: $r_{i,t} = \alpha_i + \beta_{MKT,i}(R_{m,t}) + \epsilon_t$. Next individual stocks monthly variances are estimated as the variance of the residuals resulting from the above model: $Idiosyncratic\_Variance_{i,t} = \sigma^2(\epsilon_t)$. Once individual variances are obtained, then an equal-weighted average of them is calculated for each month in our sample. This latter would serve as our Common Idiosyncratic Volatility (CIV) factor. Shocks to the CIV factors are obtained as the month-to-month difference between the previously constructed CIV values. We also construct the Market Variance (MV) factor by estimating the variance of the CRSP value-weighted index each month by relying on the daily observations within this month. Similar to CIV shocks, MV shocks are obtained as the first difference in the MV factor from one month to the other. Next, monthly stocks excess returns are regressed on CIV and MV shocks using a 60 months historical window and the corresponding CIV coefficient would serve as the exposure to the CIV factor. Portfolio 1(5) is the portfolio of stocks with the lower (highest) CIV exposures. Once portfolios are formed, monthly portfolio returns are obtained and regressed against the Fama and French (2015) monthly factors. The table reports the Fama and French (2015) Five-Factor Alpha as well as the Average Monthly Return with the t-statistics underneath. Column (5-1) reports the corresponding parameters estimated by regressing the difference in monthly returns of the fifth quintile and the first quintile (the zero investment portfolio). Our sample spans from August 1963 and till December 2013. Consistent with previous literature, we have removed from our sample all CRSP stocks whose code is not equal to 10, 11, and 12. The same methodology is followed when constructing the CIV Factor using the Fama and French (1993) three-factor model and the Fama and French (2015) five-factors model However, instead of using the single factor market model above we use: $r_{i,t} - R_{f,t} = \alpha_i + \beta_{MKT,i}(R_{m,t} - R_{f,t}) + \beta_{SMB,i}SMB_t + \beta_{HML,i}HML_t + \epsilon_t$ and $r_{i,t} - R_{f,t} = \alpha_i + \beta_{MKT,i}(R_{m,t} - R_{f,t}) + \beta_{SMB,i}SMB_t + \beta_{HML,i}HML_t + \beta_{RMW,i}RMW_t + \beta_{CMA,i}CMA_t + \epsilon_t$ respectively in estimating our stocks' idiosyncratic volatility and instead of estimating the market variance (MV) for the single CRSP Value-weighted Index, we estimate the variance of the three-factors and five-factors included in our models. We divide our sample into two sub-periods: high Mergers and Acquisitions (M&A) activities and low Merger and Acquisitions (M&A) activities. The high M&A activity periods span: 1960-1972, 1982-1989, 1993-2000, 2004-2007, and 2013. The low M&A activity periods span: 1973-1981, 1990-1992, 2001-2003, 2008-2012. The *,**,*** represent significance at 1%, 5%, and 10% respectively. Robust white's t-stat is reported for the alphas.

1973-1981 Sub-Period of Low Mergers and Acquisitions Activities						
Sorting Statistics	Quintile Portfolio					5-1 portfolio
	1 Low	2	3	4	5 High	5-1
Intercept	0.21%	0.19%*	0.00%	0.03%	-0.04%	-0.91%***
(t-value)	0.86	1.68	0	0.29	-0.31	-3.44
Average Daily Return	1.94%**	1.62%**	1.34%**	1.32%**	1.26%*	-0.69%**
(t-value)	2.53	2.51	2.18	2.1	1.78	-2.26
1990-1992 Sub-Period of Low Mergers and Acquisitions Activities						
Sorting Statistics	Quintile Portfolio					5-1 portfolio
	1 Low	2	3	4	5 High	5-1
Intercept	1.23%**	0.37%*	0.16%	0.10%	0.24%	-1.47%***
(t-value)	2.72	1.74	0.87	0.7	1.43	-3.18
Average Daily Return	2.28%*	1.58%	1.10%	1.20%	1.11%	-1.17%
(t-value)	1.75	1.53	1.36	1.61	1.54	-1.4
2001-2003 Sub-Period of Low Mergers and Acquisitions Activities						
Sorting Statistics	Quintile Portfolio					5-1 portfolio
	1 Low	2	3	4	5 High	5-1
Intercept	2.12%*	1.10%***	0.85%***	0.83%***	1.90%***	-0.39%
(t-value)	2.01	2.77	2.76	3.08	4.08	-0.53
Average Daily Return	2.96%*	2.01%**	1.92%**	1.84%*	2.20%	-0.76%
(t-value)	1.92	2.26	2.28	1.93	1.44	-1.18
2008-2012 Sub-Period of Low Mergers and Acquisitions Activities						
Sorting Statistics	Quintile Portfolio					5-1 portfolio
	1 Low	2	3	4	5 High	5-1
Intercept	1.10%**	0.61%**	0.41%***	0.36%**	0.48%	-0.65%*
(t-value)	2.26	2.45	2.82	2.51	1.53	-1.87
Average Daily Return	1.12%	0.76%	0.64%	0.71%	0.67%	-0.45%
(t-value)	0.98	0.83	0.76	0.82	0.64	-1.39

3.13 Appendix D

Table 3-33 Portfolio Sorted by Exposure to Common Factor in Idiosyncratic Volatility estimated using 12 Months Window – Alphas are estimated using Fama and French (1993) Three-Factors Model

Following Herskovic et al. (2016), we form equal-weighted quintile portfolios every month by sorting stocks based on their previous month exposure to the Common Idiosyncratic Volatility (CIV) Factor. We construct the exposure to CIV as per the following: for each month, we estimate a regression of daily individual stock returns on the CRSP value-weighted index: $r_{i,t} = \alpha_i + \beta_{MKT,i}(R_{m,t}) + \epsilon_t$. Next individual stocks monthly variances are estimated as the variance of the residuals resulting from the above model: $Idiosyncratic\_Variance_{i,t} = \sigma^2(\epsilon_t)$. Once individual variances are obtained, then an equal-weighted average of them is calculated for each month in our sample. This latter would serve as our Common Idiosyncratic Volatility (CIV) factor. Shocks to the CIV factors are obtained as the month-to-month difference between the previously constructed CIV values. We also construct the Market Variance (MV) factor by estimating the variance of the CRSP value-weighted index each month by relying on the daily observations within this month. Similar to CIV shocks, MV shocks are obtained as the first difference in the MV factor from one month to the other. Next, monthly stocks excess returns are regressed on CIV and MV shocks using a 12 months historical window and the corresponding CIV coefficient would serve as the exposure to the CIV factor. Portfolio 1(5) is the portfolio of stocks with the lower (highest) CIV exposures. Once portfolios are formed, monthly portfolio returns are obtained and regressed against the Fama and French (1993) monthly factors. The table reports the Fama and French (1993) Three-Factor Alpha as well as the Average Monthly Return with the t-statistics underneath. Column (5-1) reports the corresponding parameters estimated by regressing the difference in monthly returns of the fifth quintile and the first quintile (the zero investment portfolio). Our sample spans from August 1963 and till December 2013. Consistent with previous literature, we have removed from our sample all CRSP stocks whose code is not equal to 10, 11, and 12. The same methodology is followed when constructing the CIV Factor using the Fama and French (1993) three-factor model and the Fama and French (2015) five-factors model However, instead of using the single factor market model above we use: $r_{i,t} - R_{f,t} = \alpha_i + \beta_{MKT,i}(R_{m,t} - R_{f,t}) + \beta_{SMB,i}SMB_t + \beta_{HML,i}HML_t + \epsilon_t$ and $r_{i,t} - R_{f,t} = \alpha_i + \beta_{MKT,i}(R_{m,t} - R_{f,t}) + \beta_{SMB,i}SMB_t + \beta_{HML,i}HML_t + \beta_{RMW,i}RMW_t + \beta_{CMA,i}CMA_t + \epsilon_t$ respectively in estimating our stocks' idiosyncratic volatility and instead of estimating the market variance (MV) for the single CRSP Value-weighted Index, we estimate the Variance of the three-factors and five-factors included in our models. We divide our sample into two sub-periods: high Mergers and Acquisitions (M&A) activities and low Merger and Acquisitions (M&A) activities. The high M&A activity periods span: 1960-1972, 1982-1989, 1993-2000, 2004-2007, and 2013. The low M&A activity periods span: 1973-1981, 1990-1992, 2001-2003, 2008-2012. The *,**,*** represent significance at 1%, 5%, and 10% respectively. Robust white's t-stat is reported for the alphas.

Period of High Mergers and Acquisitions Activities						
Sorting Statistics	Quintile Portfolio					5-1 portfolio
	1 Low	2	3	4	5 High	5-1
Intercept	-0.15%	-0.03%	0.00%	-0.08%	-0.25%**	-0.54%***
(t-value)	-1.09	-0.41	-0.04	-1.14	-2.24	-4.19
Average Daily Return	1.18%***	1.27%***	1.29%***	1.24%***	1.06%***	-0.12%
(t-value)	3.69	5.2	5.5	4.83	3.08	-0.91
Period of Low Mergers and Acquisitions Activities						
Sorting Statistics	Quintile Portfolio					5-1 portfolio
	1 Low	2	3	4	5 High	5-1
Intercept	0.41%*	0.32%**	0.24%***	0.21%**	0.06%	-0.75%***
(t-value)	1.66	2.53	2.79	2.23	0.35	-3.31
Average Daily Return	1.79%***	1.45%***	1.32%***	1.26%***	1.22%**	-0.57%**
(t-value)	3.13	3.43	3.4	3.07	2.32	-2.09

Table 3-34 Portfolio Sorted by Exposure to Common Factor in Idiosyncratic Volatility estimated using 12 Months Window – Alphas are estimated using Fama and French (2015) Five-Factors Model

Following Herskovic et al. (2016), we form equal-weighted quintile portfolios every month by sorting stocks based on their previous month exposure to the Common Idiosyncratic Volatility (CIV) Factor. We construct the exposure to CIV as per the following: for each month, we estimate a regression of daily individual stock returns on the CRSP value-weighted index: $r_{i,t} = \alpha_i + \beta_{MKT,i}(R_{m,t}) + \epsilon_t$. Next individual stocks monthly variances are estimated as the variance of the residuals resulting from the above model: $Idiosyncratic\_Variance_{i,t} = \sigma^2(\epsilon_t)$. Once individual variances are obtained, then an equal-weighted average of them is calculated for each month in our sample. This latter would serve as our Common Idiosyncratic Volatility (CIV) factor. Shocks to the CIV factors are obtained as the month-to-month difference between the previously constructed CIV values. We also construct the Market Variance (MV) factor by estimating the variance of the CRSP value-weighted index each month by relying on the daily observations within this month. Similar to CIV shocks, MV shocks are obtained as the first difference in the MV factor from one month to the other. Next, monthly stocks excess returns are regressed on CIV and MV shocks using a 12 months historical window and the corresponding CIV coefficient would serve as the exposure to the CIV factor. Portfolio 1(5) is the portfolio of stocks with the lower (highest) CIV exposures. Once portfolios are formed, monthly portfolio returns are obtained and regressed against the Fama and French (2015) monthly factors. The table reports the Fama and French (2015) Five-Factor Alpha as well as the Average Monthly Return with the t-statistics underneath. Column (5-1) reports the corresponding parameters estimated by regressing the difference in monthly returns of the fifth quintile and the first quintile (the zero investment portfolio). Our sample spans from August 1963 and till December 2013. Consistent with previous literature, we have removed from our sample all CRSP stocks whose code is not equal to 10, 11, and 12. The same methodology is followed when constructing the CIV Factor using the Fama and French (1993) three-factor model and the Fama and French (2015) five-factors model However, instead of using the single factor market model above we use: $r_{i,t} - R_{f,t} = \alpha_i + \beta_{MKT,i}(R_{m,t} - R_{f,t}) + \beta_{SMB,i}SMB_t + \beta_{HML,i}HML_t + \epsilon_t$ and $r_{i,t} - R_{f,t} = \alpha_i + \beta_{MKT,i}(R_{m,t} - R_{f,t}) + \beta_{SMB,i}SMB_t + \beta_{HML,i}HML_t + \beta_{RMW,i}RMW_t + \beta_{CMA,i}CMA_t + \epsilon_t$ respectively in estimating our stocks' idiosyncratic volatility and instead of estimating the market variance (MV) for the single CRSP Value-weighted Index, we estimate the variance of the three-factors and five-factors included in our models. We divide our sample into two sub-periods: high Mergers and Acquisitions (M&A) activities and low Merger and Acquisitions (M&A) activities. The high M&A activity periods span: 1960-1972, 1982-1989, 1993-2000, 2004-2007, and 2013. The low M&A activity periods span: 1973-1981, 1990-1992, 2001-2003, 2008-2012. The *,**,*** represent significance at 1%, 5%, and 10% respectively. Robust white's t-stat is reported for the alphas.

Period of High Mergers and Acquisitions Activities						
Sorting Statistics	Quintile Portfolio					5-1 portfolio
	1 Low	2	3	4	5 High	5-1
Intercept	-0.04%	-0.04%	-0.01%	-0.03%	-0.01%	-0.40%***
(t-value)	-0.28	-0.53	-0.18	-0.4	-0.14	-3.17
Average Daily Return	1.18%***	1.27%***	1.29%***	1.24%***	1.06%***	-0.12%
(t-value)	3.69	5.2	5.5	4.83	3.08	-0.91
Period of Low Mergers and Acquisitions Activities						
Sorting Statistics	Quintile Portfolio					5-1 portfolio
	1 Low	2	3	4	5 High	5-1
Intercept	0.85%**	0.48%***	0.27%***	0.24%**	0.28%*	-0.98%***
(t-value)	2.47	2.93	2.65	2.28	1.69	-2.97
Average Daily Return	1.79%***	1.45%***	1.32%***	1.26%***	1.22%**	-0.57%**
(t-value)	3.13	3.43	3.4	3.07	2.32	-2.09

Table 3-35 Portfolio Sorted by Exposure to Common Factor in Idiosyncratic Volatility estimated using 12 Months Window – Alphas are estimated using Fama and French (1993) Three-Factors Model

Following Herskovic et al. (2016), we form equal-weighted quintile portfolios every month by sorting stocks based on their previous month exposure to the Common Idiosyncratic Volatility (CIV) Factor. We construct the exposure to CIV as per the following: for each month, we estimate a regression of daily individual stock returns on the CRSP value-weighted index: $r_{i,t} = \alpha_i + \beta_{MKT,i}(R_{m,t}) + \epsilon_t$. Next individual stocks monthly variances are estimated as the variance of the residuals resulting from the above model: $Idiosyncratic\_Variance_{i,t} = \sigma^2(\epsilon_t)$. Once individual variances are obtained, then an equal-weighted average of them is calculated for each month in our sample. This latter would serve as our Common Idiosyncratic Volatility (CIV) factor. Shocks to the CIV factors are obtained as the month-to-month difference between the previously constructed CIV values. We also construct the Market Variance (MV) factor by estimating the variance of the CRSP value-weighted index each month by relying on the daily observations within this month. Similar to CIV shocks, MV shocks are obtained as the first difference in the MV factor from one month to the other. Next, monthly stocks excess returns are regressed on CIV and MV shocks using a 12 months historical window and the corresponding CIV coefficient would serve as the exposure to the CIV factor. Portfolio 1(5) is the portfolio of stocks with the lower (highest) CIV exposures. Once portfolios are formed, monthly portfolio returns are obtained and regressed against the Fama and French (1993) monthly factors. The table reports the Fama and French (1993) Three-Factor Alpha as well as the Average Monthly Return with the t-statistics underneath. Column (5-1) reports the corresponding parameters estimated by regressing the difference in monthly returns of the fifth quintile and the first quintile (the zero investment portfolio). Our sample spans from August 1963 and till December 2013. Consistent with previous literature, we have removed from our sample all CRSP stocks whose code is not equal to 10, 11, and 12. The same methodology is followed when constructing the CIV Factor using the Fama and French (1993) three-factor model and the Fama and French (2015) five-factors model However, instead of using the single factor market model above we use: $r_{i,t} - R_{f,t} = \alpha_i + \beta_{MKT,i}(R_{m,t} - R_{f,t}) + \beta_{SMB,i}SMB_t + \beta_{HML,i}HML_t + \epsilon_t$ and $r_{i,t} - R_{f,t} = \alpha_i + \beta_{MKT,i}(R_{m,t} - R_{f,t}) + \beta_{SMB,i}SMB_t + \beta_{HML,i}HML_t + \beta_{RMW,i}RMW_t + \beta_{CMA,i}CMA_t + \epsilon_t$ respectively in estimating our stocks' idiosyncratic volatility and instead of estimating the market variance (MV) for the single CRSP Value-weighted Index, we estimate the Variance of the three-factors and five-factors included in our models. We divide our sample into two sub-periods: high Mergers and Acquisitions (M&A) activities and low Merger and Acquisitions (M&A) activities. The high M&A activity periods span: 1960-1972, 1982-1989, 1993-2000, 2004-2007, and 2013. The low M&A activity periods span: 1973-1981, 1990-1992, 2001-2003, 2008-2012. The *,**,*** represent significance at 1%, 5%, and 10% respectively. Robust white's t-stat is reported for the alphas.

1960-1972 Sub-Period of High Mergers and Acquisitions Activities						
Sorting Statistics	Quintile Portfolio					5-1 portfolio
	1 Low	2	3	4	5 High	5-1
Intercept	0.11%	0.14%*	0.10%	-0.07%	-0.47%***	-0.98%***
(t-value)	0.93	1.84	1.35	-0.76	-3.29	-4.85
Average Daily Return	1.41%**	1.25%**	1.22%**	1.15%*	1.00%	-0.42%
(t-value)	2.33	2.49	2.33	1.96	1.36	-1.56
1982-1989 Sub-Period of High Mergers and Acquisitions Activities						
Sorting Statistics	Quintile Portfolio					5-1 portfolio
	1 Low	2	3	4	5 High	5-1
Intercept	-0.64%***	-0.11%	0.05%	-0.08%	-0.55%**	-0.54%**
(t-value)	-2.75	-0.84	0.43	-0.64	-2.45	-2.31
Average Daily Return	0.83%	1.31%**	1.45%***	1.30%**	0.81%	-0.02%
(t-value)	1.35	2.52	2.96	2.55	1.39	-0.09
1993-2000 Sub-Period of High Mergers and Acquisitions Activities						
Sorting Statistics	Quintile Portfolio					5-1 portfolio
	1 Low	2	3	4	5 High	5-1
Intercept	0.09%	-0.04%	-0.05%	-0.05%	-0.01%	-0.49%
(t-value)	0.22	-0.18	-0.28	-0.33	-0.04	-1.59
Average Daily Return	1.31%*	1.26%***	1.21%***	1.22%***	1.18%	-0.13%
(t-value)	1.94	2.98	3.21	2.8	1.58	-0.4
2004-2007 Sub-Period of High Mergers and Acquisitions Activities						
Sorting Statistics	Quintile Portfolio					5-1 portfolio
	1 Low	2	3	4	5 High	5-1
Intercept	-0.31%	0.05%	0.09%	0.10%	0.04%	0.07%
(t-value)	-1.22	0.5	0.82	0.76	0.18	0.36
Average Daily Return	0.62%	0.83%	0.86%*	0.91%*	0.93%	0.31%
(t-value)	0.86	1.67	1.93	1.95	1.45	1.39
2013 Sub-Period of High Mergers and Acquisitions Activities						
Sorting Statistics	Quintile Portfolio					5-1 portfolio
	1 Low	2	3	4	5 High	5-1
Intercept	-0.45%*	-0.18%	0.13%	0.26%	0.43%	0.88%*
(t-value)	-1.65	-0.64	0.77	1.08	0.7	2.11
Average Daily Return	3.31%**	2.76%***	2.98%***	3.06%***	3.20%***	-0.10%
(t-value)	3	3.3	3.62	3.53	3.46	-0.25

Table 3-36 Portfolio Sorted by Exposure to Common Factor in Idiosyncratic Volatility estimated using 12 Months Window – Alphas are estimated using Fama and French (1993) Three-Factors Model

Following Herskovic et al (2016), we form equal-weighted quintile portfolios every month by sorting stocks based on their previous month exposure to the Common Idiosyncratic Volatility (CIV) Factor. We construct the exposure to CIV as per the following: for each month, we estimate a regression of daily individual stock returns on the CRSP value-weighted index: $r_{i,t} = \alpha_i + \beta_{MKT,i}(R_{m,t}) + \epsilon_t$. Next individual stocks monthly variances are estimated as the variance of the residuals resulting from the above model: $Idiosyncratic\_Variance_{i,t} = \sigma^2(\epsilon_t)$. Once individual variances are obtained, then an equal-weighted average of them is calculated for each month in our sample. This latter would serve as our Common Idiosyncratic Volatility (CIV) factor. Shocks to the CIV factors are obtained as the month-to-month difference between the previously constructed CIV values. We also construct the Market Variance (MV) factor by estimating the variance of the CRSP value-weighted index each month by relying on the daily observations within this month. Similar to CIV shocks, MV shocks are obtained as the first difference in the MV factor from one month to the other. Next, monthly stocks excess returns are regressed on CIV and MV shocks using a 12 months historical window and the corresponding CIV coefficient would serve as the exposure to the CIV factor. Portfolio 1(5) is the portfolio of stocks with the lower (highest) CIV exposures. Once portfolios are formed, monthly portfolio returns are obtained and regressed against the Fama and French (1993) monthly factors. The table reports the Fama and French (1993) Three-Factor Alpha as well as the Average Monthly Return with the t-statistics underneath. Column (5-1) reports the corresponding parameters estimated by regressing the difference in monthly returns of the fifth quintile and the first quintile (the zero investment portfolio). Our sample spans from August 1963 and till December 2013. Consistent with previous literature, we have removed from our sample all CRSP stocks whose code is not equal to 10, 11, and 12. The same methodology is followed when constructing the CIV Factor using the Fama and French (1993) three-factor model and the Fama and French (2015) five-factors model However, instead of using the single factor market model above we use: $r_{i,t} - R_{f,t} = \alpha_i + \beta_{MKT,i}(R_{m,t} - R_{f,t}) + \beta_{SMB,i}SMB_t + \beta_{HML,i}HML_t + \epsilon_t$ and $r_{i,t} - R_{f,t} = \alpha_i + \beta_{MKT,i}(R_{m,t} - R_{f,t}) + \beta_{SMB,i}SMB_t + \beta_{HML,i}HML_t + \beta_{RMW,i}RMW_t + \beta_{CMA,i}CMA_t + \epsilon_t$ respectively in estimating our stocks' idiosyncratic volatility and instead of estimating the market variance (MV) for the single CRSP Value-weighted Index, we estimate the Variance of the three-factors and five-factors included in our models. We divide our sample into two sub-periods: high Mergers and Acquisitions (M&A) activities and low Merger and Acquisitions (M&A) activities. The high M&A activity periods span: 1960-1972, 1982-1989, 1993-2000, 2004-2007, and 2013. The low M&A activity periods span: 1973-1981, 1990-1992, 2001-2003, 2008-2012. The *,**,*** represent significance at 1%, 5%, and 10% respectively. Robust white's t-stat is reported for the alphas.

1973-1981 Sub-Period of Low Mergers and Acquisitions Activities						
Sorting Statistics	Quintile Portfolio					5-1 portfolio
	1 Low	2	3	4	5 High	5-1
Intercept	0.07%	0.13%	0.08%	0.11%	0.01%	-0.72%***
(t-value)	0.36	1.09	0.87	1.12	0.06	-3.18
Average Daily Return	1.78%**	1.56%**	1.44%**	1.37%**	1.29%*	-0.48%
(t-value)	2.32	2.47	2.37	2.16	1.74	-1.4
1990-1992 Sub-Period of Low Mergers and Acquisitions Activities						
Sorting Statistics	Quintile Portfolio					5-1 portfolio
	1 Low	2	3	4	5 High	5-1
Intercept	0.90%*	0.49%**	0.26%	0.18%	0.12%	-1.24%***
(t-value)	1.93	2.29	1.55	1.34	0.42	-3.22
Average Daily Return	1.91%	1.49%	1.22%	1.17%	1.19%	-0.72%
(t-value)	1.53	1.66	1.59	1.5	1.13	-1.37
2001-2003 Sub-Period of Low Mergers and Acquisitions Activities						
Sorting Statistics	Quintile Portfolio					5-1 portfolio
	1 Low	2	3	4	5 High	5-1
Intercept	1.50%	0.95%**	1.12%***	1.12%***	1.40%**	-0.27%
(t-value)	1.47	2.35	4.64	4.41	2.36	-0.26
Average Daily Return	2.81%	2.14%*	2.20%**	2.11%**	2.29%	-0.52%
(t-value)	1.39	1.85	2.39	2.06	1.34	-0.42
2008-2012 Sub-Period of Low Mergers and Acquisitions Activities						
Sorting Statistics	Quintile Portfolio					5-1 portfolio
	1 Low	2	3	4	5 High	5-1
Intercept	0.38%	0.24%	0.09%	0.04%	-0.18%	-0.59%*
(t-value)	0.89	0.87	0.56	0.21	-0.47	-1.69
Average Daily Return	1.11%	0.81%	0.62%	0.63%	0.47%	-0.64%
(t-value)	0.97	0.9	0.74	0.69	0.42	-1.64

Table 3-37 Portfolio Sorted by Exposure to Common Factor in Idiosyncratic Volatility estimated using 12 Months Window – Alphas are estimated using Fama and French (2015) Five-Factors Model

Following Herskovic et al (2016), we form equal-weighted quintile portfolios every month by sorting stocks based on their previous month exposure to the Common Idiosyncratic Volatility (CIV) Factor. We construct the exposure to CIV as per the following: for each month, we estimate a regression of daily individual stock returns on the CRSP value-weighted index: $r_{i,t} = \alpha_i + \beta_{MKT,i}(R_{m,t}) + \epsilon_t$. Next individual stocks monthly variances are estimated as the variance of the residuals resulting from the above model: $Idiosyncratic\_Variance_{i,t} = \sigma^2(\epsilon_t)$. Once individual variances are obtained, then an equal-weighted average of them is calculated for each month in our sample. This latter would serve as our Common Idiosyncratic Volatility (CIV) factor. Shocks to the CIV factors are obtained as the month-to-month difference between the previously constructed CIV values. We also construct the Market Variance (MV) factor by estimating the variance of the CRSP value-weighted index each month by relying on the daily observations within this month. Similar to CIV shocks, MV shocks are obtained as the first difference in the MV factor from one month to the other. Next, monthly stocks excess returns are regressed on CIV and MV shocks using a 12 months historical window and the corresponding CIV coefficient would serve as the exposure to the CIV factor. Portfolio 1(5) is the portfolio of stocks with the lower (highest) CIV exposures. Once portfolios are formed, monthly portfolio returns are obtained and regressed against the Fama and French (1993) monthly factors. The table reports the Fama and French (2015) Five-Factor Alpha as well as the Average Monthly Return with the t-statistics underneath. Column (5-1) reports the corresponding parameters estimated by regressing the difference in monthly returns of the fifth quintile and the first quintile (the zero investment portfolio). Our sample spans from August 1963 and till December 2013. Consistent with previous literature, we have removed from our sample all CRSP stocks whose code is not equal to 10, 11, and 12. The same methodology is followed when constructing the CIV Factor using the Fama and French (1993) three-factor model and the Fama and French (2015) five-factors model However, instead of using the single factor market model above we use: $r_{i,t} - R_{f,t} = \alpha_i + \beta_{MKT,i}(R_{m,t} - R_{f,t}) + \beta_{SMB,i}SMB_t + \beta_{HML,i}HML_t + \epsilon_t$ and $r_{i,t} - R_{f,t} = \alpha_i + \beta_{MKT,i}(R_{m,t} - R_{f,t}) + \beta_{SMB,i}SMB_t + \beta_{HML,i}HML_t + \beta_{RMW,i}RMW_t + \beta_{CMA,i}CMA_t + \epsilon_t$ respectively in estimating our stocks' idiosyncratic volatility and instead of estimating the market variance (MV) for the single CRSP Value-weighted Index, we estimate the Variance of the three-factors and five-factors included in our models. We divide our sample into two sub-periods: high Mergers and Acquisitions (M&A) activities and low Merger and Acquisitions (M&A) activities. The high M&A activity periods span: 1960-1972, 1982-1989, 1993-2000, 2004-2007, and 2013. The low M&A activity periods span: 1973-1981, 1990-1992, 2001-2003, 2008-2012. The *,**,*** represent significance at 1%, 5%, and 10% respectively. Robust white's t-stat is reported for the alphas.

1960-1972 Sub-Period of High Mergers and Acquisitions Activities						
Sorting Statistics	Quintile Portfolio					5-1 portfolio
	1 Low	2	3	4	5 High	5-1
Intercept	0.12%	0.16%*	0.16%**	0.01%	-0.32%**	-0.83%***
(t-value)	0.95	1.91	2.03	0.09	-2.42	-4.36
Average Daily Return	1.41%**	1.25%**	1.22%**	1.15%*	1.00%	-0.42%
(t-value)	2.33	2.49	2.33	1.96	1.36	-1.56
1982-1989 Sub-Period of High Mergers and Acquisitions Activities						
Sorting Statistics	Quintile Portfolio					5-1 portfolio
	1 Low	2	3	4	5 High	5-1
Intercept	-0.32%	0.01%	0.14%	0.07%	-0.34%	-0.66%***
(t-value)	-1.1	0.05	1.06	0.54	-1.42	-2.83
Average Daily Return	0.83%	1.31%**	1.45%***	1.30%**	0.81%	-0.02%
(t-value)	1.35	2.52	2.96	2.55	1.39	-0.09
1993-2000 Sub-Period of High Mergers and Acquisitions Activities						
Sorting Statistics	Quintile Portfolio					5-1 portfolio
	1 Low	2	3	4	5 High	5-1
Intercept	0.25%	0.11%	0.09%	0.17%	0.37%	-0.26%
(t-value)	0.61	0.51	0.57	1.13	1.55	-0.9
Average Daily Return	1.31%*	1.26%***	1.21%***	1.22%***	1.18%	-0.13%
(t-value)	1.94	2.98	3.21	2.8	1.58	-0.4
2004-2007 Sub-Period of High Mergers and Acquisitions Activities						
Sorting Statistics	Quintile Portfolio					5-1 portfolio
	1 Low	2	3	4	5 High	5-1
Intercept	-0.27%	0.04%	0.11%	0.14%	0.16%	0.14%
(t-value)	-1.05	0.4	0.97	0.94	0.67	0.62
Average Daily Return	0.62%	0.83%	0.86%*	0.91%*	0.93%	0.31%
(t-value)	0.86	1.67	1.93	1.95	1.45	1.39
2013 Sub-Period of High Mergers and Acquisitions Activities						
Sorting Statistics	Quintile Portfolio					5-1 portfolio
	1 Low	2	3	4	5 High	5-1
Intercept	-0.66%**	-0.21%	0.01%	0.11%	0.12%	0.78%*
(t-value)	-2.54	-0.77	0.04	0.48	0.24	2.21
Average Daily Return	3.31%**	2.76%***	2.98%***	3.06%***	3.20%***	-0.10%
(t-value)	3	3.3	3.62	3.53	3.46	-0.25

Table 3-38 Portfolio Sorted by Exposure to Common Factor in Idiosyncratic Volatility estimated using 12 Months Window – Alphas are estimated using Fama and French (2015) Five-Factors Model

Following Herskovic et al (2016), we form equal-weighted quintile portfolios every month by sorting stocks based on their previous month exposure to the Common Idiosyncratic Volatility (CIV) Factor. We construct the exposure to CIV as per the following: for each month, we estimate a regression of daily individual stock returns on the CRSP value-weighted index: $r_{i,t} = \alpha_i + \beta_{MKT,i}(R_{m,t}) + \epsilon_t$. Next individual stocks monthly variances are estimated as the variance of the residuals resulting from the above model: $Idiosyncratic\_Variance_{i,t} = \sigma^2(\epsilon_t)$. Once individual variances are obtained, then an equal-weighted average of them is calculated for each month in our sample. This latter would serve as our Common Idiosyncratic Volatility (CIV) factor. Shocks to the CIV factors are obtained as the month-to-month difference between the previously constructed CIV values. We also construct the Market Variance (MV) factor by estimating the variance of the CRSP value-weighted index each month by relying on the daily observations within this month. Similar to CIV shocks, MV shocks are obtained as the first difference in the MV factor from one month to the other. Next, monthly stocks excess returns are regressed on CIV and MV shocks using a 12 months historical window and the corresponding CIV coefficient would serve as the exposure to the CIV factor. Portfolio 1(5) is the portfolio of stocks with the lower (highest) CIV exposures. Once portfolios are formed, monthly portfolio returns are obtained and regressed against the Fama and French (2015) monthly factors. The table reports the Fama and French (2015) Five-Factor Alpha as well as the Average Monthly Return with the t-statistics underneath. Column (5-1) reports the corresponding parameters estimated by regressing the difference in monthly returns of the fifth quintile and the first quintile (the zero investment portfolio). Our sample spans from August 1963 and till December 2013. Consistent with previous literature, we have removed from our sample all CRSP stocks whose code is not equal to 10, 11, and 12. The same methodology is followed when constructing the CIV Factor using the Fama and French (1993) three-factor model and the Fama and French (2015) five-factors model However, instead of using the single factor market model above we use: $r_{i,t} - R_{f,t} = \alpha_i + \beta_{MKT,i}(R_{m,t} - R_{f,t}) + \beta_{SMB,i}SMB_t + \beta_{HML,i}HML_t + \epsilon_t$ and $r_{i,t} - R_{f,t} = \alpha_i + \beta_{MKT,i}(R_{m,t} - R_{f,t}) + \beta_{SMB,i}SMB_t + \beta_{HML,i}HML_t + \beta_{RMW,i}RMW_t + \beta_{CMA,i}CMA_t + \epsilon_t$ respectively in estimating our stocks' idiosyncratic volatility and instead of estimating the market variance (MV) for the single CRSP Value-weighted Index, we estimate the variance of the three-factors and five-factors included in our models. We divide our sample into two sub-periods: high Mergers and Acquisitions (M&A) activities and low Merger and Acquisitions (M&A) activities. The high M&A activity periods span: 1960-1972, 1982-1989, 1993-2000, 2004-2007, and 2013. The low M&A activity periods span: 1973-1981, 1990-1992, 2001-2003, 2008-2012. The *,**,*** represent significance at 1%, 5%, and 10% respectively. Robust white's t-stat is reported for the alphas.

1973-1981 Sub-Period of Low Mergers and Acquisitions Activities						
Sorting Statistics	Quintile Portfolio					5-1 portfolio
	1 Low	2	3	4	5 High	5-1
Intercept	0.11%	0.19%	0.10%	0.06%	-0.05%	-0.83%***
(t-value)	0.59	1.44	1.04	0.66	-0.38	-3.39
Average Daily Return	1.78%**	1.56%**	1.44%**	1.37%**	1.29%*	-0.48%
(t-value)	2.32	2.47	2.37	2.16	1.74	-1.4
1990-1992 Sub-Period of Low Mergers and Acquisitions Activities						
Sorting Statistics	Quintile Portfolio					5-1 portfolio
	1 Low	2	3	4	5 High	5-1
Intercept	0.88%**	0.51%**	0.23%	0.17%	0.15%	-1.20%***
(t-value)	2.13	2.46	1.33	1.29	0.5	-3.1
Average Daily Return	1.91%	1.49%	1.22%	1.17%	1.19%	-0.72%
(t-value)	1.53	1.66	1.59	1.5	1.13	-1.37
2001-2003 Sub-Period of Low Mergers and Acquisitions Activities						
Sorting Statistics	Quintile Portfolio					5-1 portfolio
	1 Low	2	3	4	5 High	5-1
Intercept	2.33%	1.09%*	1.22%***	1.53%***	2.51%***	0.00%
(t-value)	1.5	1.75	3.45	5.35	5.48	0
Average Daily Return	2.81%	2.14%*	2.20%**	2.11%**	2.29%	-0.52%
(t-value)	1.39	1.85	2.39	2.06	1.34	-0.42
2008-2012 Sub-Period of Low Mergers and Acquisitions Activities						
Sorting Statistics	Quintile Portfolio					5-1 portfolio
	1 Low	2	3	4	5 High	5-1
Intercept	1.20%**	0.74%**	0.39%**	0.39%*	0.41%	-0.81%**
(t-value)	2.35	2.44	2.53	1.83	1.01	-2.05
Average Daily Return	1.11%	0.81%	0.62%	0.63%	0.47%	-0.64%
(t-value)	0.97	0.9	0.74	0.69	0.42	-1.64

3.14 Appendix E

Table 3-39 Portfolio Sorted by Exposure to Common Factor in Idiosyncratic Volatility estimated using 12 Months Window with No Estimation Overlap – Alphas are estimated using Fama and French (1993) Three-Factors Model

Following Herskovic et al (2016), we form equal-weighted quintile portfolios every month by sorting stocks based on their previous month exposure to the Common Idiosyncratic Volatility (CIV) Factor. We construct the exposure to CIV as per the following: for each month, we estimate a regression of daily individual stock returns on the CRSP value-weighted index: $r_{i,t} = \alpha_i + \beta_{MKT,i}(R_{m,t}) + \epsilon_t$. Next individual stocks monthly variances are estimated as the variance of the residuals resulting from the above model: $Idiosyncratic\_Variance_{i,t} = \sigma^2(\epsilon_t)$. Once individual variances are obtained, then an equal-weighted average of them is calculated for each month in our sample. This latter would serve as our Common Idiosyncratic Volatility (CIV) factor. Shocks to the CIV factors are obtained as the month-to-month difference between the previously constructed CIV values. We also construct the Market Variance (MV) factor by estimating the variance of the CRSP value-weighted index each month by relying on the daily observations within this month. Similar to CIV shocks, MV shocks are obtained as the first difference in the MV factor from one month to the other. Next, monthly stocks excess returns are regressed on CIV and MV shocks using a 12 months historical window and the corresponding CIV coefficient would serve as the exposure to the CIV factor. Portfolio 1(5) is the portfolio of stocks with the lower (highest) CIV exposures. Once portfolios are formed, monthly portfolio returns are obtained and regressed against the Fama and French (1993) monthly factors. The table reports the Fama and French (1993) Three-Factor Alpha as well as the Average Monthly Return with the t-statistics underneath. Column (5-1) reports the corresponding parameters estimated by regressing the difference in monthly returns of the fifth quintile and the first quintile (the zero investment portfolio). Our sample spans from August 1963 and till December 2013. Consistent with previous literature, we have removed from our sample all CRSP stocks whose code is not equal to 10, 11, and 12. The same methodology is followed when constructing the CIV Factor using the Fama and French (1993) three-factor model and the Fama and French (2015) five-factors model However, instead of using the single factor market model above we use: $r_{i,t} - R_{f,t} = \alpha_i + \beta_{MKT,i}(R_{m,t} - R_{f,t}) + \beta_{SMB,i}SMB_t + \beta_{HML,i}HML_t + \epsilon_t$ and $r_{i,t} - R_{f,t} = \alpha_i + \beta_{MKT,i}(R_{m,t} - R_{f,t}) + \beta_{SMB,i}SMB_t + \beta_{HML,i}HML_t + \beta_{RMW,i}RMW_t + \beta_{CMA,i}CMA_t + \epsilon_t$ respectively in estimating our stocks' idiosyncratic volatility and instead of estimating the market variance (MV) for the single CRSP Value-weighted Index, we estimate the Variance of the three-factors and five-factors included in our models. We divide our sample into two sub-periods: high Mergers and Acquisitions (M&A) activities and low Merger and Acquisitions (M&A) activities. The high M&A activity periods span: 1960-1972, 1982-1989, 1993-2000, 2004-2007, and 2013. The low M&A activity periods span: 1973-1981, 1990-1992, 2001-2003, 2008-2012. We have deleted the first year on ever sub-period as the CIV exposure estimation would contain monthly observations from the previous sub-period. The *,**,*** represent significance at 1%, 5%, and 10% respectively. Robust white's t-stat is reported for the alphas.

Period of High Mergers and Acquisitions Activities						
Sorting Statistics	Quintile Portfolio					5-1 portfolio
	1 Low	2	3	4	5 High	5-1
Intercept	-0.16%	-0.05%	-0.04%	-0.13%	-0.32%**	-0.61%***
(t-value)	-1.06	-0.58	-0.53	-1.59	-2.57	-4.36
Average Daily Return	1.02%***	1.13%***	1.14%***	1.08%***	0.85%**	-0.17%
(t-value)	2.89	4.21	4.39	3.76	2.21	-1.11
Period of Low Mergers and Acquisitions Activities						
Sorting Statistics	Quintile Portfolio					5-1 portfolio
	1 Low	2	3	4	5 High	5-1
Intercept	0.38%*	0.44%***	0.34%***	0.32%***	0.13%	-0.66%***
(t-value)	1.71	3.24	3.7	3.43	0.71	-3.11
Average Daily Return	2.60%***	2.21%***	2.03%***	2.02%***	2.14%***	-0.46%*
(t-value)	4.6	5.11	5.01	4.74	3.86	-1.78

Table 3-40 Portfolio Sorted by Exposure to Common Factor in Idiosyncratic Volatility estimated using 12 Months Window with No Estimation Overlap – Alphas are estimated using Fama and French (2015) Five-Factors Model

Following Herskovic et al (2016), we form equal-weighted quintile portfolios every month by sorting stocks based on their previous month exposure to the Common Idiosyncratic Volatility (CIV) Factor. We construct the exposure to CIV as per the following: for each month, we estimate a regression of daily individual stock returns on the CRSP value-weighted index: $r_{i,t} = \alpha_i + \beta_{MKT,i}(R_{m,t}) + \epsilon_t$. Next individual stocks monthly variances are estimated as the variance of the residuals resulting from the above model: $Idiosyncratic\_Variance_{i,t} = \sigma^2(\epsilon_t)$. Once individual variances are obtained, then an equal-weighted average of them is calculated for each month in our sample. This latter would serve as our Common Idiosyncratic Volatility (CIV) factor. Shocks to the CIV factors are obtained as the month-to-month difference between the previously constructed CIV values. We also construct the Market Variance (MV) factor by estimating the variance of the CRSP value-weighted index each month by relying on the daily observations within this month. Similar to CIV shocks, MV shocks are obtained as the first difference in the MV factor from one month to the other. Next, monthly stocks excess returns are regressed on CIV and MV shocks using a 12 months historical window and the corresponding CIV coefficient would serve as the exposure to the CIV factor. Portfolio 1(5) is the portfolio of stocks with the lower (highest) CIV exposures. Once portfolios are formed, monthly portfolio returns are obtained and regressed against the Fama and French (2015) monthly factors. The table reports the Fama and French (2015) Five-Factor Alpha as well as the Average Monthly Return with the t-statistics underneath. Column (5-1) reports the corresponding parameters estimated by regressing the difference in monthly returns of the fifth quintile and the first quintile (the zero investment portfolio). Our sample spans from August 1963 and till December 2013. Consistent with previous literature, we have removed from our sample all CRSP stocks whose code is not equal to 10, 11, and 12. The same methodology is followed when constructing the CIV Factor using the Fama and French (1993) three-factor model and the Fama and French (2015) five-factors model However, instead of using the single factor market model above we use: $r_{i,t} - R_{f,t} = \alpha_i + \beta_{MKT,i}(R_{m,t} - R_{f,t}) + \beta_{SMB,i}SMB_t + \beta_{HML,i}HML_t + \epsilon_t$ and $r_{i,t} - R_{f,t} = \alpha_i + \beta_{MKT,i}(R_{m,t} - R_{f,t}) + \beta_{SMB,i}SMB_t + \beta_{HML,i}HML_t + \beta_{RMW,i}RMW_t + \beta_{CMA,i}CMA_t + \epsilon_t$ respectively in estimating our stocks' idiosyncratic volatility and instead of estimating the market variance (MV) for the single CRSP Value-weighted Index, we estimate the variance of the three-factors and five-factors included in our models. We divide our sample into two sub-periods: high Mergers and Acquisitions (M&A) activities and low Merger and Acquisitions (M&A) activities. The high M&A activity periods span: 1960-1972, 1982-1989, 1993-2000, 2004-2007, and 2013. The low M&A activity periods span: 1973-1981, 1990-1992, 2001-2003, 2008-2012. We have deleted the first year on ever sub-period as the CIV exposure estimation would contain monthly observations from the previous sub-period. The *,**,*** represent significance at 1%, 5%, and 10% respectively. Robust white's t-stat is reported for the alphas.

Period of High Mergers and Acquisitions Activities						
Sorting Statistics	Quintile Portfolio					5-1 portfolio
	1 Low	2	3	4	5 High	5-1
Intercept	-0.04%	-0.06%	-0.05%	-0.07%	-0.06%	-0.47%***
(t-value)	-0.24	-0.67	-0.68	-0.89	-0.55	-3.38
Average Daily Return	1.02%***	1.13%***	1.14%***	1.08%***	0.85%**	-0.17%
(t-value)	2.89	4.21	4.39	3.76	2.21	-1.11
Period of Low Mergers and Acquisitions Activities						
Sorting Statistics	Quintile Portfolio					5-1 portfolio
	1 Low	2	3	4	5 High	5-1
Intercept	0.62%**	0.54%***	0.41%***	0.41%***	0.44%**	-0.60%**
(t-value)	2.53	3.35	4.21	4.39	2.36	-2.45
Average Daily Return	2.60%***	2.21%***	2.03%***	2.02%***	2.14%***	-0.46%*
(t-value)	4.6	5.11	5.01	4.74	3.86	-1.78

Table 3-41 Portfolio Sorted by Exposure to Common Factor in Idiosyncratic Volatility estimated using 12 Months Window with No Estimation Overlap – Alphas are estimated using Fama and French (1993) Three-Factors Model

Following Herskovic et al (2016), we form equal-weighted quintile portfolios every month by sorting stocks based on their previous month exposure to the Common Idiosyncratic Volatility (CIV) Factor. We construct the exposure to CIV as per the following: for each month, we estimate a regression of daily individual stock returns on the CRSP value-weighted index: $r_{i,t} = \alpha_i + \beta_{MKT,i}(R_{m,t}) + \epsilon_t$. Next individual stocks monthly variances are estimated as the variance of the residuals resulting from the above model: $Idiosyncratic\_Variance_{i,t} = \sigma^2(\epsilon_t)$. Once individual variances are obtained, then an equal-weighted average of them is calculated for each month in our sample. This latter would serve as our Common Idiosyncratic Volatility (CIV) factor. Shocks to the CIV factors are obtained as the month-to-month difference between the previously constructed CIV values. We also construct the Market Variance (MV) factor by estimating the variance of the CRSP value-weighted index each month by relying on the daily observations within this month. Similar to CIV shocks, MV shocks are obtained as the first difference in the MV factor from one month to the other. Next, monthly stocks excess returns are regressed on CIV and MV shocks using a 12 months historical window and the corresponding CIV coefficient would serve as the exposure to the CIV factor. Portfolio 1(5) is the portfolio of stocks with the lower (highest) CIV exposures. Once portfolios are formed, monthly portfolio returns are obtained and regressed against the Fama and French (1993) monthly factors. The table reports the Fama and French (1993) Three-Factor Alpha as well as the Average Monthly Return with the t-statistics underneath. Column (5-1) reports the corresponding parameters estimated by regressing the difference in monthly returns of the fifth quintile and the first quintile (the zero investment portfolio). Our sample spans from August 1963 and till December 2013. Consistent with previous literature, we have removed from our sample all CRSP stocks whose code is not equal to 10, 11, and 12. The same methodology is followed when constructing the CIV Factor using the Fama and French (1993) three-factor model and the Fama and French (2015) five-factors model However, instead of using the single factor market model above we use: $r_{i,t} - R_{f,t} = \alpha_i + \beta_{MKT,i}(R_{m,t} - R_{f,t}) + \beta_{SMB,i}SMB_t + \beta_{HML,i}HML_t + \epsilon_t$ and $r_{i,t} - R_{f,t} = \alpha_i + \beta_{MKT,i}(R_{m,t} - R_{f,t}) + \beta_{SMB,i}SMB_t + \beta_{HML,i}HML_t + \beta_{RMW,i}RMW_t + \beta_{CMA,i}CMA_t + \epsilon_t$ respectively in estimating our stocks' idiosyncratic volatility and instead of estimating the market variance (MV) for the single CRSP Value-weighted Index, we estimate the Variance of the three-factors and five-factors included in our models. We divide our sample into two sub-periods: high Mergers and Acquisitions (M&A) activities and low Merger and Acquisitions (M&A) activities. The high M&A activity periods span: 1960-1972, 1982-1989, 1993-2000, 2004-2007, and 2013. The low M&A activity periods span: 1973-1981, 1990-1992, 2001-2003, 2008-2012. We have deleted the first year on ever sub-period as the CIV exposure estimation would contain monthly observations from the previous sub-period. The *,**,*** represent significance at 1%, 5%, and 10% respectively. Robust white's t-stat is reported for the alphas.

1961-1972 Sub-Period of High Mergers and Acquisitions Activities						
Sorting Statistics	Quintile Portfolio					5-1 portfolio
	1 Low	2	3	4	5 High	5-1
Intercept	0.11%	0.14%*	0.10%	-0.07%	-0.47%***	-0.98%***
(t-value)	0.93	1.84	1.35	-0.76	-3.29	-4.85
Average Daily Return	1.41%**	1.25%**	1.22%**	1.15%*	1.00%	-0.42%
(t-value)	2.33	2.49	2.33	1.96	1.36	-1.56
1983-1989 Sub-Period of High Mergers and Acquisitions Activities						
Sorting Statistics	Quintile Portfolio					5-1 portfolio
	1 Low	2	3	4	5 High	5-1
Intercept	-0.57%**	-0.11%	0.03%	-0.09%	-0.61%**	-0.65%***
(t-value)	-2.24	-0.87	0.25	-0.68	-2.44	-2.67
Average Daily Return	0.78%	1.18%**	1.31%**	1.16%**	0.60%	-0.18%
(t-value)	1.2	2.16	2.51	2.11	0.95	-0.81
1994-2000 Sub-Period of High Mergers and Acquisitions Activities						
Sorting Statistics	Quintile Portfolio					5-1 portfolio
	1 Low	2	3	4	5 High	5-1
Intercept	-0.02%	-0.08%	-0.08%	-0.12%	-0.14%	-0.53%
(t-value)	-0.05	-0.3	-0.46	-0.67	-0.46	-1.58
Average Daily Return	1.14%	1.17%**	1.13%***	1.11%**	1.02%	-0.11%
(t-value)	1.51	2.48	2.67	2.27	1.22	-0.32
2005-2007 Sub-Period of High Mergers and Acquisitions Activities						
Sorting Statistics	Quintile Portfolio					5-1 portfolio
	1 Low	2	3	4	5 High	5-1
Intercept	-0.46%	-0.03%	-0.06%	-0.01%	0.01%	0.12%
(t-value)	-1.63	-0.25	-0.49	-0.04	0.02	0.56
Average Daily Return	0.17%	0.54%	0.53%	0.61%	0.63%	0.46%*
(t-value)	0.22	0.95	1.09	1.21	0.97	1.76

Table 3-42 Portfolio Sorted by Exposure to Common Factor in Idiosyncratic Volatility estimated using 12 Months Window with No Estimation Overlap – Alphas are estimated using Fama and French (1993) Three-Factors Model

Following Herskovic et al (2016), we form equal-weighted quintile portfolios every month by sorting stocks based on their previous month exposure to the Common Idiosyncratic Volatility (CIV) Factor. We construct the exposure to CIV as per the following: for each month, we estimate a regression of daily individual stock returns on the CRSP value-weighted index: $r_{i,t} = \alpha_i + \beta_{MKT,i}(R_{m,t}) + \epsilon_t$. Next individual stocks monthly variances are estimated as the variance of the residuals resulting from the above model: $Idiosyncratic\_Variance_{i,t} = \sigma^2(\epsilon_t)$. Once individual variances are obtained, then an equal-weighted average of them is calculated for each month in our sample. This latter would serve as our Common Idiosyncratic Volatility (CIV) factor. Shocks to the CIV factors are obtained as the month-to-month difference between the previously constructed CIV values. We also construct the Market Variance (MV) factor by estimating the variance of the CRSP value-weighted index each month by relying on the daily observations within this month. Similar to CIV shocks, MV shocks are obtained as the first difference in the MV factor from one month to the other. Next, monthly stocks excess returns are regressed on CIV and MV shocks using a 12 months historical window and the corresponding CIV coefficient would serve as the exposure to the CIV factor. Portfolio 1(5) is the portfolio of stocks with the lower (highest) CIV exposures. Once portfolios are formed, monthly portfolio returns are obtained and regressed against the Fama and French (1993) monthly factors. The table reports the Fama and French (1993) Three-Factor Alpha as well as the Average Monthly Return with the t-statistics underneath. Column (5-1) reports the corresponding parameters estimated by regressing the difference in monthly returns of the fifth quintile and the first quintile (the zero investment portfolio). Our sample spans from August 1963 and till December 2013. Consistent with previous literature, we have removed from our sample all CRSP stocks whose code is not equal to 10, 11, and 12. The same methodology is followed when constructing the CIV Factor using the Fama and French (1993) three-factor model and the Fama and French (2015) five-factors model However, instead of using the single factor market model above we use: $r_{i,t} - R_{f,t} = \alpha_i + \beta_{MKT,i}(R_{m,t} - R_{f,t}) + \beta_{SMB,i}SMB_t + \beta_{HML,i}HML_t + \epsilon_t$ and $r_{i,t} - R_{f,t} = \alpha_i + \beta_{MKT,i}(R_{m,t} - R_{f,t}) + \beta_{SMB,i}SMB_t + \beta_{HML,i}HML_t + \beta_{RMW,i}RMW_t + \beta_{CMA,i}CMA_t + \epsilon_t$ respectively in estimating our stocks' idiosyncratic volatility and instead of estimating the market variance (MV) for the single CRSP Value-weighted Index, we estimate the Variance of the three-factors and five-factors included in our models. We divide our sample into two sub-periods: high Mergers and Acquisitions (M&A) activities and low Merger and Acquisitions (M&A) activities. The high M&A activity periods span: 1960-1972, 1982-1989, 1993-2000, 2004-2007, and 2013. The low M&A activity periods span: 1973-1981, 1990-1992, 2001-2003, 2008-2012. We have deleted the first year on ever sub-period as the CIV exposure estimation would contain monthly observations from the previous sub-period. The *,**,*** represent significance at 1%, 5%, and 10% respectively. Robust white's t-stat is reported for the alphas.

1974-1981 Sub-Period of Low Mergers and Acquisitions Activities						
Sorting Statistics	Quintile Portfolio					5-1 portfolio
	1 Low	2	3	4	5 High	5-1
Intercept	0.02%	0.14%	0.09%	0.09%	-0.06%	-0.76%***
(t-value)	0.07	0.89	0.81	1.06	-0.38	-2.96
Average Daily Return	2.40%***	2.09%***	1.97%***	1.92%***	1.95%***	-0.45%
(t-value)	3.01	3.21	3.19	3.04	2.64	-1.22
1991-1992 Sub-Period of Low Mergers and Acquisitions Activities						
Sorting Statistics	Quintile Portfolio					5-1 portfolio
	1 Low	2	3	4	5 High	5-1
Intercept	0.10%	0.57%	0.46%*	0.24%*	-0.16%	-0.62%
(t-value)	0.17	1.48	1.73	1.73	-0.45	-1.36
Average Daily Return	3.94%**	3.28%***	2.73%***	2.60%***	2.88%**	-1.07%
(t-value)	2.46	3.37	3.44	3.32	2.4	-1.5
2002-2003 Sub-Period of Low Mergers and Acquisitions Activities						
Sorting Statistics	Quintile Portfolio					5-1 portfolio
	1 Low	2	3	4	5 High	5-1
Intercept	0.60%	0.62%***	1.03%***	1.08%***	1.43%*	0.72%
(t-value)	1.29	2.97	4.91	3.9	1.77	1.14
Average Daily Return	2.00%	1.81%	2.13%*	2.14%*	2.76%	0.76%
(t-value)	1.26	1.64	2.06	1.76	1.32	0.86
2009-2012 Sub-Period of Low Mergers and Acquisitions Activities						
Sorting Statistics	Quintile Portfolio					5-1 portfolio
	1 Low	2	3	4	5 High	5-1
Intercept	0.81%	0.59%**	0.33%**	0.36%*	0.12%	-0.69%
(t-value)	1.62	2.25	2.12	1.86	0.31	-1.65
Average Daily Return	2.63%**	2.10%**	1.76%**	1.86%**	1.86%	-0.77%**
(t-value)	2.25	2.37	2.09	2.06	1.59	-1.85

Table 3-43 Portfolio Sorted by Exposure to Common Factor in Idiosyncratic Volatility estimated using 12 Months Window with No Estimation Overlap – Alphas are estimated using Fama and French (2015) Five-Factors Model

Following Herskovic et al (2016), we form equal-weighted quintile portfolios every month by sorting stocks based on their previous month exposure to the Common Idiosyncratic Volatility (CIV) Factor. We construct the exposure to CIV as per the following: for each month, we estimate a regression of daily individual stock returns on the CRSP value-weighted index: $r_{i,t} = \alpha_i + \beta_{MKT,i}(R_{m,t}) + \epsilon_t$. Next individual stocks monthly variances are estimated as the variance of the residuals resulting from the above model: $Idiosyncratic\_Variance_{i,t} = \sigma^2(\epsilon_t)$. Once individual variances are obtained, then an equal-weighted average of them is calculated for each month in our sample. This latter would serve as our Common Idiosyncratic Volatility (CIV) factor. Shocks to the CIV factors are obtained as the month-to-month difference between the previously constructed CIV values. We also construct the Market Variance (MV) factor by estimating the variance of the CRSP value-weighted index each month by relying on the daily observations within this month. Similar to CIV shocks, MV shocks are obtained as the first difference in the MV factor from one month to the other. Next, monthly stocks excess returns are regressed on CIV and MV shocks using a 12 months historical window and the corresponding CIV coefficient would serve as the exposure to the CIV factor. Portfolio 1(5) is the portfolio of stocks with the lower (highest) CIV exposures. Once portfolios are formed, monthly portfolio returns are obtained and regressed against the Fama and French (1993) monthly factors. The table reports the Fama and French (2015) Five-Factor Alpha as well as the Average Monthly Return with the t-statistics underneath. Column (5-1) reports the corresponding parameters estimated by regressing the difference in monthly returns of the fifth quintile and the first quintile (the zero investment portfolio). Our sample spans from August 1963 and till December 2013. Consistent with previous literature, we have removed from our sample all CRSP stocks whose code is not equal to 10, 11, and 12. The same methodology is followed when constructing the CIV Factor using the Fama and French (1993) three-factor model and the Fama and French (2015) five-factors model However, instead of using the single factor market model above we use: $r_{i,t} - R_{f,t} = \alpha_i + \beta_{MKT,i}(R_{m,t} - R_{f,t}) + \beta_{SMB,i}SMB_t + \beta_{HML,i}HML_t + \epsilon_t$ and $r_{i,t} - R_{f,t} = \alpha_i + \beta_{MKT,i}(R_{m,t} - R_{f,t}) + \beta_{SMB,i}SMB_t + \beta_{HML,i}HML_t + \beta_{RMW,i}RMW_t + \beta_{CMA,i}CMA_t + \epsilon_t$ respectively in estimating our stocks' idiosyncratic volatility and instead of estimating the market variance (MV) for the single CRSP Value-weighted Index, we estimate the Variance of the three-factors and five-factors included in our models. We divide our sample into two sub-periods: high Mergers and Acquisitions (M&A) activities and low Merger and Acquisitions (M&A) activities. The high M&A activity periods span: 1960-1972, 1982-1989, 1993-2000, 2004-2007, and 2013. The low M&A activity periods span: 1973-1981, 1990-1992, 2001-2003, 2008-2012. We have deleted the first year on ever sub-period as the CIV exposure estimation would contain monthly observations from the previous sub-period. The *,**,*** represent significance at 1%, 5%, and 10% respectively. Robust white's t-stat is reported for the alphas.

1961-1972 Sub-Period of High Mergers and Acquisitions Activities						
Sorting Statistics	Quintile Portfolio					5-1 portfolio
	1 Low	2	3	4	5 High	5-1
Intercept	0.12%	0.16%*	0.16%**	0.01%	-0.32%**	-0.83%***
(t-value)	0.95	1.91	2.03	0.09	-2.42	-4.36
Average Daily Return	1.41%**	1.25%**	1.22%**	1.15%*	1.00%	-0.42%
(t-value)	2.33	2.49	2.33	1.96	1.36	-1.56
1983-1989 Sub-Period of High Mergers and Acquisitions Activities						
Sorting Statistics	Quintile Portfolio					5-1 portfolio
	1 Low	2	3	4	5 High	5-1
Intercept	-0.12%	0.05%	0.14%	0.08%	-0.34%	-0.82%***
(t-value)	-0.4	0.33	0.98	0.56	-1.32	-3.55
Average Daily Return	0.78%	1.18%**	1.31%**	1.16%**	0.60%	-0.18%
(t-value)	1.2	2.16	2.51	2.11	0.95	-0.81
1994-2000 Sub-Period of High Mergers and Acquisitions Activities						
Sorting Statistics	Quintile Portfolio					5-1 portfolio
	1 Low	2	3	4	5 High	5-1
Intercept	0.13%	0.06%	0.06%	0.13%	0.31%	-0.23%
(t-value)	0.28	0.26	0.32	0.8	1.15	-0.68
Average Daily Return	1.14%	1.17%**	1.13%***	1.11%**	1.02%	-0.11%
(t-value)	1.51	2.48	2.67	2.27	1.22	-0.32
2005-2007 Sub-Period of High Mergers and Acquisitions Activities						
Sorting Statistics	Quintile Portfolio					5-1 portfolio
	1 Low	2	3	4	5 High	5-1
Intercept	-0.47%*	-0.03%	-0.04%	-0.01%	0.00%	0.13%
(t-value)	-1.76	-0.33	-0.35	-0.1	0.01	0.52
Average Daily Return	0.17%	0.54%	0.53%	0.61%	0.63%	0.46%*
(t-value)	0.22	0.95	1.09	1.21	0.97	1.76

Table 3-44 Portfolio Sorted by Exposure to Common Factor in Idiosyncratic Volatility estimated using 12 Months Window with No Estimation Overlap – Alphas are estimated using Fama and French (2015) Five-Factors Model

Following Herskovic et al (2016), we form equal-weighted quintile portfolios every month by sorting stocks based on their previous month exposure to the Common Idiosyncratic Volatility (CIV) Factor. We construct the exposure to CIV as per the following: for each month, we estimate a regression of daily individual stock returns on the CRSP value-weighted index: $r_{i,t} = \alpha_i + \beta_{MKT,i}(R_{m,t}) + \epsilon_t$. Next individual stocks monthly variances are estimated as the variance of the residuals resulting from the above model: $Idiosyncratic\_Variance_{i,t} = \sigma^2(\epsilon_t)$. Once individual variances are obtained, then an equal-weighted average of them is calculated for each month in our sample. This latter would serve as our Common Idiosyncratic Volatility (CIV) factor. Shocks to the CIV factors are obtained as the month-to-month difference between the previously constructed CIV values. We also construct the Market Variance (MV) factor by estimating the variance of the CRSP value-weighted index each month by relying on the daily observations within this month. Similar to CIV shocks, MV shocks are obtained as the first difference in the MV factor from one month to the other. Next, monthly stocks excess returns are regressed on CIV and MV shocks using a 12 months historical window and the corresponding CIV coefficient would serve as the exposure to the CIV factor. Portfolio 1(5) is the portfolio of stocks with the lower (highest) CIV exposures. Once portfolios are formed, monthly portfolio returns are obtained and regressed against the Fama and French (2015) monthly factors. The table reports the Fama and French (2015) Five-Factor Alpha as well as the Average Monthly Return with the t-statistics underneath. Column (5-1) reports the corresponding parameters estimated by regressing the difference in monthly returns of the fifth quintile and the first quintile (the zero investment portfolio). Our sample spans from August 1963 and till December 2013. Consistent with previous literature, we have removed from our sample all CRSP stocks whose code is not equal to 10, 11, and 12. The same methodology is followed when constructing the CIV Factor using the Fama and French (1993) three-factor model and the Fama and French (2015) five-factors model However, instead of using the single factor market model above we use: $r_{i,t} - R_{f,t} = \alpha_i + \beta_{MKT,i}(R_{m,t} - R_{f,t}) + \beta_{SMB,i}SMB_t + \beta_{HML,i}HML_t + \epsilon_t$ and $r_{i,t} - R_{f,t} = \alpha_i + \beta_{MKT,i}(R_{m,t} - R_{f,t}) + \beta_{SMB,i}SMB_t + \beta_{HML,i}HML_t + \beta_{RMW,i}RMW_t + \beta_{CMA,i}CMA_t + \epsilon_t$ respectively in estimating our stocks' idiosyncratic volatility and instead of estimating the market variance (MV) for the single CRSP Value-weighted Index, we estimate the variance of the three-factors and five-factors included in our models. We divide our sample into two sub-periods: high Mergers and Acquisitions (M&A) activities and low Merger and Acquisitions (M&A) activities. The high M&A activity periods span: 1960-1972, 1982-1989, 1993-2000, 2004-2007, and 2013. The low M&A activity periods span: 1973-1981, 1990-1992, 2001-2003, 2008-2012. We have deleted the first year on ever sub-period as the CIV exposure estimation would contain monthly observations from the previous sub-period. The *,**,*** represent significance at 1%, 5%, and 10% respectively. Robust white's t-stat is reported for the alphas.

1974-1981 Sub-Period of Low Mergers and Acquisitions Activities						
Sorting Statistics	Quintile Portfolio					5-1 portfolio
	1 Low	2	3	4	5 High	5-1
Intercept	0.11%	0.26%	0.17%	0.08%	-0.12%	-0.92%***
(t-value)	0.46	1.57	1.53	1.04	-0.95	-3.6
Average Daily Return	2.40%***	2.09%***	1.97%***	1.92%***	1.95%***	-0.45%
(t-value)	3.01	3.21	3.19	3.04	2.64	-1.22
1991-1992 Sub-Period of Low Mergers and Acquisitions Activities						
Sorting Statistics	Quintile Portfolio					5-1 portfolio
	1 Low	2	3	4	5 High	5-1
Intercept	0.14%	0.76%**	0.46%	0.25%	-0.11%	-0.62%
(t-value)	0.25	2.13	1.6	1.68	-0.25	-1.12
Average Daily Return	3.94%**	3.28%***	2.73%***	2.60%***	2.88%**	-1.07%
(t-value)	2.46	3.37	3.44	3.32	2.4	-1.5
2002-2003 Sub-Period of Low Mergers and Acquisitions Activities						
Sorting Statistics	Quintile Portfolio					5-1 portfolio
	1 Low	2	3	4	5 High	5-1
Intercept	0.51%	0.38%	1.00%***	1.55%***	2.70%***	2.08%***
(t-value)	1.04	1.47	4.8	7.82	5.46	4.87
Average Daily Return	2.00%	1.81%	2.13%*	2.14%*	2.76%	0.76%
(t-value)	1.26	1.64	2.06	1.76	1.32	0.86
2009-2012 Sub-Period of Low Mergers and Acquisitions Activities						
Sorting Statistics	Quintile Portfolio					5-1 portfolio
	1 Low	2	3	4	5 High	5-1
Intercept	1.32%**	0.87%***	0.57%***	0.65%***	0.75%	-0.58%
(t-value)	2.62	2.89	3.54	2.83	1.67	-1.46
Average Daily Return	2.63%**	2.10%**	1.76%**	1.86%**	1.86%	-0.77%**
(t-value)	2.25	2.37	2.09	2.06	1.59	-1.85

4 CHAPTER FOUR

The Effect of Investors' Sentiment on Mergers and Acquisitions

4.1 Introduction

Mergers and acquisitions have been studied extensively in the finance literature. Related work dates back to the early twentieth century and covers a wide range of topics spanning from synergy estimation to premium paid, to the relationship between runup and markup, to the stock reaction around the announcement day, to the choice of the medium of exchange, and to the motivation behind mergers and acquisitions[23].

In contrast, there is a relatively new literature examining financial market anomalies in the context of simple human behavior – the behavioral finance literature. Behavioral finance relies on psychology to explain financial anomalies such as the home bias, overconfidence (leading to possible overreaction / underreaction in security prices), optimism, and prospect theory.

In this paper, we link behavioral finance to merger and acquisition activities. We investigate how investor sentiment affects different merger and acquisition characteristics. First, we show that periods of higher market sentiment are associated with more stock and mixed acquisitions than cash-only acquisitions. Baker and Wurgler (2012) discuss the presence of market-wide overpricing in periods of high market sentiment. It appears that bidder firm management attempt to capitalize on their stock overpricing when making acquisitions in high sentiment periods.

The market also reacts differently to a deal announcement observed in periods of higher market sentiment compared to periods of lower market sentiment. We observe lower bidder announcement returns in higher sentiment periods in stock and mixed offers. The literature regarding the bidder stock reaction at announcement generally finds that bidder abnormal returns are negative and significant for stock and mixed offers and positive or at least insignificant for cash offers. The negative reaction to the non-cash acquisition can be considered within the context of a signaling hypotheis: when bidder stock price is likely to be overvalued, opting for a stock or mixed offer will signal the market about this possible overvaluation, and the market will

[23] For example see Roll (1986), Bradly, Desai, and Kim (1988), Franks, Harris, and Titman (1991), Schwert (1996), Shleifer and Vishny (2003), Moeller and Schlingemann (2005)

react accordingly, and a negative performance announcement effect is observed. Overpricing is more pronounced in periods of high sentiment; consequently, our findings that lower bidder announcement returns are observed in higher sentiment periods can be consistent with this signalling hypothesis.

Building on the possible overpricing in high sentiment periods and the signalling implications of the choice of the medium of exchange, we check the effect of sentiment on target bargaining power and perceived synergy. Our results show that target bargaining power increases with the sentiment – a result that is more significant for stock or mixed offers. It appears that in periods of higher market sentiment, target management is also affected by the level of optimism in the market and have an optimistic view of their value. This optimism coupled with the high market valuations leads target firms to bargain for a better deal, especially if the method of payment, fully or partially, includes a possibly overpriced bidder stock. On the other hand, overvaluation may be the prime motive for a bidder firm's decision to undertake the acquisition. In such an environment where overpricing and optimism are pronounced, bidder firms that undertake cash-only acquisitions should see greater value creation. In line with this line of thought, we find that the market anticipates higher (lower) synergy in periods of higher sentiment for cash-only (stock or mixed) offer.

Finally, we show that target runups are usually higher in periods of high investor sentiment than in periods of low investor sentiment. However, this higher runup is not associated with higher premiums paid by bidder firms. This lack of association is puzzling and is at odds with Welch's (1996) markup pricing hypothesis that sees in the runup a direct cost to the bidder firm and therefore, suggests a higher premium in periods of higher market sentiment in line with the higher runup. It appears that in periods of high sentiment news about a possible acquisition is positively received by optimistic investors leading to a higher runup. However, bidder firm management appears to realize that this higher runup is not primarily due to an increase in the standalone target value and consequently do not offer a commensurate higher premium. Our results indicate that in periods of higher sentiment, the runup is higher than usual but bidder firms discount the runup when negotiating the deal with the target management. As such, our findings here are more consistent with deal anticipation and the subsequent substitution effect rather than with markup pricing.

Our results can be summarized as follows: In periods of high market sentiment overpricing is more pronounced and may be attributed to higher levels of investor overconfidence. These two phenomena (overconfidence and overpricing) have an effect on merger and acquisition activities. Consequently, in periods of high investor sentiment, we observe higher chances of a stock and or mixed acquisition, lower bidder announcement cumulative abnormal returns, higher target bargaining power, lower synergy when the offer is not a cash-only one, and a higher target runup. This higher runup is not associated with a higher premium, which suggests more substitution effects and less markup pricing effects in high sentiment periods relative to low sentiment periods.

The remainder of the paper proceeds as follows: Section 2 presents the literature review and the main hypothesis, section 3 summarizes the data and sample construction, section 4 presents our results, section 5 includes robustness tests and section 6 concludes.

4.2 Literature Review and Hypothesis Formation

4.2.1 Sentiment and the Stock Market

Within the financial markets, investor rationality is taken for granted. However, recent findings show that some financial anomalies cannot be fully explained within the context of rational behavior: some market participants make financial decision driven by emotional rather than rational motives.

Griffin and Tversky (1992) analyze human rationality while making financial decisions. They show that people form blurred judgements by focusing on the strength of the signal (good or bad) rather than the quality of the signal (the credibility of the signal's source). Griffin and Tversky (1992) summarize the core idea in "people focus on the strength or extremeness of the available evidence (e.g., the warmth of a letter or the size of an effect) with insufficient regards for its weight or credence (i.e., the credibility of the writer or the size of the sample). This mode of judgement yields overconfidence when strength is high and weight is low, and under-confidence when strength is low and weight is high" (Tversky, 1992: page 411). In line with the above interpretation, Barberis, Shleifer, and Vishny (1998) show that investors underreact to a sudden new piece of news (like earnings announcements) and overreact to a series of consecutive

negative or positive pieces of news. They interpret their finding that when a new news announcement is received by investors, they underreact or react slowly simply because the signal from the announcement is not strong enough. Whereas when there is a series of announcements, investors overreact because the series of negative or positive news gives a strong signal although this latter signal may have a low weight if we consider that the events may not be serially correlated. Within the same context of analyzing signal's strength versus quality, Daniel, Hirshleifer, and Subrahmanyam (1998) show that the investors better perceive private signal than public signals.

In their seminal work, Baker and Wurgler (2006; 2007) explain how aggregate market sentiment affects investor decisions: they show that hard to arbitrage stocks are usually more overpriced in periods of high market sentiment and more underpriced in periods of low market sentiment. The authors interpret their findings as follows: sentiment affects stocks in general and may drive the prices away from fundamentals. For the easier to arbitrage stocks, arbitrage activities would usually drive prices back to their proper levels. For harder to arbitrage stocks, those where arbitrage activity is at its lowest levels, mispricing persists. The authors identified the harder to arbitrage stocks as those stocks that are, "younger, smaller, more volatile, unprofitable, non-dividend paying, distressed, or with extreme growth potential" (Baker and Wurgler, 2007: 132). Baker, Wurgler and Yuan (2012) expanded on their earlier work to cover six major international markets and found similar behavior to the US markets: periods of high market sentiment are followed by relatively lower subsequent returns for hard-to-arbitrage stocks.

Several papers followed Baker and Wurgler (2006) in studying the effect of aggregate market sentiment on the stock markets. In a study on international markets, Schmeling (2009) shows that periods of higher market sentiment are associated with lower subsequent returns. This effect is stronger in countries where collective spirit rather than individualistic spirit reign. Yu and Yuan (2011) show that mean-variance relationship is violated in high sentiment periods. Hwang (2011) shows that Closed End Fund (CEF) discount is higher for the funds investing in less popular countries. They associated popularity with the Gallup Poll on Americans' Attitudes toward Other Countries. They also found out that US institutional investors tend to invest more than the retail investors in less popular countries – indicating that retail investors tend to be more affected by the sentiment. Stambaugh, Yu, and Yuan (2012) examine how the power of several

existing anomalies change with the sentiment. The authors find that the highest profit achieved by the long-short strategy based on the observed anomalies occurs in the periods following high investors sentiment. Kim, Ryu, and Seo (2014) show that investor disagreement is negatively related to future stock returns but only in periods of high market sentiment. In a study on the Taiwanese market, Tsai (2017) shows that institutional investor sentiment plays a role in periods of low sentiment but not in periods of high sentiment; institutional investor sentiment affects the stock markets when pessimism is reigning. The above-mentioned research shows that sentiment affects investor investment decisions leading to a relationship between sentiment and the stock market. Chatterjee, John, and Yan (2012) find a positive relationship between the investor sentiment and the runup, markup, and premium.

4.2.2 Different Measures of Sentiment

In addition to the University of Michigan Sentiment Index (MCSI) and the Baker and Wurgler Index that is used in this paper, several researchers tested different sentiment proxies that can be used to asses how investors are feeling towards a stock in particular or the aggregate market in general.

Kumar and Lee (2006) and Tsai (2007) use the buy-sell imbalance (BSI) as a proxy for investor sentiment for particular stocks and show a relationship between BSI and subsequent stock returns. Hwang (2011) uses the Gallup Poll on Americans' attitude toward Other Countries as a proxy for US investor sentiment towards a particular country in studying CEF discounts. Lemmon and Portniaguina (2006) use the Consumer Confidence Index published by the Conference Board (CBIND) as well the University of Michigan Consumer Sentiment Index (MCSI) and find that hard to arbitrage stocks earn lower returns than larger stocks following high sentiment periods. Antoniou, Doukas, and Subrahmanyam (2013) use the CBIND after orthogonalizing it to a set of macroeconomic variables. They found out that momentum strategy leads profits in periods of high market sentiment but not in periods of low market sentiment. They also show that small traders are more affected by sentiment. Roger (2014) uses the number of stocks held by individual small investors as a proxy for risk aversion and their sentiment proxy leads to similar results as those reported by Baker and Wurgler (2007): hard to arbitrage stocks seem to be more overvalued (undervalued) in high (low) sentiment periods than their peers. Sun, Najand, and Shen (2016) use Thompson Reuters MarketPysch Index (TRMI) as a sentiment proxy at the intraday level. They show that changes in investor sentiment are related to

the next half-hour S&P 500 ETF. Focusing on the European market, Cornelli, Goldreich and Ljungqvist (2006) use the grey market to measure small investors' attitude towards an IPO[24]. The authors show that when small investors are optimistic towards an IPO, this leads to higher IPO values in the short run and lower performance in the long run. In contrast, when small investors are pessimistic as per the grey market, the IPO values are in line with fundamentals. The above findings reveal the continuous attempts by researchers to find a sentiment measure that can properly proxy for how investors are feeling towards a specific stock or the aggregate market and whether such feelings truly affect stock prices or not.

4.2.3 Sentiment Measures Extracted from Social Media

With the spread of the Internet, investors convey their feeling toward the market or specific stocks through their preferred social media. Building on this observation, several researchers worked on extracting sentiment's proxy out of investors' tweets and other web-based activities. Tetlock (2007) created an investor pessimism index measure relying on WSJ "Abreast of the Market" column. He found that high levels of pessimism lead to lower prices. At the same time, Das and Chen (2007) used message board postings to form stock and sector specific sentiment indices. They found that their sentiment proxy relates to stock indices but not strongly to individual stocks. Following the work of Tetlock (2007), Dougal, Engelber, Garcia, and Parsons (2012) highlight the importance of the journalist influence on the stock market: the writing of journalist on WSJ "Abreast of the Market" seems to influence investors trading and consequently market prices. Sprenger, Tumasjan, Sandner, and Welpe (2014) rely on Twitter tweets to build a stock specific sentiment measure and find that average positive tweets will lead to higher subsequent stock prices. Kim and Kim (2014) extract a firm-specific sentiment proxy from Yahoo Finance but find no relationship between their sentiment measure and the stock market: neither at the firm level nor at the aggregate market level. Siganos, Vagenas-Nanos, and Verwijmeren (2014) use Facebook's Gross National Happiness Index (FGNHI) as a proxy for investor sentiment for a particular country and uncover a positive relationship between sentiment and contemporaneous returns and a negative relationship between sentiment and subsequent returns. Da, Engelberg, and Gao (2014) build a sentiment proxy based on Google searches: www.google.com/trends and link it to stock returns. Chen, De, Hu, and Hwang (2014) show the

[24] The grey market is a pre-IPO market in Europe that allow investors to speculate on the stocks of firms that are planning to launch an IPO.

relevance of peer review and social media in predicting stock returns by focusing their analysis on the articles published on www.seekingalpha.com. Avery, Najand, and Shen (2016) rely on Motley Fool Company website (www.caps.fool.com) to extract how investors perceive stocks and find that being long the positively recommended stocks and short the negatively recommended stocks will lead positive abnormal returns.

4.2.4 The effect of Weather and Sports on the Stock Markets

The research on market sentiment goes beyond building a sentiment proxy and testing the relationship between sentiment and stock returns. Several papers directly link major events that are known to affect the mood of the population to investor activities and consequently stock prices. Hirshleifer and Shumway (2003) relate levels of sunshine to investor sentiment and subsequently to stock market performance. They show that the level of cloudiness is negatively related to stock returns. Edmans, Garcia, and Norli (2007) use sports game results as a measure of aggregate market mood. They show that unanticipated losses in sports lead to negative subsequent stock market performance and their results are more robust for soccer games than for other sports. Bassi, Collacito, and Fulghieri (2013) show that weather conditions affect risk aversion and thus related financial implications.

4.2.5 Linking Sentiment to Mergers and Acquisitions Activities

In the above section, we presented different links between investor sentiment and the stock market. In what follows we discuss the links we expect between aggregate market sentiment and mergers and acquisitions activities. We limit our work to aggregate market sentiment effect on mergers and acquisitions and leave the analysis of stock specific sentiment proxies for further research.

4.2.5.1 Probability of Cash-Only Offer and Aggregate Market Sentiment

Boone, Lie, and Liu (2014) show that there is an increase in the mixed payment frequency since the beginning of the century highlighting the importance of the mixed payment form as a category by itself. The authors also show that there is an increase (decrease) in the frequency of stock (cash) payments towards the end of the 1990s and a decrease (increase) in the respective distribution of both types of offers after this point in time. In our work, we link the above-observed results to investor sentiment. Figure 4.1 plots the University of Michigan Consumer Sentiment Index (MSCI) over time and observe that periods of increasing market sentiment

develop in the 90s and are followed by a sentiment reversal in the following decade. Baker and Wurgler (2006, 2007) argue that periods of high market sentiment are usually associated with higher level of mispricing (overpricing mainly) - a result that is more present for hard to arbitrage stocks. We hypothesize that firms undertaking a merger and acquisition negotiation process fall into the category of hard to arbitrage stocks: to properly measure the synergy from a merger and allocate it between both parties is not a straight forward task, let alone incorporating the probability of negotiation success in the valuation process. Consequently, in periods of high market sentiment, bidder firms will try to benefit from the possible overpricing in their stocks and will opt for a stock or mixed offer rather than a cash-only offer thus leading to our first hypothesis:

<Please insert figure 4.1 here >

Hypothesis one: the higher the sentiment, the lower the probability of observing a cash-only offer.

4.2.5.2 Acquirers' Announcement Returns and Aggregate Market Sentiment

Fu, Lin, and Officer (2013) show that overvalued acquirers that rely on stock as the medium of exchange do not necessarily benefit from their stock overvaluation because they are forced to pay a higher premium. This higher premium limits the potential profit – the perceived synergy. Work related to the choice of the medium of exchange and bidder firm announcement returns date back to the 1980s[25]. In general, this research concludes that investors react negatively to the announcement of a stock or mixed offer fearing that the bidder firm's stock is overvalued. Since periods of higher market sentiment are also associated with high levels of mispricing, we hypothesize that investors will be more concerned about bidder stock overvaluation in periods of high sentiment in the case of stock or mixed offers and would react more negatively to such an announcement. Consequently, our second hypothesis is:

Hypothesis two: the higher the sentiment, the lower the bidder firm announcement returns in stock or mixed (non-cash-only) offers.

[25] Early work that analyze bidder announcement returns and the choice of the medium of exchange includes: Travlos (1987), Hansen (1987), Fishman (1989), Eckbo, Giammarino, and Heinkel (1990) and Brown and Ryngaert (1991) among others.

4.2.5.3 Target Bargaining Power and Aggregate Market Sentiment

Previous research indicates that target stock prices increase significantly relative to the bidder stock prices leading to the conclusion that targets usually benefit more from an acquisition than acquirers. However, Ahern (2012) found out that the dollar gains to targets are not very different from those of acquirers. The author highlights that the target's bargaining power depends on its industry reliance; the more unique the target, the greater its bargaining power. Relying on Ahern's (2012) measure of bargaining power, we argue that in periods of high market sentiment, target firms' management are more optimistic about their future prospects and would bargain more. This negotiation would be stronger if the bidder is to pay in stock as the target would be bearing the possible bidder's overvaluation. Hence, our third hypothesis:

Hypothesis three: the higher the sentiment, the higher the target bargaining power. The relationship is expected to be stronger for stock and mixed acquisitions.

4.2.5.4 Synergy and Aggregate Market Sentiment

Rosen (2006) shows that in periods of high merger and acquisition activities, bidder firm announcement returns are higher than their peers whose announcements occur in periods of low merger and acquisition activities. The authors show that this better announcement performance is reversed in the long run – an indication that the announcement reactions are not based on differing fundamentals but rather on the positive investor sentiment in periods of high merger and acquisition activities. In this section, we link investor sentiment to perceived synergy. In periods of high market sentiment, bidder stock overpricing may be a major driver behind the deal. As such, we expect lower perceived synergy for stock or mixed acquisitions in periods of high market sentiment. In the same line of thought, in periods of high market sentiment, the target itself may be overvalued. Thus, for the bidder to pay in cash for a possibly overvalued target, the bidder would expect high levels of synergy. This leads us to our fourth hypothesis:

Hypothesis four: the higher the sentiment, the lower (higher) the perceived synergy for stock or mixed (cash-only) acquisitions.

4.2.5.5 Runup, Markup, Premium and Market Sentiment[26]

Schwert (1996) examines the target stock price increase (runup) before the deal announcement and its effect on the premium paid by the bidder. The author argues that two possible hypothesis can explain the runup. The first is that that the runup is occurring because of an increase in the price of the standalone target firm due to improved prospects. The second hypothesis is that the runup is due to the anticipation of the deal announcement during the deal negotiation period[27]. In the first case, the runup should be a signal to the target firm to increase its price; costing the bidder a higher premium. In the second case, the runup should not affect the offer price. In the latter case, we expect to see more substitution taking place between the runup and the markup since the premium is technically the sum of the runup and markup. Consequently, in a substitution context, the higher the runup, the lower the markup leading to a flat premium. Schwert (1996) rejects the substitution hypothesis and finds that a higher runup is associated with a higher premium as "…total premium increases one-for-one with the pre-bid runup…" (Schwert, 1996: pagre 168).

Following the same argument used to develop our second hypothesis, we expect that target firms undergoing a merger negotiation will be harder to arbitrage than their peers. Since these firms will encounter an increase in their stock price during the runup period (whether due to stand-alone value or deal anticipation), we expect that this increase in the target stock price would be higher in periods of high market sentiment relative to periods of low market sentiment. The runup is a positive signal to the market that is welcomed investors. In line with Schwert (1996), we assume that this higher runup would lead to higher markup and consequently a higher premium. This leads to our fifth hypothesis in its different forms:

Hypothesis five-a: the higher the sentiment, the higher the target stock runup.

Hypothesis five-b: the higher the sentiment, the higher the target stock markup.

Hypothesis five-c: the higher the sentiment, the higher the premium paid.

[26] Runup is usually defined as the increase in the target stock price during runup the period. The runup period spans the period from 42 days before to 2 days before the deal announcement. The markup is the increase in the target stock price around the deal announcement. The deal announcement usually spans three days around the deal announcement (days -1 to +1). Table 1 presents different definitions for the runup, markup, and premium measures used in our work.

[27] Keown and Pinkerton (1981), Jensen and Ruback (1983), Michael King (2009) and others present different reasons for information leakage including but not limited to insider trading and market anticipation based on industry analysis.

In testing the markup pricing hypothesis, Schwert (1996) focused on the slope of regressing the premium on the runup [$Premium_i = \beta_{runup}\, Runup_i + e_i$]. The intuition is that if there is markup pricing, then the premium should increase with the runup and the coefficient of regressing the premium on the runup should be equal or greater than one (β_{runup} => 1). This brings us to our fifth hypothesis in its fourth form:

Hypothesis five-d: the coefficient, β_{runup} in the [$Premium_i = \beta_{runup}\, Runup_i + e_i$] regression, should not vary as a function of sentiment.

4.3 Data and Sample Construction

4.3.1 Mergers and Acquisitions Data

Mergers and acquisitions data are obtained from SDC. We limit our sample to mergers, acquisitions of majority interest and acquisitions of remaining interest. We require that the deal has a reported final offer price in SDC and filter out the top and bottom 1% by offer premium to avoid outliers. The offer premium is defined as the final offer price divided by the target stock price 42 trading days before the announcement day. We remove any offer that is not the first offer within a multibid contest. Deals fall into a multibid contest if bids on the same target are separated by less than six months. We also remove deals whose value is less than $10 Million dollars or whose target stock price on day -42 is less than $5 dollars. We require that both target and acquirer firms are public US listed firms with CRSP and Compustat data on both. Prices, Returns and SIC codes are from CRSP and accounting data is from Compustat.

4.3.2 Sentiment Data

We obtain our primary sentiment measure from the University of Michigan that publishes a consumer sentiment index on a monthly basis. The index is constructed from surveys sent to 500 participants in the United States. As highlighted on their website[28], the survey covers three primary areas: “personal finances, business conditions, and future buying plans” (University of Michigan Webpage, http://www.sca.isr.umich.edu/tables.html). We refer to this measure as the University of Michigan Consumer Sentiment Index (MCSI).

[28] http://www.sca.isr.umich.edu/tables.html

In the robustness tests, we have also relied on the Baker and Wurgler (2007) sentiment indices obtained from Professor Wurgler's website at NYU[29]. Baker and Wurgler construct their index as the first principal component of five series used in previous research as a proxy for investor sentiment: dividend premium, first-day IPO returns, IPO volume, Closed-end Fund discount and Equity Issue over the last twelve months. The five series are standardized and then orthogonalized against six macroeconomic indicators – the objective is to remove macroeconomic effects from the sentiment series. The authors use the residual from regressing their five series on the following macroeconomic indicators: growth in industrial production, real growth in durables, real growth in nondurables, real growth in services consumption, growth in employment, and the NBER recession indicator. Once the five series are standardized and orthogonalized, the first principal component is used as a proxy for sentiment index. We use this proxy as an additional measure of sentiment and refer to it as the Baker and Wurgler sentiment index (BW). The authors also provide another version of the index that is not orthogonalized against macroeconomic indicators. We use it as another sentiment proxy and refer to it as Baker and Wurgler non-orthogonalized sentiment index (BWN). The details and motivation of the Baker and Wurgler sentiment index construction are in Baker and Wurgler (2006; 2007). Whereas the Baker and Wurgler indices reflect a top-down approach that relies on a reduced form approach in which the sentiment is extracted from the financial market, the MCSI is more of a bottom-up approach in which the sentiment is directly measured from individuals. Since both MCSI and BWN are not immune to macroeconomic events, we expect similar results in our work. Results obtained from using the orthogonalized sentiment index of Baker and Wurgler (BW) are presumed to be slightly different.

We use a monthly time series of the indices. To associate a deal with a sentiment level, we average the monthly sentiment observations that fall within the runup period of every deal in our sample. Our runup period spans 42 days before to two days before the deal announcement day. This differentiates our work from Chatterjee, John, and Yan (2012) who use the sentiment available during the pre-runup period. The abnormal returns earned by the target in the 42 days prior to the official announcement of the offer is generally believed to be either the result of anticipation or the leakage of private information. When the bidder is setting the offer price just prior to the announcement, they must make a decision about the source of the runup – we argue

[29] http://people.stern.nyu.edu/jwurgler/

that their assessment of the runup will be related to the investor sentiment during the runup period. The investor sentiment during the pre-runup period (Chatterjee et al 2012) would be more likely to influence the decision to start the negotiations rather than the decisions made at the end of the process.

4.3.3 Variable Definition

We use two proxies for the offer premium. One is equal to the final offer price divided by the target stock price 42 trading days before the announcement day - we term it as Price-Based-Premium or simply Premium. We also use the target Cumulative Abnormal Return from the beginning of the Runup period (-42) until the completion day or 126 days after the deal is completed (whichever is shorter) – we call this the CAR-Based-Premium.

In line with our Premium definition, we use two proxies for Runup and Markup. For the price based runup and markup, we follow Betton et al. (2008) and divide the target stock price two days before the announcement day by the target stock price 42 days before the announcement date and the Final Offer Price by the target stock price two days before the announcement respectively. The CAR based runup and markup are estimated as the Target CAR [-42, -2] and [-1, +126] respectively.

The deal value is obtained from SDC. Firm size is the logarithm of the firm market capitalization 42 days before the announcement day. The firm market capitalization is determined by multiplying the stock price by the number of shares outstanding (in $Millions). B/M is the ratio of the book value of equity divided by the market value of equity 42 days before the announcement. The book value of equity is obtained following the approach of Fama and French (1993) by adding the book value of equity to the balance sheet deferred taxes and investment tax credit and subtracting the book value of preferred shares. Target (Acquirer) turnover is the average of the volume to share outstanding ratio calculated over the interval spanning 166 days before the announcement to 42 days before the announcement (before the beginning of the runup period).

We use SDC to define several dummy variables describing deal characteristics: Complete – whether the deal is completed successfully or not, Hostile – whether the target attitude is

hostile or not, Rumor – whether the deal follows a rumor[30] or not, Cash-Only (Non-Cash-Only) – whether the deal medium of exchange is Cash, Tender – whether the deal is a tender offer or not, Toehold – whether the bidder has more than 5% ownership of the target at the deal's announcement. Also, NYSE/AMEX reflects whether the deal participants are listed on NYSE, AMEX or not, and Horizontal whether the target and acquirer share the same four-digit SIC code. Table 4.1 presents a brief description of the main variables used in our work.

<Please insert table 4.1 here>

The definition of target bargaining power is defined as the ratio of the difference between target and acquirer dollar Cumulative Abnormal Return (CAR) divided by the sum of target and acquirer market cap obtained 42 days before the announcement and follows Ahern (2013). Synergy is estimated as the ratio of the sum of target and acquirer dollar Cumulative Abnormal Return (CAR) divided by the sum of target and acquirer market cap obtained 42 days before the announcement. The dollar CARs are obtained as the sum of the dollar abnormal returns (AR). The dollar ARs are estimated by multiplying the daily AR by the lagged daily market cap for the corresponding firm. The AR is calculated as the difference between the realized return of the firm's stock and the expected return. The expected return is obtained using the market model ($r_{(i,t)} = \alpha + \beta\, r_{(m,t)}$) estimated over the interval (-253, -43) relative to the announcement day.

4.3.4 Sample Characteristics

Our sample covers the period 1982 to 2015 inclusive. Table 4.2 presents descriptive statistics for our sample and Tables 4.3 and 4.4 present descriptive statistics for the Non-Cash-Only (Stock or mixed Offers) and the Cash-Only subsamples respectively. We have 3705 deals in our sample comprised of 2591 Stock or Mixed deals and 1114 Cash-Only Deals. Eighty-six percent of our deals are completed successfully, 23% are horizontal, 15% are tender offers, 3% are hostile and a rumor precedes 4%. The average premium is 40%, whereas the runup is approximately 8% and the markup is close to 31%. The tables also present the average sample characteristics classified into the four sentiment quartiles based on the logarithm of University of Michigan Consumer Sentiment Index (MCSI) associated with the deal. The sentiment index quartile cutoffs are estimated over the November 1981 to October 2015 period. This sample period matches our sample data. Q1 is the quartile with lowest sentiment level and Q4 is the quartile with the highest

[30] As defined by SDC

sentiment level. We can notice that rumored deal percentage decreases as we move up in the quartiles: the higher the sentiment the lower the percentage of rumored deals. A similar trend is observed for horizontal and Cash-Only deals. Tender offers are more frequent in periods of low sentiment relative to periods of high sentiment when it comes to stock or mixed offers – an opposite trend is observed for cash-only offers.

<Please insert table 4.2 to 4.4 here>

The time series behavior of the MCSI is shown in Figure 4.1. In the late 1970s the sentiment level was low and it jumped in the early 1980s only to drop back in the late 1980s. The sentiment level started increasing in the early 1990s and continued until it declined at the beginning of the century.

4.4 Empirical Tests and Results

4.4.1 Univariate Tests Results

Target and bidder cumulative abnormal returns are summarized in Figures 4.2 to 4.5. The deals are classified into one of four MCSI sentiment quartiles based on the sentiment during the deal. In Figure 4.2, we see that the CAR in the highest sentiment quartile (Q4) is greater during the runup period than that of the lowest quartile (Q1) – an observation valid for both cash-only and stock (mixed) deal. However, this dominance disappears as we move outside the runup period to the post announcement period and almost reverses when it comes to stock and mixed deals – a result that is more obvious by looking at Figure 4.3. Whereas the targets exhibit a higher runup in periods of high market sentiment relative to periods of low market sentiment, bidder CARs exhibit a very different trend as bidder CARs in the low sentiment period seem to outperform bidder CARs in high sentiment periods. The bidder results hold throughout the runup and announcement periods as is shown in Figures 4.4 and 4.5.

<Please insert figures 4.2 to 4.5 here>

Table 4.5 shows that for stock or mixed offers, the bidder announcement CAR is significantly higher for the low sentiment quartile (Q1) than for the high sentiment quartile (Q4). This observation is consistent with our first hypothesis, and it appears that market is reacting more negatively to stock (mixed) offer announcements when market sentiment is high.

<Please insert table 4.5 here>

Table 4.6 reports the target bargaining power estimated over different intervals: [-1, +1], [-42, +1], and [-42, +126] in contrast to Ahern (2013) who estimates the bargaining power over the [-1, +1] interval. Our results show that target bargaining power is larger for stock (mixed) offers in periods of high market sentiment but only when the estimation window spans 42 days before to 126 days after the announcement. When we limit our tests to the announcement window in line with Ahern's (2013) work, this additional bargaining power in the high sentiment quartile appears to wane. We also estimate the synergy over the same three windows as the bargaining power. The results in Table 4.7 show that for stock (mixed) offers, the higher sentiment quartile exhibits lower synergy – results observed for all estimation windows. However, when it comes to cash-only offers, it seems that the univariate sorting does not reveal significant differences between low and high sentiment quartiles.

<Please insert table 4.6 and 4.7 here>

The univariate tests related to the effect of sentiment on runup, markup, and premium are summarized in Tables 4.8 to 4.12. Table 4.8 shows that target runup is significantly higher in the high sentiment quartile than in the low sentiment quartile. A relationship that is not true for the bidder firm (Table 4.9) indicating that sentiment does not affect bidder and target firms in the same way. Tables 4.10, 4.11, and 4.12 show that the markup or premium are not greater in periods of higher market sentiment. This result is quite different from the runup findings and with hypothesis 5b and 5c. In fact, if we are to use the target CAR [-1, +1] as a proxy for the target markup then periods of low market sentiment exhibit a significantly higher markup.

<Please insert tables 4.8 to 4.12 here>

4.4.2 Models used in our Multivariate Tests

To test the effect of sentiment on the choice of the medium of exchange, hypothesis 1, we use the following logistic model:

$$\text{Log}\left(\frac{\text{P(Cash\_Offer} = 1)}{1 - \text{P(Cash\_Offer} = 1)}\right)_i$$

$$= \alpha + \beta_1 \text{MCSI}_i + \gamma_1 \text{Target\_Size}_i + \gamma_2 \text{Target\_Turnover}_i$$
$$+ \gamma_3 \text{Target\_NYSE\_AMEX}_i + \gamma_4 \text{Target\_B/M}_i + \gamma_5 \text{Bidder\_Turnover}_i$$
$$+ \gamma_6 \text{Bidder\_NYSE\_AMEX}_i + \gamma_7 \text{Bidder\_B/M}_i + \gamma_8 \text{Relative\_Size}_i$$
$$+ \gamma_9 \text{Toehold}_i + \gamma_{10} \text{Horizontal}_i + \gamma_{11} \text{Tender\_Offer}_i + \gamma_{12} \text{Hostile}_i$$
$$+ \gamma_{13} \text{Multiple\_Bidder}_i + \gamma_{14} \text{Rumor}_i + \varepsilon_i \text{ (Model 1)}$$

To test the effect of sentiment on bidder announcement CAR, target bargaining power, synergy, target runup, target markup and premium, we use Ordinary Least Square (OLS) estimation. The model varies according to the hypothesis (2 to 5c) throught the inclusion of the appropriate control variables.

$$Dependent\_Variable_i$$
$$= \alpha + \beta_1 Sentiment_i + \gamma_1 \text{Target\_Size}_i + \gamma_2 \text{Target\_Turnover}_i$$
$$+ \gamma_3 \text{Target\_NYSE\_AMEX}_i + \gamma_4 \text{Target\_B/M}_i + \gamma_5 \text{Bidder\_Turnover}_i$$
$$+ \gamma_6 \text{Bidder\_NYSE\_AMEX}_i + \gamma_7 \text{Bidder\_B/M}_i + \gamma_8 \text{Relative\_Size}_i$$
$$+ \gamma_9 \text{Toehold}_i + \gamma_{10} \text{Horizontal}_i + \gamma_{11} \text{Tender\_Offer}_i + \gamma_{12} Cash_i + \gamma_{13} \text{Hostile}_i$$
$$+ \gamma_{14} \text{Multiple\_Bidder}_i + \gamma_{15} \text{Rumor}_i + \gamma_{16} \text{Complete}_i$$
$$+ \gamma_{17s} Industry\_Dummies_i + \varepsilon_i \ (Model\ 2)$$

To test the markup pricing hypothesis, hypothesis 5d, we introduce interaction variables (runup multiplied by the quartile dummies) to capture any changes in the markup/substitution relationship due to investor sentiment. Equation 3 below illustrates our model:

$$Premium_i = \alpha + \beta_1 Target\_Runup_i + \beta_2 \left[Q_2 \times Target_{Runup_i}\right] + \beta_3 \left[Q_3 \times Target_{Runup_i}\right]$$
$$+ \beta_4 \left[Q_4 \times Target_{Runup_i}\right] + \gamma_1 \text{Target\_Size}_i + \gamma_2 \text{Target\_Turnover}_i$$
$$+ \gamma_3 \text{Target\_NYSE\_AMEX}_i + \gamma_4 \text{Target\_B/M}_i + \gamma_8 \text{Relative\_Size}_i$$
$$+ \gamma_9 \text{Toehold}_i + \gamma_{10} \text{Horizontal}_i + \gamma_{11} \text{Tender\_Offer}_i + \gamma_{12} Cash_i + \gamma_{13} \text{Hostile}_i$$
$$+ \gamma_{14} \text{Multiple\_Bidder}_i + \gamma_{15} \text{Rumor}_i + \gamma_{16} \text{Complete}_i$$
$$+ \gamma_{17s} Industry\_Dummies_i + \varepsilon_i \ (Model\ 3)$$

We expect β_2, β_3, and β_4 to be insignificant indicating that the premium-runup relationship is not changing (the slope of the regression is not changing) as we move from one sentiment quartile to another.

4.4.3 Multivariate Tests Results

4.4.3.1 Probability of Cash-Only Offer and Aggregate Market Sentiment

The relationship between sentiment and the likelihood of observing a Cash-Only offer is summarized in Table 4.13. In support of hypothesis 1, the logistic model estimation shows that MCSI negatively and significantly affects the probability of Cash-Only offers. In periods of higher market sentiment, bidder firms prefer stock or mixed offers to cash-only offers; possibly trying to benefit from potential overpricing associated with periods of high sentiment. In addition to our sentiment proxy, cash-only offers are less likely when the target size relative to the acquirer increases, and when the target and the acquirer are in the same industry.

<Please insert table 4.13 here>

The negative relationship between sentiment and the likelihood of observing a cash-only offer gives an insight into the findings of Boone, Lie, and Liu (2014) who observe a decrease in the frequency of cash offers towards the end of the 1990s and an increase after that point in time. Considering the uncovered negative relationship between sentiment and the chances of a cash offer in addition to the fact that the sentiment increases in the 1990s to reach its peak by the end of that decade and reverse direction directly after that seems to give a partial explanation of the authors' main findings.

4.4.3.2 Acquirers' Announcement Returns and Aggregate Market Sentiment

Table 4.14 shows that sentiment is significantly negatively related to Bidder Announcement CAR for stock (mixed) acquisitions. This result supports our second hypothesis. It appears that in periods of high market sentiment, where higher valuations dominate the market, a bidder's decision to make a stock or mixed offer is more negatively perceived by the market: bidder CARs [-1, +1] decrease more with an increase in sentiment for a stock or mixed acquisition. In addition, we observe that the bidder announcement CAR decreases with bidder size as well as with target acquirer relative size and increases if the bidder is listed on NYSE/AMEX or if the deal is preceded by a rumor.

<Please insert table 4.14 here>

4.4.3.3 Target Bargaining Power and Aggregate Market Sentiment

Tables 4.15, 4.16, and 4.17 report the results for the target bargaining power when estimated over three different intervals ([-1, +1], [-42, +1], and [-42, +126]). Our results show that target bargaining power significantly increases with the sentiment especially in the two longer intervals: [-42, +1], and [-42, +126]. These results are valid for our total sample and stock and mixed offer subsample and are consistent with our predictions. On average, target investors have lower bargaining power in cash only offers than in stock or mixed offers however, this result is not significant for the second estimation window [-42, +1].

<Please insert table 4.15 to 4.17 here>

4.4.3.4 Synergy and Aggregate Market Sentiment

The results of the synergy and market sentiment tests vary according to the estimation window used for the synergy. This being said, the results we obtain do not lead us to reject our fourth hypothesis. When estimated over the interval [-1,+1], sentiment is negatively related to synergy for the total sample and for the stock (mixed) offer subsample but does not significantly affect the cash-only offers (Table 4.18). However, when estimated over the interval [-42, +1] add [-42, +126] sentiment is not significantly affecting stock (mixed) offers but it is affecting cash-only offers positively (see Tables 4.19 and 4.20). The main conclusion of our synergy multivariate tests is that synergy appears to be higher (lower) in periods of high market sentiment when it comes to cash-only (stock or mixed) offers. If an acquisition occurs in a period of high market sentiment when overpricing is a concern; bidder firms ensure that the target is a good fit before paying cash. We also observe that the higher the target size relative to the acquirer, the higher the synergy.

<Please insert table 4.18 to 4.20 here>

4.4.3.5 Runup, Markup, Premium and Aggregate Market Sentiment

In line with our univariate tests, our multivariate tests in Tables 4.21, 4.22, and 4.23 show that target runup is positively and significantly related to sentiment – a relationship that is not valid for bidder stock returns during the runup period. Both our univariate and multivariate tests show that in periods of high market sentiment, we observe a greater increase in the target stock prices

during the runup period. This supports out fifth hypothesis in its first form (H-5a) and indicates that the target investors overreact to a possible merger and acquisition deal in periods of high market sentiment.

<Please insert table 4.21 to 4.23 here>

In line with our univariate tests but in contrast to our fifth hypothesis in its second and third form (H-5b and H-5c), we do not find a postive significant relationship between sentiment and markup or sentiment and premium (see Tables 4.24, 4.25, 4.26 (for markup) and 4.27, 4.28 (for premium)). These results indicate that the higher runup in periods of higher market sentiment is not associated with higher markup nor with higher premium.

<Please insert table 4.24 to 4.28 here>

The findings of this section can be interpreted as follows: during periods of high market sentiment, an optimistic mood dominates the market and investors overreact to positive news and/or rumors resulting in higher runups than in the low sentiment periods. However, bidder firms know that part of this increase in the target price is because of optimistic investors overreaction and consequently they do not pay a higher premium in periods of high market sentiment: the higher runup does not translate into higher premium.

4.4.3.6 Markup Pricing and Aggregate Market Sentiment

The results reported in the above section may be at odds with the markup pricing hypothesis introduced by Schwert (1996) where the runup is a price to the bidder and an increase in the runup will lead to a one-to-one increase in the premium paid by the acquirer. A test for the markup pricing hypothesis would be to check the slope of the rununp in the following regression: $Premium_i = \beta_{runup} Runup_i + e_i$. If β_{runup} is less than 1 then we have the substitution effect and a higher runup is associated with a lower markup so that the premium does not strictly increase with the runup on a one to one basis. If, on the other hand, β_{runup} is greater than or equal to 1, then markup pricing is occurring and an increase in runup would lead to an increase in premium. In Table 4.27, we see that the runup coefficient is above 1 for our total sample supporting the markup pricing hypothesis of Schwert. Although Table 4.28 reports a runup coefficient value that is lower than 1 (around 0.88) but this is not an indicative figure as the premium is priced based whereas the runup is CAR based. We need to include a price based

runup is this regression to interpret its coefficient properly. However, this is not the objective of this table as the runup is only used as a control variable. Our task in this section is to test if there is lower markup pricing (more substitution effect) in periods of high market sentiment. Empirically, this would translate to lower β_{runup} in periods of higher market sentiment. In the testing framework of model three, this should translate into negative and significant coefficients for the interaction variables.

For the CAR based analysis, as seen in Table 4.29, we can see that the coefficients of the interaction variables are not significant for cash-only offers but are negative and significant for stock and mixed offers. It seems that for stock and mixed offers, we can reject our fifth hypothesis in its fourth form (H-5d) as the runup coefficient vary from the lowest sentiment quartile to the other quartiles: we can say that more markup pricing is happening for the lowest sentiment quartile. However, for cash-only offers we fail to reject our hypothesis and it seems that markup pricing is similar across the four sentiment quartiles. Why the cash-only offers differ from the stock and mixed offers is perplexing as the previous section results show that the sentiment has the same effect on the runup and premium for cash and stock (mixed) offers. We leave it to future research to further explore the relationship between runup and premium across the different market sentiment periods and different methods of payments.

<Please insert table 4.29 and 4.30 here>

4.5 Robustness Tests

4.5.1 Using Baker and Wurgler Non-Orthogonalized Sentiment index (BWN)

The results of the tests conducted using Baker and Wurgler Non-Orthogonalized Sentiment Index (BWN) are reported in Appendix A. Baker and Wurgler (2006, 2007) present a detailed analysis of the sentiment index. From Professor Wurlger's website we obtained the version of the index that is not orthogonalized to macroeconomic data. Since we do not orthogonalize the MCSI to macroeconomic data we expect the BWN index to lead to similar results as those of the MCSI.

First, we note from Figure 4.6 that the BWN index does not exactly match the MCSI; whereas the MCSI exhibit an increase in the 1990s followed by a trend reversal, the BWN shows a slight increase in the early 1990s to be reversed in the mid-90s – like a jump. After that, the BWN hovers around medium levels only to jump in the early 2000s to its highest level and drop

back almost within two years and then hover back around low levels. It appears that periods of high MCSI sentiment do not coincide with periods of high BWN sentiment and consequently, they will not have the same set of deals. Based on what we have just presented, we expect the results of our tests to differ while using BWN and MCSI although initially, we expected them to perform similarly.

Similar to those reported for MCSI, the CAR figures in Appendix A show that Target CAR for the highest BWN sentiment quartile is higher than the lowest BWN sentiment quartile – results that is more noticeable for the runup period (Figure 4.7 and 4.8).

The univariate tests show that the market still reacts more negatively when a deal is announced in a high market sentiment quartile but the significance is limited to the larger sample containing both cash and non-cash offers. A decreasing CAR trend still exists for stock and mixed offers but without significant difference between the lowest and highest sentiment quartiles (Table 4.34). For stock or mixed offers, synergy is slightly lower[31] when it comes to high sentiment quartiles compared to low sentiment quartiles, but the target bargaining power does not significantly differ among sentiment quartiles (Table 4.35 and 4.36). When it comes to runup and markup, the runup is higher in periods of high market sentiment but the markup is lower. The premium results vary between not being affected by the sentiment for cash-only offer and being higher for stock or mixed offers[32] (Tables 4.37, 4.39, and A4.41).

<Please insert tables 4.34 to 4.41 here>

When it comes to multivariate tests, what stands out is the strong negative relationship between the BWN sentiment and the chances of observing a cash-only offer (Table 4.42). BWN negatively affects Bidder Announcement CAR when it comes to stock or mixed offers (Table 4.43). Whereas the target bargaining power is not affected by the BWN sentiment index, the synergy is negatively related to the sentiment index when it comes to stock or mixed offers (Tables 4.47, 4.48, and 4.49). The positive relationship between runup and sentiment is now weak and only significant for cash-only offers when using the CAR-based-runup measure (Table 4.50). There is no significant relationship between markup and the BWN sentiment measure, and

[31] The results are significant only for the synergy estimated over the [-1, +1] interval
[32] The premium related results depend on the premium definition used in the analysis. For CAR-Based-Premium, the lower sentiment quartile is statically lower than the higher sentiment quartile but for the Price-Based-Premium the relationship reverses and the significance disappears.

a similar argument applies to the premium except for cash-only offers when using price-based-premium (Table 4.57). Almost none of the interaction variables coefficients are significantly negatively related to the premium supporting the hypothesis that runup affects the premium in almost the same way across all sentiment periods.

<Please insert table 4.42 to 4.59 here>

The results reported in this section show that there is a difference between the results of tests conducted using MCSI as a proxy for investor sentiment or BWN as a proxy for investor sentiment. This difference is worth further exploration in future research to properly identify the causes of these differences. Also, in higher sentiment periods we see lower chances of observing a cash-only offer, lower bidder announcement CAR, and lower synergy when it comes to stock or mixed offers. Finally, the relationship between sentiment and target bargaining power, runup, markup, and premium are weaker than that reported for the MCSI index and vary across the different definitions of runup, markup, and premium.

4.5.2 Using Baker and Wurgler Sentiment index (BW)

The results of the tests conducted using Baker and Wurgler Sentiment Index (BW) are reported in Appendix B. The BW index is obtained in a similar way to the BWN index. What differentiates these two indices is that the BW index is orthogonalized to the macro-economic variables.

The figures show similar but weaker patterns for the CARs: the target CAR during the runup period is higher for the highest sentiment quartile when compared to the lowest sentiment quartile (Figure 4.12).

For the univariate tests' results, the results are weaker than those observed in the BWN section. We still see lower bidder announcement CAR in periods of high market sentiment – a significant result for the total sample but the trend is apparent for stock and mixed offers (Table 4.63). Target bargaining power is not affected by the sentiment but synergy seems to be higher in periods of higher market sentiment when it comes to cash-only offers (Table 4.64 and 4.65). When it comes to runup, markup, and premium we observe weak differences among sentiment periods with some significance when it comes to cash-only offers: periods of higher market sentiment are associated with higher target runup, lower target markup and lower premium.

However, these relationships are not robust across all the definitions of runup, markup and premium (Tables 4.66, 4.68, and 4.70).

<Please insert table 4.60 to 4.70 here>

In the multivariate tests, the BW sentiment still negatively affects the probability of a cash-only offer (Table 4.71), the bidder announcement CAR (Table 4.72) and synergy (Tables 4.76, 4.77, and 4.78)[33] in stock or mixed offer. When it comes to target bargaining power, target runup, target markup, and premium as well as the runup-premium relationship, it appears that the BW sentiment plays a minimal role[34].

<Please insert table 4.71 to 4.88 here>

We observe in these tests that the BW and BWN sentiment proxy behave closer to each other than the MCSI sentiment. The similarity between BW and BWN within the context of our work is in line with Baker and Wurgler findings that both indices lead to close results. However, the differences arising from using the MCSI vs. BWN seem a bit of a surprise for us and worth further investigation.

4.6 Conclusion

In this paper we study the effect of aggregate investor sentiment on mergers and acquisitions. We show that in periods of higher market sentiment, bidder firms prefer a stock or mixed acquisition to a cash-only one. Considering that periods of higher market sentiment are usually associated with higher market overvaluations, we link our finding to the possibility that the acquirer management is trying to benefit from their stock overvaluations. Bidder firms' investor reaction supports our above interpretation as they react more negatively in periods of higher market sentiment when a stock or mixed offer is announced.

Second, we show that target firm bargaining power is higher in periods of higher market sentiment for stock or mixed offers mainly. It seems that when a bidder firm is going for a stock or mixed offer in a period of high market sentiment, the target management (not only the bidder

[33] The synergy related tests do not lead to significant results when synergy is estimated over the [-42, +126] interval as reported in table 4.78.

[34] Our results show a positive significant relationship between BW sentiment index and CAR-Based-Runup for Cash-Only-Offers (Table 4.79) and a negative significant relationship between BW sentiment index and Price-Based-Premium for cash-only-offer (Table 4.86). However, since these significances are limited to the specific variable definition and is not present for other definition, we present caution in interpreting these findings.

firm investors) fear a possible overpricing in the bidder firm stock. Consequently, targets negotiate more aggressively and ask for a higher price leading to higher target bargaining power. In the same line of thoughts, bidder firms are also facing an overvaluation risk if they are to pay cash rather than stock for the target and the bidders will offer cash in cases of high potential synergy. The findings support this line of thought, and we show that synergy is higher in periods of high market sentiment in cash-only offers.

Next we test how sentiment affects target stock runup, target stock markup, and the premium paid. Considering that higher market sentiment periods are associated with high level of optimism, leading the documented overvaluation in these periods, we hypothesize that the market would overreact to the news of a company being a target relative to periods of low market sentiment and we expect a higher runup during higher sentiment periods. Our sentiment-runup tests confirm this hypothesis. In addition, we do not observe higher markup and higher premium for periods of higher market sentiment. It appears that bidder firm management know that the market is likely to be overreacting and driving the target stock price to values above their fundamental values and, consequently, the bidder firms do not offer higher premiums in periods of higher market sentiment.

As robustness check, we use the Baker and Wurgler (2007) sentiment indices to see if our results are specific to the University of Michigan Sentiment Index (MCSI). We show that the different measures lead to similar conclusions regarding the effect of sentiment on the choice of the medium of exchange, the bidder firms market reaction to the deal announcement and the synergy. However, the results differ when it comes to the target bargaining power, runup, markup, and premium.

This paper adds to the existing literature linking investor sentiment to possible investors' activities and consequently stock market reactions. The objective of our work is not to create a trading strategy around firms involved in a merger and acquisition negotiation relying on different sentiment periods. However, we want to highlight that bidders, targets and their respective investors are affected by the aggregate market sentiment during the deal process. In addition, we show that different sentiment proxies may lead to different results. Our work suggests different future research questions such as: why the Barker and Wurgler index leads to different results than MCSI. What is the optimal proxy for sentiment and what measure best

captures investor sentiments. Also, we identify different patterns in the markup pricing relationship (runup and premium) between stock (mixed) offers and cash-only offers using different sentiment proxies; the nature and causes of these differences remains for future work. The work presented here focuses on aggregate market sentiment and its effect on mergers and acquisitions activities. A question for future research is whether a stock specific sentiment proxy, possibly extracted from social media, might possess explanatory power for stocks involved in a merger and acquisition process?

4.7 References Cited

Ahern, K. R. (2012). Bargaining power and industry dependence in mergers. Journal of Financial Economics, 103(3), 530-550.

Antoniou, C., Doukas, J. A., & Subrahmanyam, A. (2013). Cognitive dissonance, sentiment, and momentum. Journal of Financial and Quantitative Analysis, 48(1), 245-275.

Avery, C. N., Chevalier, J. A., & Zeckhauser, R. J. (2015). The "CAPS" prediction system and stock market returns. Review of Finance, 20(4), 1363-1381.

Baker, M., Ruback, R. S., & Wurgler, J. (2004). Behavioral corporate finance: A survey (No. w10863). National Bureau of Economic Research.

Baker, M., & Wurgler, J. (2011). Behavioral corporate finance: An updated survey (No. w17333). National Bureau of Economic Research.

Baker, M., & Wurgler, J. (2006). Investor sentiment and the cross-section of stock returns. The Journal of Finance, 61(4), 1645-1680.

Baker, M., & Wurgler, J. (2007). Investor sentiment in the stock market. The Journal of Economic Perspectives, 21(2), 129-151.

Baker, M., Wurgler, J., & Yuan, Y. (2012). Global, local, and contagious investor sentiment. Journal of Financial Economics, 104(2), 272-287.

Baker, M., Pan, X., & Wurgler, J. (2012). The effect of reference point prices on mergers and acquisitions. Journal of Financial Economics, 106(1), 49-71.

Barberis, N., Shleifer, A., & Vishny, R. (1998). A model of investor sentiment. Journal of Financial Economics, 49(3), 307-343.

Bassi, A., Colacito, R., & Fulghieri, P. (2013). 'O sole mio: an experimental analysis of weather and risk attitudes in financial decisions. The Review of Financial Studies, 26(7), 1824-1852.

Boone, A. L., Lie, E., & Liu, Y. (2014). Time trends and determinants of the method of payment in M&As. Journal of Corporate Finance, 27, 296-304.

Bradley, M., Desai, A., & Kim, E. H. (1988). Synergistic gains from corporate acquisitions and their division between the stockholders of target and acquiring firms. Journal of Financial Economics, 21(1), 3-40.

Brown, D. T., & Ryngaert, M. D. (1991). The mode of acquisition in takeovers: Taxes and asymmetric information. The Journal of Finance, 46(2), 653-669.

Chatterjee, S., John, K., & Yan, A. (2011). Takeovers and divergence of investor opinion. The Review of Financial Studies, 25(1), 227-277.

Chen, H., De, P., Hu, Y., & Hwang, B. H. (2014). Wisdom of crowds: The value of stock opinions transmitted through social media. The Review of Financial Studies, 27(5), 1367-1403.

Cornelli, F., Goldreich, D., & Ljungqvist, A. (2006). Investor sentiment and pre-IPO markets. The Journal of Finance, 61(3), 1187-1216.

Da, Z., Engelberg, J., & Gao, P. (2014). The sum of all FEARS investor sentiment and asset prices. The Review of Financial Studies, 28(1), 1-32.

Daniel, K., Hirshleifer, D., & Subrahmanyam, A. (1998). Investor psychology and security market under-and overreactions. The Journal of Finance, 53(6), 1839-1885.

Das, S. R., & Chen, M. Y. (2007). Yahoo! for Amazon: Sentiment extraction from small talk on the web. Management Science, 53(9), 1375-1388.

Dougal, C., Engelberg, J., Garcia, D., & Parsons, C. A. (2012). Journalists and the stock market. The Review of Financial Studies, 25(3), 639-679.

Eckbo, B. E., Giammarino, R. M., & Heinkel, R. L. (1990). Asymmetric information and the medium of exchange in takeovers: Theory and tests. The Review of Financial Studies, 3(4), 651-675.

Edmans, A., Garcia, D., & Norli, Ø. (2007). Sports sentiment and stock returns. The Journal of Finance, 62(4), 1967-1998.

Fishman, M. J. (1989). Preemptive bidding and the role of the medium of exchange in acquisitions. The Journal of Finance, 44(1), 41-57.

Franks, J., Harris, R., & Titman, S. (1991). The postmerger share-price performance of acquiring firms. Journal of Financial Economics, 29(1), 81-96.

Fu, F., Lin, L., & Officer, M. S. (2013). Acquisitions driven by stock overvaluation: Are they good deals?. Journal of Financial Economics, 109(1), 24-39.

Griffin, D., & Tversky, A. (1992). The weighing of evidence and the determinants of confidence. Cognitive Psychology, 24(3), 411-435.

Hansen, R. G. (1987). A theory for the choice of exchange medium in mergers and acquisitions. Journal of Business, 75-95.

Hirshleifer, D. (2015). Behavioral finance. Annual Review of Financial Economics, 7, 133-159.

Hirshleifer, D., & Shumway, T. (2003). Good day sunshine: Stock returns and the weather. The Journal of Finance, 58(3), 1009-1032.

Hwang, B. H. (2011). Country-specific sentiment and security prices. Journal of Financial Economics, 100(2), 382-401.

Jensen, M. C., & Ruback, R. S. (1983). The market for corporate control: The scientific evidence. Journal of Financial Economics, 11(1-4), 5-50.

Keown, A. J., & Pinkerton, J. M. (1981). Merger announcements and insider trading activity: An empirical investigation. The Journal of Finance, 36(4), 855-869.

Kim, S. H., & Kim, D. (2014). Investor sentiment from internet message postings and the predictability of stock returns. Journal of Economic Behavior & Organization, 107, 708-729.

Kim, J. S., Ryu, D., & Seo, S. W. (2014). Investor sentiment and return predictability of disagreement. Journal of Banking & Finance, 42, 166-178.

Kumar, A., & Lee, C. (2006). Retail investor sentiment and return comovements. The Journal of Finance, 61(5), 2451-2486.

Lemmon, M., & Portniaguina, E. (2006). Consumer confidence and asset prices: Some empirical evidence. The Review of Financial Studies, 19(4), 1499-1529.

King, M. R. (2009). Prebid Run-Ups Ahead of Canadian Takeovers: How Big Is the Problem?. Financial Management, 38(4), 699-726.

Moeller, S. B., Schlingemann, F. P., & Stulz, R. M. (2005). Wealth destruction on a massive scale? A study of acquiring-firm returns in the recent merger wave. The Journal of Finance, 60(2), 757-782.

Roger, P. (2014). The 99% market sentiment index. Finance, 35(3), 53-96.

Roll, R. (1986). The hubris hypothesis of corporate takeovers. Journal of Business, 197-216.

Rosen, R. J. (2006). Merger momentum and investor sentiment: The stock market reaction to merger announcements. The Journal of Business, 79(2), 987-1017.

Schmeling, M. (2009). Investor sentiment and stock returns: Some international evidence. Journal of Empirical Finance, 16(3), 394-408.

Schwert, G. W. (1996). Markup pricing in mergers and acquisitions. Journal of Financial Economics, 41(2), 153-192.

Shleifer, A., & Vishny, R. W. (2003). Stock market driven acquisitions. Journal of Financial Economics, 70(3), 295-311.

Siganos, A., Vagenas-Nanos, E., & Verwijmeren, P. (2014). Facebook's daily sentiment and international stock markets. Journal of Economic Behavior & Organization, 107, 730-743.

Sprenger, T. O., Tumasjan, A., Sandner, P. G., & Welpe, I. M. (2014). Tweets and trades: The information content of stock microblogs. European Financial Management, 20(5), 926-957.

Stambaugh, R. F., Yu, J., & Yuan, Y. (2012). The short of it: Investor sentiment and anomalies. Journal of Financial Economics, 104(2), 288-302.

Sun, L., Najand, M., & Shen, J. (2016). Stock return predictability and investor sentiment: A high-frequency perspective. Journal of Banking & Finance, 73, 147-164.

Tetlock, P. C. (2007). Giving content to investor sentiment: The role of media in the stock market. The Journal of Finance, 62(3), 1139-1168.

Travlos, N. G. (1987). Corporate takeover bids, methods of payment, and bidding firms' stock returns. The Journal of Finance, 42(4), 943-963.

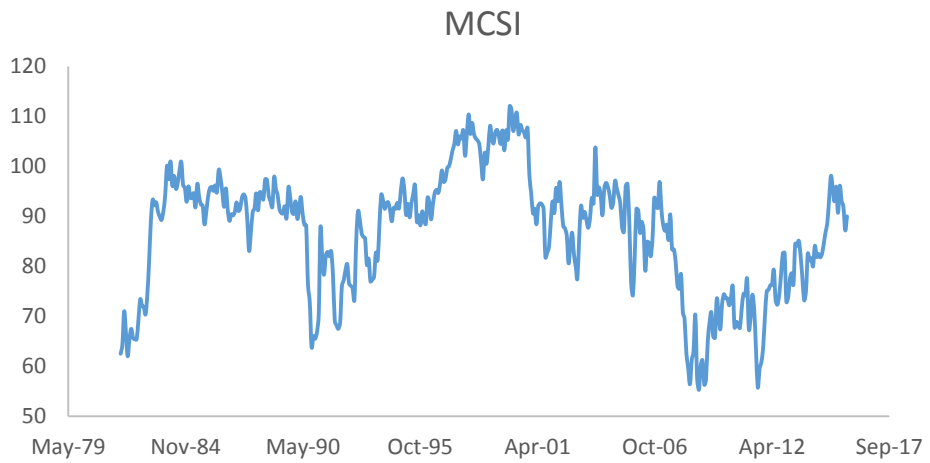
Tsai, I. C. (2017). Diffusion of optimistic and pessimistic investor sentiment: An empirical study of an emerging market. International Review of Economics & Finance, 47, 22-34.

Yu, J., & Yuan, Y. (2011). Investor sentiment and the mean–variance relation. Journal of Financial Economics, 100(2), 367-381.

Figure 4-1 University of Michigan Consumer Sentiment Index (MCSI) for our sample period

Panel A shows the University of Michigan Consumer Sentiment Index (MCSI) brought from University of Michigan website for our sample period. Panel B reports the sentiment quartiles that are associated with our sample. For every deal, we estimate a sentiment measure that is equal to the weighted average sentiment index levels during the deal's runup period. The runup spans 42 days before the announcement to 2 days before the announcement. We check where this sentiment measures ranks relative to the MCSI values and associate it with a sentiment quartile. The quartile cutoffs are estimated as per the sentiment original index spanning the period of our analysis: November 1981 till October 2015.

Panel A. The Sentiment Index Spanning our Sample



Panel B. The quartiles distribution over our sample period

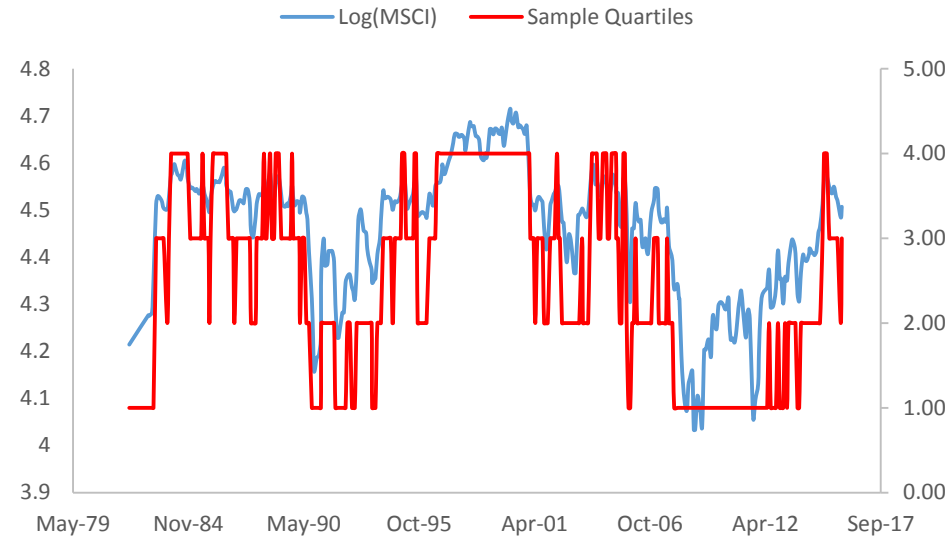
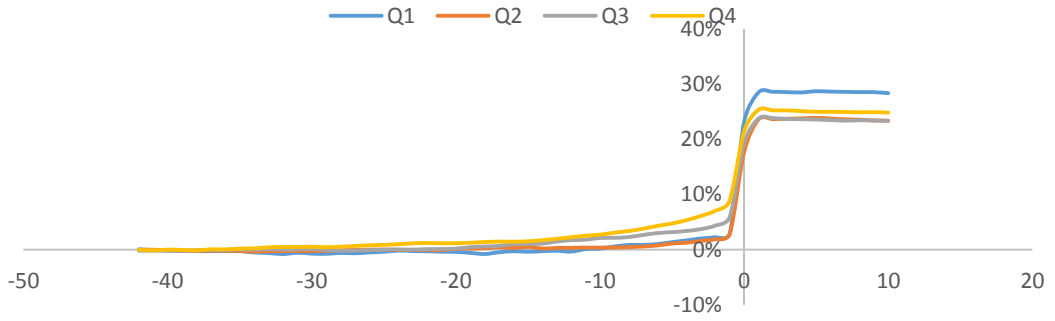


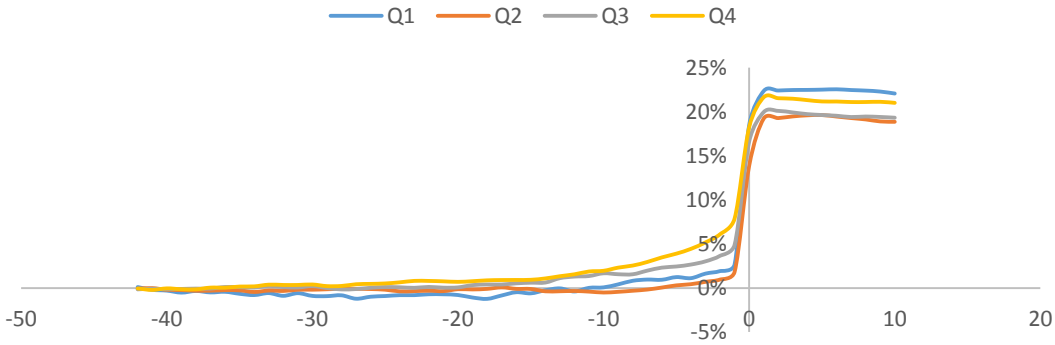
Figure 4-2 Target CAR as we progress in time through the runup period till after the announcement

The below figure shows the average Cumulative Abnormal Return (CAR) of the Target firms as we progress in time 42 days before the deal announcement till 10 days after the deal announcement. The Cumulative Abnormal Return (CAR) is the sum of the Abnormal Returns (AR) over the specified period. The AR is calculated as the difference between the realized return of the firm's stock and the expected return. The expected return is obtained using the market model ($r_{i,t} = \alpha + \beta r_{m,t}$). This latter was estimated using daily data spanning 253 trading days before the announcement day to 43 days before the announcement day. CRSP Value weighted index was used as a proxy for the market. Once the CAR is estimated for every firm in our sample for a particular day, an equal weighted average is calculated. The CAR estimation period starts from day -42 (42 trading days before the announcement day). The process is repeated progressively as we advance in time. The deals within our sample are classified into four sentiment quartiles based on the University of Michigan Consumer Sentiment Index (MCSI) that is associated with the deal. MCSI levels are brought from University of Michigan website. The quartile cutoffs are estimated as per the sentiment original index spanning the period of our analysis: November 1981 till October 2015. For every deal, we estimated a sentiment measure that is equal to the weighted average sentiment index levels that are available during the deal's runup period. This latter spans 42 days before the announcement to 2 days before the announcement. Q1 (Q4) is the quartile with lowest (highest) sentiment index level. Mergers and Acquisitions deals are downloaded from SDC. We limited our sample to Mergers, Acquisitions of Majority Interest and Acquisitions of Remaining Interest. We also required that the deal process a reported final offer price on SDC and filtered out the top and bottom deals' percentile when sorted as per their offer price in order to avoid outliers. We removed any offer that is not the first offer within a multibid contest. Deals fall into a multibid contest if bids on the same target are separated by less than 6 months from each other. We also require that both target and acquirer firms are public US listed firms with CRSP and Compustat data on both. We divided our sample in All, Non-Cash-Only (Mixed or Stock-Only) and Cash-Only based on the medium of exchange as reported by SDC. Similar approach is followed to estimate both target and bidder CAR. We limited our sample to those deal with a deal value greater than $10 Million and target share price greater than $5. Price and Return data is brought from CRSP.

All Deals



Non-Cash-Only Deals



Cash-Only Deals

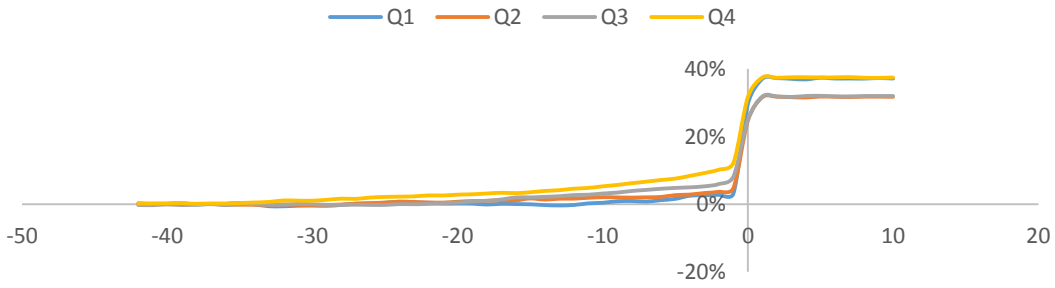
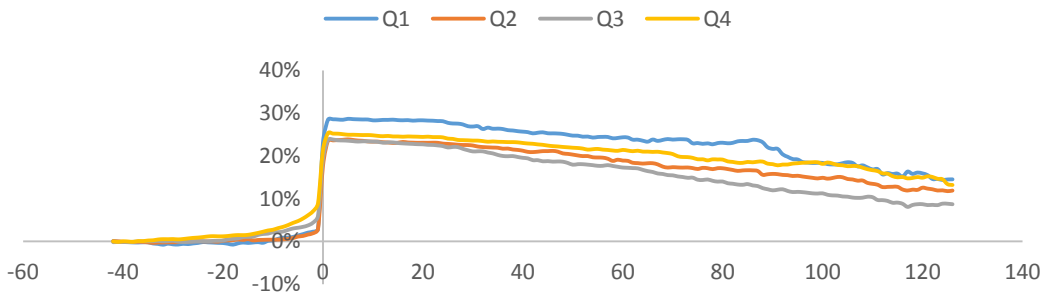


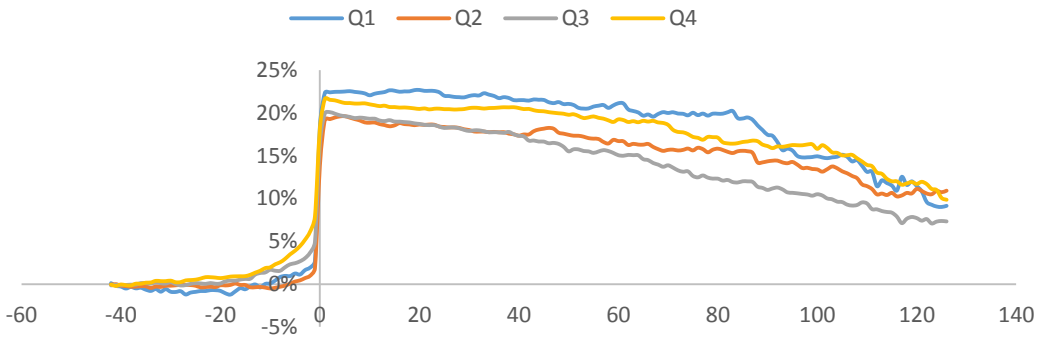
Figure 4-3 Target CAR as we progress in time through the runup period till after the announcement

The below figure show the average Cumulative Abnormal Return (CAR) of the Target firms as we progress in time 42 days before the deal announcement till 126 days after the deal announcement. The Cumulative Abnormal Return (CAR) is estimated as sum of the Abnormal Returns (AR) over the specified period. The AR is calculated as the difference between the realized return of the firm's stock and the expected return. The expected return is obtained using the market model ($r_{i,t} = \alpha + \beta\, r_{m,t}$). This latter was estimated using daily date spanning 253 trading days before the announcement day to 43 days before the announcement day. CRSP Value weighted index was used as a proxy for the market. Once the CAR is estimated for every firm in our sample for a particular day, an equal weighted average is calculated. The CAR estimation period starts from day -42 (42 trading days before the announcement day). The process is repeated progressively as we advance in time. The deals within our sample are classified into four sentiment quartile based on the University of Michigan Consumer Sentiment Index (MCSI) that is associated with the deal. MCSI levels are brought from University of Michigan website. The quartile cutoffs are estimated as per the sentiment original index spanning the period of our analysis: November 1981 till October 2015. For every deal, we estimated a sentiment measure that is equal to the weighted average sentiment index levels that are available during the deal's runup period. This latter spans 42 days before the announcement to 2 days before the announcement. Q1 (Q4) is the quartile with lowest (highest) sentiment index level. Mergers and Acquisitions deals are downloaded from SDC. We limited our sample to Mergers, Acquisitions of Majority Interest and Acquisitions of Remaining Interest. We also required that the deal process a reported final offer price on SDC and filtered out the top and bottom deals' percentile when sorted as per their offer price in order to avoid outliers. We removed any offer that is not the first offer within a multibid contest. Deals fall into a multibid contest if bids on the same target are separated by less than 6 months from each other. We also require that both target and acquirer firms are public US listed firms with CRSP and Compustat data on both. We divided our sample in All, Non-Cash-Only (Mixed or Stock-Only) and Cash-Only based on the medium of exchange as reported by SDC. Similar approach is followed to estimate both target and bidder CAR. We limited our sample to those deal with a deal value greater than $10 Million and target share price greater than $5. Price and Return data is brought from CRSP.

All Deals



Non-Cash-Only Deals



Cash-Only Deals

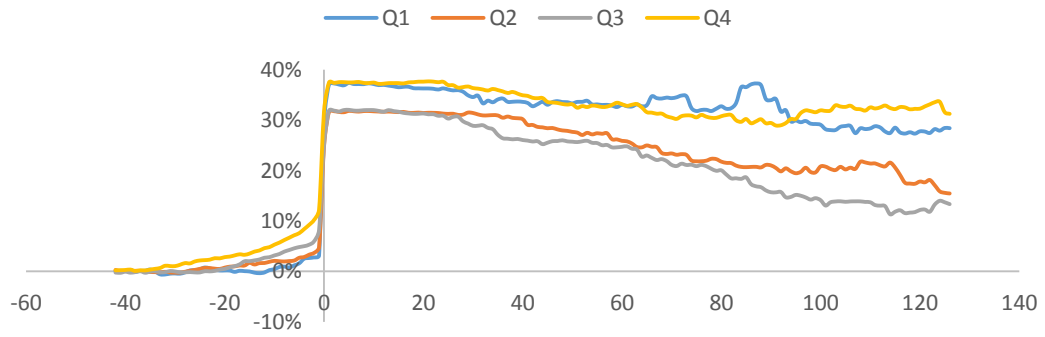
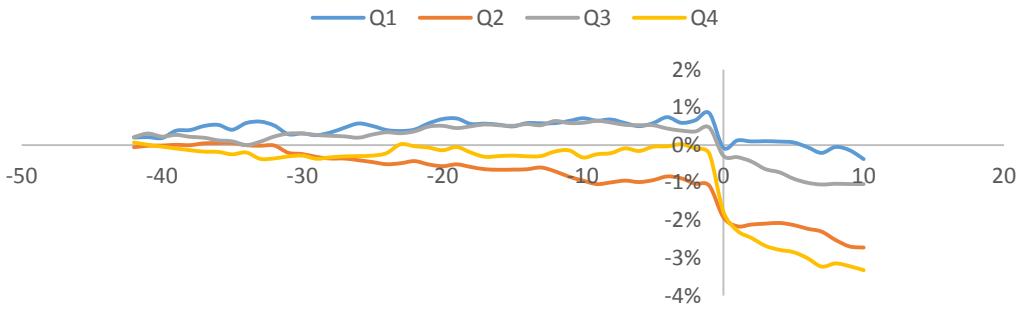


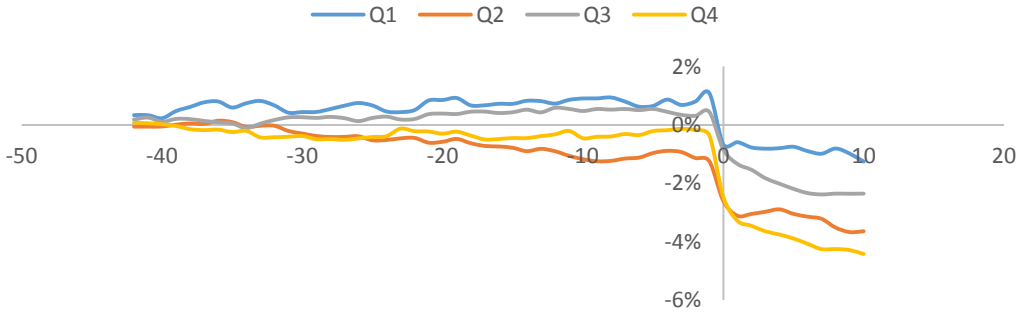
Figure 4-4 Bidder CAR as we progress in time through the runup period till after the announcement

The below figure show the average Cumulative Abnormal Return (CAR) of the Bidder firms as we progress in time 42 days before the deal announcement till 10 days after the deal announcement. The Cumulative Abnormal Return (CAR) is estimated as sum of the Abnormal Returns (AR) over the specified period. The AR is calculated as the difference between the realized return of the firm's stock and the expected return. The expected return is obtained using the market model ($r_{i,t} = \alpha + \beta\, r_{m,t}$). This latter was estimated using daily date spanning 253 trading days before the announcement day to 43 days before the announcement day. CRSP Value weighted index was used as a proxy for the market. Once the CAR is estimated for every firm in our sample for a particular day, an equal weighted average is calculated. The CAR estimation period starts from day -42 (42 trading days before the announcement day). The process is repeated progressively as we advance in time. The deals within our sample are classified into four sentiment quartile based on the University of Michigan Consumer Sentiment Index (MCSI) that is associated with the deal. MCSI levels are brought from University of Michigan website. The quartile cutoffs are estimated as per the sentiment original index spanning the period of our analysis: November 1981 till October 2015. For every deal, we estimated a sentiment measure that is equal to the weighted average sentiment index levels that are available during the deal's runup period. This latter spans 42 days before the announcement to 2 days before the announcement. Q1 (Q4) is the quartile with lowest (highest) sentiment index level. Mergers and Acquisitions deals are downloaded from SDC. We limited our sample to Mergers, Acquisitions of Majority Interest and Acquisitions of Remaining Interest. We also required that the deal process a reported final offer price on SDC and filtered out the top and bottom deals' percentile when sorted as per their offer price in order to avoid outliers. We removed any offer that is not the first offer within a multibid contest. Deals fall into a multibid contest if bids on the same target are separated by less than 6 months from each other. We also require that both target and acquirer firms are public US listed firms with CRSP and Compustat data on both. We divided our sample in All, Non-Cash-Only (Mixed or Stock-Only) and Cash-Only based on the medium of exchange as reported by SDC. Similar approach is followed to estimate both target and bidder CAR. We limited our sample to those deal with a deal value greater than $10 Million and target share price greater than $5. Price and Return data is brought from CRSP.

All Deals



Non-Cash-Only Deals



Cash-Only Deals

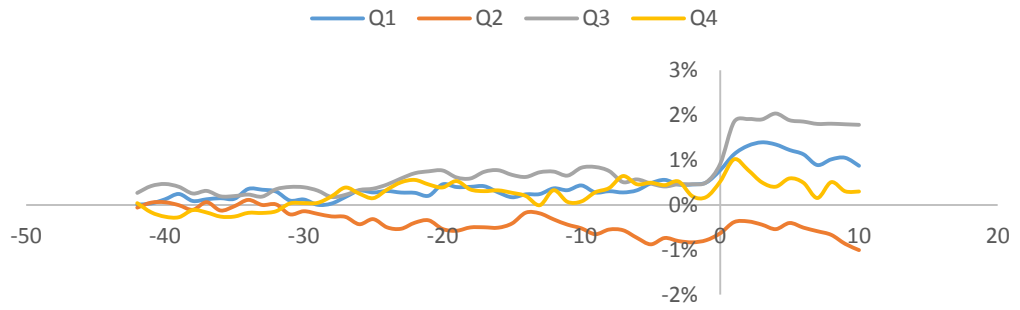
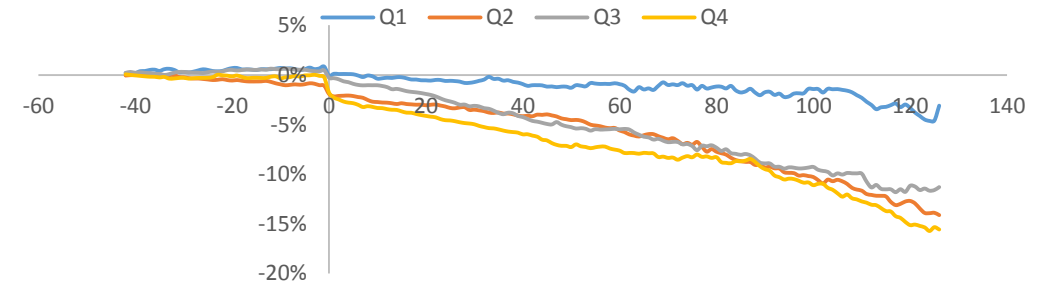


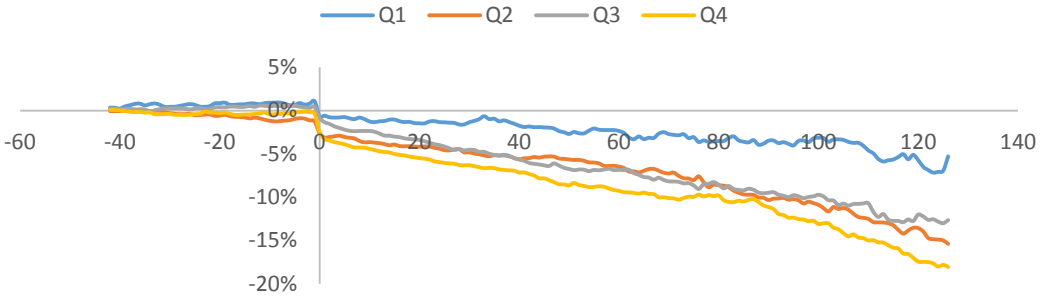
Figure 4-5 Bidder CAR as we progress in time through the runup period till after the announcement

The below figure show the average Cumulative Abnormal Return (CAR) of the Bidder firms as we progress in time 42 days before the deal announcement till 126 days after the deal announcement. The Cumulative Abnormal Return (CAR) is estimated as sum of the Abnormal Returns (AR) over the specified period. The AR is calculated as the difference between the realized return of the firm's stock and the expected return. The expected return is obtained using the market model ($r_{i,t} = \alpha + \beta\, r_{m,t}$). This latter was estimated using daily date spanning 253 trading days before the announcement day to 43 days before the announcement day. CRSP Value weighted index was used as a proxy for the market. Once the CAR is estimated for every firm in our sample for a particular day, an equal weighted average is calculated. The CAR estimation period starts from day -42 (42 trading days before the announcement day). The process is repeated progressively as we advance in time. The deals within our sample are classified into four sentiment quartile based on the University of Michigan Consumer Sentiment Index (MCSI) that is associated with the deal. MCSI levels are brought from University of Michigan website. The quartile cutoffs are estimated as per the sentiment original index spanning the period of our analysis: November 1981 till October 2015. For every deal, we estimated a sentiment measure that is equal to the weighted average sentiment index levels that are available during the deal's runup period. This latter spans 42 days before the announcement to 2 days before the announcement. Q1 (Q4) is the quartile with lowest (highest) sentiment index level. Mergers and Acquisitions deals are downloaded from SDC. We limited our sample to Mergers, Acquisitions of Majority Interest and Acquisitions of Remaining Interest. We also required that the deal process a reported final offer price on SDC and filtered out the top and bottom deals' percentile when sorted as per their offer price in order to avoid outliers. We removed any offer that is not the first offer within a multibid contest. Deals fall into a multibid contest if bids on the same target are separated by less than 6 months from each other. We also require that both target and acquirer firms are public US listed firms with CRSP and Compustat data on both. We divided our sample in All, Non-Cash-Only (Mixed or Stock-Only) and Cash-Only based on the medium of exchange as reported by SDC. Similar approach is followed to estimate both target and bidder CAR. We limited our sample to those deal with a deal value greater than $10 Million and target share price greater than $5. Price and Return data is brought from CRSP.

All Deals



Non-Cash-Only Deals



Cash-Only Deals

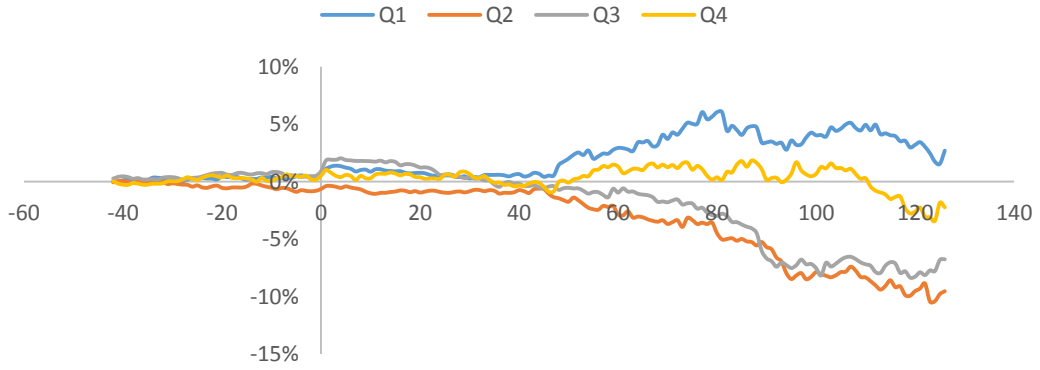


Table 4-1 Variables Definition

Description of the main variables used in our work and the brief description of their construction

Variable	**Definition and Estimation**
Price-Based-Premium or Premium	(Final_Offfer_Price/ P_{-42}) – 1
CAR-Based-Premium	Minimum (Target CAR [-42, Deal Completion], Target CAR [-42, +126])
Price-Based-Runup or Runup	(P_{-2}/ P_{-42}) – 1
CAR-Based-Runup	CAR [-42, -2]
Price-Based-Marup or Markup	(Final_Offfer_Price/ P_{-2}) – 1
CAR-Based-Markup	Minimum (Target CAR [-2, Deal Completion], Target CAR [-2, +126])
CAR	The Cumulative Abnormal Return (CAR) is estimated as sum of the Abnormal Returns (AR) over the specified period. The AR is calculated as the difference between the realized return of the firm's stock and the expected return. The expected return is obtained using the market model ($r_{(i,t)} = \alpha + \beta\, r_{(m,t)}$). This latter is estimated using daily returns spanning 253 trading days before the announcement day to 43 trading days before the announcement day. CRSP Value weighted index is used as a proxy for the market.
Size	Logarithm of target market value of equity
Market Value of Equity	Number of target shares outstanding multiplies by the target stock price at event day -42
Turnover	Turnover is estimated as the average of the Volume to Share Outstanding Ratio calculated over the interval spanning 166 days before the announcement to 42 days before the announcement (before the beginning of the runup period).
NYSE/ AMEX	A dummy variable that takes a value of 1 if the target stock is listed on NYSE/ AMEX
Book/Market ratio	B/M is the ratio of the Book Value of the Firm's equity divided by the Market Value of the Firm 42 days before the announcement.
Book Value	The Book value of the firm's equity is obtained following the approach of Fama and French (1993) by adding the book value of stockholders equity to the balance sheet deferred taxes and investment tax credit and subtracting the book value of preferred share.
Toehold	A dummy variable that takes a value of 1 if the bidder has more than 5% ownership prior to the announcement
Horizontal	A dummy variable that takes a value of 1 if bidder and target has the same 4 digits SIC (Standard Industrial Classification) code
Tender Offer	A dummy variable that takes a value of 1 if the Bid is a Tender Offer
Cash	A dummy variable that takes a value of 1 if the offer is in cash-only
Hostile	A dummy variable that takes a value of 1 if the bid is hostile
Multiple Bids	A dummy variable that takes a value of 1 if there are multiple bidders within the same contest (a contest is a 6-Month period from the first bidder's bid)
Rumor	A dummy variable that takes a value of 1 if the deal started with a rumor - We relied on SDC for our rumor source
Complete	A dummy variable that takes a value of 1 if the deal was completed
Industry Dummies	Industry dummies are created based on two digit SIC codes.
MCSI	The University of Michigan Consumer Sentiment Index that is associated with the deal.
BW	The Baker and Wurgler Sentiment Index that is associated with the deal
BWN	The Maker and Wurgler Sentiment Index that is not orthogonalized against macroeconomic variables and that is associated with the deal

Table 4-2 Descriptive Statistics - by University of Michigan Consumer Sentiment Index (MCSI) – ALL

The below table shows a general descriptive statistics (mean) for the main variables used in our tests. The Cumulative Abnormal Return (CAR) is estimated as sum of the Abnormal Returns (AR) over the specified period. The AR is calculated as the difference between the realized return of the firm's stock and the expected return. The expected return is obtained using the market model ($r_{i,t} = \alpha + \beta\, r_{m,t}$). This latter is estimated using daily returns spanning 253 trading days before the announcement day to 43 days before the announcement day. CRSP Value weighted index was used as a proxy for the market. The deals within our sample are classified into four sentiment quartile based on the University of Michigan Consumer Sentiment Index (MCSI) that is associated with the deal. MCSI levels are brought from University of Michigan website. We relied on the logarithm of MCSI in our analysis. For every deal, we estimated a sentiment measure that is equal to the weighted average sentiment index levels that are available during the deal's runup period. This latter spans 42 days before the announcement to 2 days before the announcement. The quartile cutoffs are estimated as per the sentiment original index spanning the period of our analysis: November 1981 till October 2015. Mergers and Acquisitions deals are downloaded from SDC. We limited our sample to Mergers, Acquisitions of Majority Interest and Acquisitions of Remaining Interest. We required that the deal have a reported final offer price on SDC and filtered out the top and bottom deals' percentile when sorted by per their offer premium in order to avoid outliers. The offer premium is estimated as the final offer price divided by the target stock price 42 trading days before the announcement day. We removed any offer that is not the first offer within a multibid contest. Deals fall into a multibid contest if bids on the same target are separated by less than 6 months from each other. We also filtered out any deal whose value is less than $10 Million dollar and whose target stock price on day -42 is less than $5. Deal value is brought from SDC. We have also used Target Cumulative Abnormal Return from the beginning of the Runup period till completion day or 126 days after the deal is completed (whichever is shorter) – we termed this variable as CAR-Based-Premium. We require that both target and acquirer firms are public US listed firms with CRSP and Compustat data on both. We divided our sample into All, Non-Cash-Only (Mixed or Stock-Only) and Cash-Only based on the medium of exchange as reported by SDC. Price and Return data is brought from CRSP. For price based runup and markup, we followed Betton et al (2008) by dividing the target stock price 2 days before the announcement day by the target stock price 42 days before the announcement date and the Final Offer Price by the target stock price 2 days before the announcement respectively. For the CAR based runup and markup we estimated them as the CAR over [-42, -2] and [-1, +126] respectively. Size is the logarithm of the firm market cap 42 days before the announcement day. The firm market cap is obtained by multiplying the stock price by the number of shares outstanding (in $Millions). B/M is the ratio of the Book Value of the Firm's equity divided by the Market Value of the Firm 42 days before the announcement. The Book value of the firm's equity is obtained following the approach of Fama and French (1993) by adding the book value of stockholders equity to the balance sheet deferred taxes and investment tax credit and subtracting the book value of preferred share – all data are brought from Compustat. Target (Acquirer) Turnover is estimated as the average of the Volume to Share Outstanding Ratio calculated over the interval spanning 166 days before the announcement to 42 days before the announcement (before the beginning of the runup period). Relying on SDC deals' data we created the following dummy variables: complete – whether the the deal was completed successfully or not, Hostile – whether the bidder attitude was hostile or not, Rumor – whether the deal followed a rumor or not, Tender – whether the deal was a tender offer or not, Toehold – whether the bidder had more than 5% ownership of the target at the deal's announcement, and NYSE/AMEX whether the deal is listed on NYSE, AMEX or not. If the target and acquirer share the same four-digit SIC code, the deal is considered a Horizontal deal. Firms' SIC codes are obtained from CRSP.

	All Sample	Q1	Q2	Q3	Q4
Target Size	19.4415	20.0268	19.6481	19.1248	19.3467
Target Turnover	6.5291	8.7577	6.6163	5.9377	6.1912
Target B/M	0.5794	0.6655	0.5576	0.6045	0.5525
Acquirer Size	21.4060	21.8962	21.6207	21.0908	21.3330
Acquirer Turnover	6.9172	8.8139	6.8109	7.0997	6.3355
Acquirer B/M	0.5067	0.5899	0.5335	0.5271	0.4575
Acquirer CAR [-42,-2]	-0.0012	0.0061	-0.0103	0.0032	-0.0009
Acquirer CAR [-1,+1]	-0.0140	-0.0056	-0.0113	-0.0069	-0.0219
Acquirer CAR [+2,+126]	-0.0844	-0.0503	-0.0692	-0.0918	-0.0978
Target CAR [-42,-2]] – Target Runup – CAR-based	0.0474	0.0254	0.0194	0.0436	0.0706
Target CAR [-1,+1]	0.2023	0.2621	0.2167	0.1937	0.1827
Target CAR [+2,+126]	-0.0175	-0.0134	-0.0254	-0.0395	-0.0019
Target CAR [-1,+126] – Target Markup – CAR-based	0.1848	0.2487	0.1913	0.1541	0.1808
Target CAR [-42,+126] – Target Premium – CAR-based	0.2322	0.2741	0.2107	0.1977	0.2514
Target Runup [(P_{-2}/P_{-42}) - 1]	0.0763	0.0455	0.0472	0.0791	0.0990
Target Markup [(Final Offer Price/P_{-2}) - 1]	0.3141	0.3531	0.3119	0.2955	0.3148
Premium [(Final Offer Price/P_{-42}) - 1]	0.4031	0.4032	0.3694	0.3865	0.4305
Target Listed on NYSE/AMEX	0.3565	0.4178	0.3587	0.3186	0.3597
Acquirer Listed on NYSE/AMEX	0.6507	0.6233	0.6655	0.6610	0.6448
Toehold Exists	0.0413	0.0411	0.0483	0.0508	0.0322
Horizontal Deal	0.2318	0.2763	0.2428	0.2407	0.2085
Tender Offer	0.1579	0.2009	0.1256	0.1661	0.1583
Cash Only Deal	0.3007	0.4155	0.3490	0.3175	0.2329
Hostile Deal	0.0348	0.0297	0.0254	0.0475	0.0341
First Bid in a Multibid Contest	0.0904	0.0890	0.0930	0.1096	0.0785
Rumored Deal	0.0448	0.0799	0.0519	0.0407	0.0335
Complete Deal	0.8618	0.8539	0.8696	0.8441	0.8700
Log (MCSI)	4.5210	4.2563	4.4483	4.5254	4.6319
Number of Deals	3705	438	828	885	1554

Table 4-3 Descriptive Statistics - by University of Michigan Consumer Sentiment Index (MCSI) – Non-Cash-Only

The below table shows a general descriptive statistics (mean) for the main variables used in our tests for the Non-Cash-Only (Stock and Mixed Deal) sample. The Cumulative Abnormal Return (CAR) is estimated as sum of the Abnormal Returns (AR) over the specified period. The AR is calculated as the difference between the realized return of the firm's stock and the expected return. The expected return is obtained using the market model ($r_{i,t} = \alpha + \beta\, r_{m,t}$). This latter is estimated using daily returns spanning 253 trading days before the announcement day to 43 days before the announcement day. CRSP Value weighted index was used as a proxy for the market. The deals within our sample are classified into four sentiment quartile based on the University of Michigan Consumer Sentiment Index (MCSI) that is associated with the deal. MCSI levels are brought from University of Michigan website. We relied on the logarithm of MCSI in our analysis. For every deal, we estimated a sentiment measure that is equal to the weighted average sentiment index levels that are available during the deal's runup period. This latter spans 42 days before the announcement to 2 days before the announcement. The quartile cutoffs are estimated as per the sentiment original index spanning the period of our analysis: November 1981 till October 2015. Mergers and Acquisitions deals are downloaded from SDC. We limited our sample to Mergers, Acquisitions of Majority Interest and Acquisitions of Remaining Interest. We required that the deal have a reported final offer price on SDC and filtered out the top and bottom deals' percentile when sorted by per their offer premium in order to avoid outliers. The offer premium is estimated as the final offer price divided by the target stock price 42 trading days before the announcement day. We removed any offer that is not the first offer within a multibid contest. Deals fall into a multibid contest if bids on the same target are separated by less than 6 months from each other. We also filtered out any deal whose value is less than $10 Million dollar and whose target stock price on day -42 is less than $5. Deal value is brought from SDC. We have also used Target Cumulative Abnomral Return from the beginning of the Runup period till completion day or 126 days after the deal is completed (whichever is shorter) – we termed this variable as CAR-Base d-Premium. We require that both target and acquirer firms are public US listed firms with CRSP and Compustat data on both. We divided our sample into All, Non-Cash-Only (Mixed or Stock-Only) and Cash-Only based on the medium of exchange as reported by SDC. Price and Return data is brought from CRSP. For price based runup and markup, we followed Betton et al (2008) by dividing the target stock price 2 days before the announcement day by the target stock price 42 days before the announcement date and the Final Offer Price by the target stock price 2 days before the announcement respectively. For the CAR based runup and markup we estimated them as the CAR over [-42, -2] and [-1, +126] respectively. Size is the logarithm of the firm market cap 42 days before the announcement day. The firm market cap is obtained by multiplying the stock price by the number of shares outstanding (in $Millions). B/M is the ratio of the Book Value of the Firm`s equity divided by the Market Value of the Firm 42 days before the announcement. The Book value of the firm's equity is obtained following the approach of Fama and French (1993) by adding the book value of stockholders equity to the balance sheet deferred taxes and investment tax credit and subtracting the book value of preferred share – all data are brought from Compustat. Target (Acquirer) Turnover is estimated as the average of the Volume to Share Outstanding Ratio calculated over the interval spanning 166 days before the announcement to 42 days before the announcement (before the beginning of the runup period). Relying on SDC deals' data we created the following dummy variables: complete – whether the the deal was completed successfully or not, Hostile – whether the bidder attitude was hostile or not, Rumor – whether the deal followed a rumor or not, Tender – whether the deal was a tender offer or not, Toehold – whether the bidder had more than 5% ownership of the target at the deal's announcement, and NYSE/AMEX whether the deal is listed on NYSE, AMEX or not. If the target and acquirer share the same four-digit SIC code, the deal is considered a Horizontal deal. Firms' SIC codes are obtained from CRSP.

	All Sample	Q1	Q2	Q3	Q4
Target Size	19.5059	19.9866	19.6490	19.2046	19.4905
Target Turnover	6.4603	8.1643	6.0084	6.0665	6.4982
Target B/M	0.5849	0.7469	0.6038	0.6048	0.5315
Acquirer Size	21.2293	21.3156	21.2950	20.9451	21.3251
Acquirer Turnover	7.1493	8.4950	6.7470	7.9096	6.6569
Acquirer B/M	0.4821	0.6604	0.5016	0.4999	0.4260
Acquirer CAR [-42,-2]	-0.0017	0.0078	-0.0109	0.0026	-0.0018
Acquirer CAR [-1,+1]	-0.0236	-0.0139	-0.0198	-0.0166	-0.0310
Acquirer CAR [+2,+126]	-0.1074	-0.0570	-0.0827	-0.1133	-0.1264
Target CAR [-42,-2]	0.0408	0.0220	0.0100	0.0362	0.0610
Target CAR [-1,+1]	0.1677	0.2045	0.1827	0.1633	0.1553
Target CAR [+2,+126]	-0.0193	-0.0178	-0.0211	-0.0423	-0.0072
Target CAR [-1,+126] – Target Markup – CAR-based	0.1484	0.1867	0.1616	0.1210	0.1481
Target CAR [-42,+126] – Target Premium – CAR-based	0.1892	0.2087	0.1716	0.1572	0.2091
Target Runup [(P_{-2}/P_{-42}) - 1]	0.0700	0.0318	0.0396	0.0686	0.0928
Target Markup [(Final Offer Price/P_{-2}) - 1]	0.2977	0.3298	0.3026	0.2811	0.2969
Premium [(Final Offer Price/P_{-42}) - 1]	0.3787	0.3644	0.3516	0.3590	0.4040
Target Listed on NYSE/AMEX	0.3701	0.4844	0.3766	0.3394	0.3582
Acquirer Listed on NYSE/AMEX	0.6229	0.5820	0.6308	0.6374	0.6208
Toehold Exists	0.0343	0.0430	0.0464	0.0447	0.0218
Horizontal Deal	0.2493	0.3203	0.2709	0.2599	0.2190
Tender Offer	0.0459	0.0742	0.0371	0.0497	0.0419
Cash Only Deal	0.0000	0.0000	0.0000	0.0000	0.0000
Hostile Deal	0.0247	0.0234	0.0204	0.0381	0.0201
First Bid in a Multibid Contest	0.0853	0.0898	0.0983	0.1093	0.0663
Rumored Deal	0.0440	0.0664	0.0631	0.0414	0.0319
Complete Deal	0.8584	0.8477	0.8534	0.8377	0.8733
Log (MCSI)	4.5321	4.2577	4.4487	4.5245	4.6325
Number of Deals	2591	256	539	604	1192

Table 4-4 Descriptive Statistics - by University of Michigan Consumer Sentiment Index (MCSI) – Cash-Only

The below table shows a general descriptive statistics (mean) for the main variables used in our tests for the Cash-Only sample. The Cumulative Abnormal Return (CAR) is estimated as sum of the Abnormal Returns (AR) over the specified period. The AR is calculated as the difference between the realized return of the firm's stock and the expected return. The expected return is obtained using the market model ($r_{i,t} = \alpha + \beta\, r_{m,t}$). This latter is estimated using daily returns spanning 253 trading days before the announcement day to 43 days before the announcement day. CRSP Value weighted index was used as a proxy for the market. The deals within our sample are classified into four sentiment quartile based on the University of Michigan Consumer Sentiment Index (MCSI) that is associated with the deal. MCSI levels are brought from University of Michigan website. We relied on the logarithm of MCSI in our analysis. For every deal, we estimated a sentiment measure that is equal to the weighted average sentiment index levels that are available during the deal's runup period. This latter spans 42 days before the announcement to 2 days before the announcement. The quartile cutoffs are estimated as per the sentiment original index spanning the period of our analysis: November 1981 till October 2015. Mergers and Acquisitions deals are downloaded from SDC. We limited our sample to Mergers, Acquisitions of Majority Interest and Acquisitions of Remaining Interest. We required that the deal have a reported final offer price on SDC and filtered out the top and bottom deals' percentile when sorted by per their offer premium in order to avoid outliers. The offer premium is estimated as the final offer price divided by the target stock price 42 trading days before the announcement day. We removed any offer that is not the first offer within a multibid contest. Deals fall into a multibid contest if bids on the same target are separated by less than 6 months from each other. We also filtered out any deal whose value is less than $10 Million dollar and whose target stock price on day -42 is less than $5. Deal value is brought from SDC. We have also used Target Cumulative Abnomral Return from the beginning of the Runup period till completion day or 126 days after the deal is completed (whichever is shorter) – we termed this variable as CAR-Base d-Premium. We require that both target and acquirer firms are public US listed firms with CRSP and Compustat data on both. We divided our sample into All, Non-Cash-Only (Mixed or Stock-Only) and Cash-Only based on the medium of exchange as reported by SDC. Price and Return data is brought from CRSP. For price based runup and markup, we followed Betton et al (2008) by dividing the target stock price 2 days before the announcement day by the target stock price 42 days before the announcement date and the Final Offer Price by the target stock price 2 days before the announcement respectively. For the CAR based runup and markup we estimated them as the CAR over [-42, -2] and [-1, +126] respectively. Size is the logarithm of the firm market cap 42 days before the announcement day. The firm market cap is obtained by multiplying the stock price by the number of shares outstanding (in $Millions). B/M is the ratio of the Book Value of the Firm's equity divided by the Market Value of the Firm 42 days before the announcement. The Book value of the firm's equity is obtained following the approach of Fama and French (1993) by adding the book value of stockholders equity to the balance sheet deferred taxes and investment tax credit and subtracting the book value of preferred share – all data are brought from Compustat. Target (Acquirer) Turnover is estimated as the average of the Volume to Share Outstanding Ratio calculated over the interval spanning 166 days before the announcement to 42 days before the announcement (before the beginning of the runup period). Relying on SDC deals' data we created the following dummy variables: complete – whether the the deal was completed successfully or not, Hostile – whether the bidder attitude was hostile or not, Rumor – whether the deal followed a rumor or not, Tender – whether the deal was a tender offer or not, Toehold – whether the bidder had more than 5% ownership of the target at the deal's announcement, and NYSE/AMEX whether the deal is listed on NYSE, AMEX or not. If the target and acquirer share the same four-digit SIC code, the deal is considered a Horizontal deal. Firms' SIC codes are obtained from CRSP.

	All Sample	Q1	Q2	Q3	Q4
Target Size	19.2917	20.0834	19.6466	18.9532	18.8732
Target Turnover	6.6891	9.5925	7.7500	5.6609	5.1805
Target B/M	0.5667	0.5509	0.4714	0.6039	0.6218
Acquirer Size	21.8169	22.7129	22.2281	21.4039	21.3588
Acquirer Turnover	6.3776	9.2625	6.9300	5.3588	5.2770
Acquirer B/M	0.5641	0.4907	0.5929	0.5856	0.5611
Acquirer CAR [-42,-2]	0.0000	0.0036	-0.0090	0.0045	0.0020
Acquirer CAR [-1,+1]	0.0083	0.0060	0.0045	0.0139	0.0082
Acquirer CAR [+2,+126]	-0.0309	-0.0409	-0.0440	-0.0458	-0.0038
Target CAR [-42,-2]	0.0627	0.0301	0.0368	0.0593	0.1024
Target CAR [-1,+1]	0.2827	0.3432	0.2801	0.2590	0.2727
Target CAR [+2,+126]	-0.0132	-0.0072	-0.0333	-0.0336	0.0156
Target CAR [-1,+126] – Target Markup – CAR-based	0.2695	0.3361	0.2468	0.2254	0.2884
Target CAR [-42,+126] – Target Premium – CAR-based	0.3322	0.3661	0.2836	0.2848	0.3908
Target Runup [(P_{-2}/P_{-42}) - 1]	0.0909	0.0647	0.0613	0.1016	0.1194
Target Markup [(Final Offer Price/P_{-2}) - 1]	0.3523	0.3858	0.3293	0.3266	0.3738
Premium [(Final Offer Price/P_{-42}) - 1]	0.4600	0.4579	0.4027	0.4457	0.5178
Target Listed on NYSE/AMEX	0.3250	0.3242	0.3253	0.2740	0.3646
Acquirer Listed on NYSE/AMEX	0.7154	0.6813	0.7301	0.7117	0.7238
Toehold Exists	0.0575	0.0385	0.0519	0.0641	0.0663
Horizontal Deal	0.1912	0.2143	0.1903	0.1993	0.1740
Tender Offer	0.4183	0.3791	0.2907	0.4164	0.5414
Cash Only Deal	1.0000	1.0000	1.0000	1.0000	1.0000
Hostile Deal	0.0584	0.0385	0.0346	0.0676	0.0801
First Bid in a Multibid Contest	0.1023	0.0879	0.0830	0.1103	0.1188
Rumored Deal	0.0467	0.0989	0.0311	0.0391	0.0387
Complete Deal	0.8698	0.8626	0.8997	0.8577	0.8591
Log (MCSI)	4.4953	4.2544	4.4474	4.5273	4.6299
Number of Deals	1114	182	289	281	362

Table 4-5 Bidder CAR during the Announcement Period – by University of Michigan Consumer Sentiment Index (MCSI)

The below table shows the Bidder CAR estimated over the announcement period [-1, +1] sorted across the four sentiment quartiles. The Cumulative Abnormal Return (CAR) is estimated as sum of the Abnormal Returns (AR) over the specified period. The AR is calculated as the difference between the realized return of the firm's stock and the expected return. The expected return is obtained using the market model ($r_{i,t} = \alpha + \beta\, r_{m,t}$). This latter is estimated using daily returns spanning 253 trading days before the announcement day to 43 days before the announcement day. CRSP Value weighted index was used as a proxy for the market. The deals within our sample are classified into four sentiment quartile based on the University of Michigan Consumer Sentiment Index (MCSI) that is associated with the deal. MCSI levels are brought from University of Michigan website. We relied on the logarithm of MCSI in our analysis. For every deal, we estimated a sentiment measure that is equal to the weighted average sentiment index levels that are available during the deal's runup period. This latter spans 42 days before the announcement to 2 days before the announcement. The quartile cutoffs are estimated as per the sentiment original index spanning the period of our analysis: November 1981 till October 2015. Mergers and Acquisitions deals are downloaded from SDC. We limited our sample to Mergers, Acquisitions of Majority Interest and Acquisitions of Remaining Interest. We required that the deal have a reported final offer price on SDC and filtered out the top and bottom deals' percentile when sorted by per their offer premium in order to avoid outliers. The offer premium is estimated as the final offer price divided by the target stock price 42 trading days before the announcement day. We removed any offer that is not the first offer within a multibid contest. Deals fall into a multibid contest if bids on the same target are separated by less than 6 months from each other. We also filtered out any deal whose value is less than $10 Million dollar and whose target stock price on day -42 is less than $5. Deal value is brought from SDC. We have also used Target Cumulative Abnomral Return from the beginning of the Runup period till completion day or 126 days after the deal is completed (whichever is shorter) – we termed this variable as CAR-Base d-Premium. We require that both target and acquirer firms are public US listed firms with CRSP and Compustat data on both. We divided our sample into All, Non-Cash-Only (Mixed or Stock-Only) and Cash-Only based on the medium of exchange as reported by SDC. Price and Return data is brought from CRSP. For price based runup and markup, we followed Betton et al (2008) by dividing the target stock price 2 days before the announcement day by the target stock price 42 days before the announcement date and the Final Offer Price by the target stock price 2 days before the announcement respectively. For the CAR based runup and markup we estimated them as the CAR over [-42, -2] and [-1, +126] respectively. Size is the logarithm of the firm market cap 42 days before the announcement day. The firm market cap is obtained by multiplying the stock price by the number of shares outstanding (in $Millions). B/M is the ratio of the Book Value of the Firm's equity divided by the Market Value of the Firm 42 days before the announcement. The Book value of the firm's equity is obtained following the approach of Fama and French (1993) by adding the book value of stockholders equity to the balance sheet deferred taxes and investment tax credit and subtracting the book value of preferred share – all data are brought from Compustat. Target (Acquirer) Turnover is estimated as the average of the Volume to Share Outstanding Ratio calculated over the interval spanning 166 days before the announcement to 42 days before the announcement (before the beginning of the runup period). Relying on SDC deals' data we created the following dummy variables: complete – whether the the deal was completed successfully or not, Hostile – whether the bidder attitude was hostile or not, Rumor – whether the deal followed a rumor or not, Tender – whether the deal was a tender offer or not, Toehold – whether the bidder had more than 5% ownership of the target at the deal's announcement, and NYSE/AMEX whether the deal is listed on NYSE, AMEX or not. If the target and acquirer share the same four-digit SIC code, the deal is considered a Horizontal deal. Firms' SIC codes are obtained from CRSP. Q1 – Q4 represents the mean difference between the quintile with lowest index level (Q1) and the quintile with highest index level (Q4). t-stat are reported underneath. The *,**,*** indicates significance at 10%, 5%, and 1% respectively.

All Deals				
Q1	Q2	Q3	Q4	Q1 – Q4
-0.56%	-1.13%***	-0.69%***	-2.19%***	1.62%***
(-1.5)	(-4.5)	(-3.11)	(-10.23)	(3.61)
Non-Cash-Only Deals (Mixed and Stock-Only Deals)				
-1.39%**	-1.98%***	-1.66%***	-3.10%***	1.71%***
(-2.56)	(-5.82)	(-6.08)	(-12.98)	(2.98)
Cash-Only Deals				
0.60%	0.45%	1.39%***	0.82%*	-0.22%
(1.28)	(1.4)	(3.97)	(1.88)	(-0.31)

Table 4-6 Target Bargaining Power – by University of Michigan Consumer Sentiment Index (MCSI)

The below table presents the deal estimated bargaining power over the different MCSI quartile. Bargaining power is estimated following Ahern et. Al (2013) as the ratio of the difference of Target and Acquirer Dollar Cumulative Abnormal Return (CAR) divided by the sum of Target and Acquirer market cap obtained 42 days before the announcement. The Dollar CARs are obtained as the sum of the dollar Abnormal Returns (AR). The dollar AR are estimated by multiplying the daily AR by the lagged daily market cap for the corresponding firm. The AR is calculated as the difference between the realized return of the firm's stock and the expected return. The expected return is obtained using the market model ($r_{i,t} = \alpha + \beta\, r_{m,t}$). This latter is estimated using daily returns spanning 253 trading days before the announcement day to 43 days before the announcement day. CRSP Value weighted index was used as a proxy for the market. The deals within our sample are classified into four sentiment quartile based on the University of Michigan Consumer Sentiment Index (MCSI) that is associated with the deal. MCSI levels are brought from University of Michigan website. We relied on the logarithm of MCSI in our analysis. For every deal, we estimated a sentiment measure that is equal to the weighted average sentiment index levels that are available during the deal's runup period. This latter spans 42 days before the announcement to 2 days before the announcement. The quartile cutoffs are estimated as per the sentiment original index spanning the period of our analysis: November 1981 till October 2015. Mergers and Acquisitions deals are downloaded from SDC. We limited our sample to Mergers, Acquisitions of Majority Interest and Acquisitions of Remaining Interest. We required that the deal have a reported final offer price on SDC and filtered out the top and bottom deals' percentile when sorted by per their offer premium in order to avoid outliers. The offer premium is estimated as the final offer price divided by the target stock price 42 trading days before the announcement day. We removed any offer that is not the first offer within a multibid contest. Deals fall into a multibid contest if bids on the same target are separated by less than 6 months from each other. We also filtered out any deal whose value is less than $10 Million dollar and whose target stock price on day -42 is less than $5. Deal value is brought from SDC. We have also used Target Cumulative Abnormal Return from the beginning of the Runup period till completion day or 126 days after the deal is completed (whichever is shorter) – we termed this variable as CAR-Based-Premium. We require that both target and acquirer firms are public US listed firms with CRSP and Compustat data on both. We divided our sample into All, Non-Cash-Only (Mixed or Stock-Only) and Cash-Only based on the medium of exchange as reported by SDC. Price and Return data is brought from CRSP. For price based runup and markup, we followed Betton et al (2008) by dividing the target stock price 2 days before the announcement day by the target stock price 42 days before the announcement date and the Final Offer Price by the target stock price 2 days before the announcement respectively. For the CAR based runup and markup we estimated them as the CAR over [-42, -2] and [-1, +126] respectively. Size is the logarithm of the firm market cap 42 days before the announcement day. The firm market cap is obtained by multiplying the stock price by the number of shares outstanding (in $Millions). B/M is the ratio of the Book Value of the Firm`s equity divided by the Market Value of the Firm 42 days before the announcement. The Book value of the firm's equity is obtained following the approach of Fama and French (1993) by adding the book value of stockholders equity to the balance sheet deferred taxes and investment tax credit and subtracting the book value of preferred share – all data are brought from Compustat. Target (Acquirer) Turnover is estimated as the average of the Volume to Share Outstanding Ratio calculated over the interval spanning 166 days before the announcement to 42 days before the announcement (before the beginning of the runup period). Relying on SDC deals' data we created the following dummy variables: complete – whether the the deal was completed successfully or not, Hostile – whether the bidder attitude was hostile or not, Rumor – whether the deal followed a rumor or not, Tender – whether the deal was a tender offer or not, Toehold – whether the bidder had more than 5% ownership of the target at the deal's announcement, and NYSE/AMEX whether the deal is listed on NYSE, AMEX or not. If the target and acquirer share the same four-digit SIC code, the deal is considered a Horizontal deal. Firms' SIC codes are obtained from CRSP. Firms' SIC codes are obtained from CRSP.

Panel A: Target Bargaining Power is estimated over [-1,+1] period				
All Deals				
Q1	Q2	Q3	Q4	Q1 – Q4
4.56%***	4.27%***	3.68%***	4.74%***	-0.19%
(12.54)	(17.39)	(15.54)	(23.79)	(-0.45)
Non-Cash-Only Deals (Mixed and Stock-Only Deals)				
5.61%***	4.85%***	4.22%***	5.02%***	0.58%
(11.68)	(17.69)	(15.12)	(22.57)	(1.1)
Cash-Only Deals				
3.08%***	3.19%***	2.53%***	3.82%***	-0.75%
(5.72)	(6.68)	(5.78)	(8.71)	(-1.03)
Panel B: Target Bargaining Power is estimated over [-42,+1] period				
All Deals				
Q1	Q2	Q3	Q4	Q1 – Q4
4.61%***	5.36%***	4.06%***	6.03%***	-1.42%*
(7.36)	(12.2)	(9.78)	(14.38)	(-1.66)
Non-Cash-Only Deals (Mixed and Stock-Only Deals)				
5.17%***	5.82%***	4.51%***	6.20%***	-1.04%
(6.02)	(11.25)	(9.47)	(13.25)	(-0.95)
Cash-Only Deals				
3.83%***	4.48%***	3.09%***	5.47%***	-1.64%
(4.25)	(5.58)	(3.81)	(5.86)	(-1.12)
Panel C: Target Bargaining Power is estimated over [-42,+126] period				
All Deals				
Q1	Q2	Q3	Q4	Q1 – Q4
6.83%***	9.47%***	8.82%***	11.67%***	-4.84%***
(5.81)	(10.7)	(10.73)	(13.88)	(-2.84)
Non-Cash-Only Deals (Mixed and Stock-Only Deals)				
7.82%***	10.69%***	10.59%***	13.11%***	-5.29%**
(4.5)	(9.08)	(10.42)	(13.43)	(-2.35)
Cash-Only Deals				
5.44%***	7.18%***	5.02%***	6.93%***	-1.49%
(3.82)	(5.71)	(3.68)	(4.28)	(-0.6)

Table 4-7 Synergy – by University of Michigan Consumer Sentiment Index (MCSI)

The below table presents the deal estimated synergy over the different MCSI quartile. Synergy is estimated as the ratio of the sum of Target and Acquirer Dollar Cumulative Abnormal Return (CAR) divided by the sum of Target and Acquirer market cap obtained 42 days before the announcement. The Dollar CARs are obtained as the sum of the dollar Abnormal Returns (AR). The dollar AR are estimated by multiplying the daily AR by the lagged daily market cap for the corresponding firm. The AR is calculated as the difference between the realized return of the firm's stock and the expected return. The expected return is obtained using the market model ($r_{i,t} = \alpha + \beta\, r_{m,t}$). This latter is estimated using daily returns spanning 253 trading days before the announcement day to 43 days before the announcement day. CRSP Value weighted index was used as a proxy for the market. The deals within our sample are classified into four sentiment quartile based on the University of Michigan Consumer Sentiment Index (MCSI) that is associated with the deal. MCSI levels are brought from University of Michigan website. We relied on the logarithm of MCSI in our analysis. For every deal, we estimated a sentiment measure that is equal to the weighted average sentiment index levels that are available during the deal's runup period. This latter spans 42 days before the announcement to 2 days before the announcement. The quartile cutoffs are estimated as per the sentiment original index spanning the period of our analysis: November 1981 till October 2015. Mergers and Acquisitions deals are downloaded from SDC. We limited our sample to Mergers, Acquisitions of Majority Interest and Acquisitions of Remaining Interest. We required that the deal have a reported final offer price on SDC and filtered out the top and bottom deals' percentile when sorted by per their offer premium in order to avoid outliers. The offer premium is estimated as the final offer price divided by the target stock price 42 trading days before the announcement day. We removed any offer that is not the first offer within a multibid contest. Deals fall into a multibid contest if bids on the same target are separated by less than 6 months from each other. We also filtered out any deal whose value is less than $10 Million dollar and whose target stock price on day -42 is less than $5. Deal value is brought from SDC. We have also used Target Cumulative Abnormal Return from the beginning of the Runup period till completion day or 126 days after the deal is completed (whichever is shorter) – we termed this variable as CAR-Based-Premium. We require that both target and acquirer firms are public US listed firms with CRSP and Compustat data on both. We divided our sample into All, Non-Cash-Only (Mixed or Stock-Only) and Cash-Only based on the medium of exchange as reported by SDC. Price and Return data is brought from CRSP. For price based runup and markup, we followed Betton et al (2008) by dividing the target stock price 2 days before the announcement day by the target stock price 42 days before the announcement date and the Final Offer Price by the target stock price 2 days before the announcement respectively. For the CAR based runup and markup we estimated them as the CAR over [-42, -2] and [-1, +126] respectively. Size is the logarithm of the firm market cap 42 days before the announcement day. The firm market cap is obtained by multiplying the stock price by the number of shares outstanding (in $Millions). B/M is the ratio of the Book Value of the Firm`s equity divided by the Market Value of the Firm 42 days before the announcement. The Book value of the firm's equity is obtained following the approach of Fama and French (1993) by adding the book value of stockholders equity to the balance sheet deferred taxes and investment tax credit and subtracting the book value of preferred share – all data are brought from Compustat. Target (Acquirer) Turnover is estimated as the average of the Volume to Share Outstanding Ratio calculated over the interval spanning 166 days before the announcement to 42 days before the announcement (before the beginning of the runup period). Relying on SDC deals' data we created the following dummy variables: complete – whether the the deal was completed successfully or not, Hostile – whether the bidder attitude was hostile or not, Rumor – whether the deal followed a rumor or not, Tender – whether the deal was a tender offer or not, Toehold – whether the bidder had more than 5% ownership of the target at the deal's announcement, and NYSE/AMEX whether the deal is listed on NYSE, AMEX or not. If the target and acquirer share the same four-digit SIC code, the deal is considered a Horizontal deal. Firms' SIC codes are obtained from CRSP. Firms' SIC codes are obtained from CRSP. Q1 – Q4 represents the mean difference between the quintile with lowest index level (Q1) and the quintile with highest index level (Q4). t-stat are reported underneath. The *,**,*** indicates significance at 10%, 5%, and 1% respectively.

Panel A: Synergy is estimated over [-1,+1] period				
All Deals				
Q1	Q2	Q3	Q4	Q1 – Q4
3.57%***	2.42%***	2.56%***	1.25%***	2.32%***
(8.75)	(9.29)	(10.44)	(5.7)	(4.99)
Non-Cash-Only Deals (Mixed and Stock-Only Deals)				
3.04%***	1.59%***	1.58%***	0.19%	2.85%***
(5.21)	(5.03)	(5.65)	(0.79)	(4.85)
Cash-Only Deals				
4.32%***	3.99%***	4.66%***	4.73%***	-0.41%
(8.01)	(8.9)	(10.13)	(10.39)	(-0.55)
Panel B: Synergy is estimated over [-42,+1] period				
All Deals				
Q1	Q2	Q3	Q4	Q1 – Q4
3.65%***	1.54%***	2.94%***	1.64%***	2.00%*
(4.98)	(3.03)	(6.19)	(3.26)	(1.95)
Non-Cash-Only Deals (Mixed and Stock-Only Deals)				
2.98%***	0.33%	1.65%***	0.30%	2.68%**
(2.9)	(0.51)	(2.82)	(0.52)	(2.01)
Cash-Only Deals				
4.59%***	3.80%***	5.73%***	6.07%***	-1.48%
(4.55)	(4.85)	(7.22)	(6)	(-0.93)
Panel C: Synergy is estimated over [-42,+126] period				
All Deals				
Q1	Q2	Q3	Q4	Q1 – Q4
0.92%	-3.46%***	-4.19%***	-4.28%***	5.20%**
(0.63)	(-3.13)	(-4.29)	(-4.08)	(2.45)
Non-Cash-Only Deals (Mixed and Stock-Only Deals)				
-0.84%	-5.54%***	-7.37%***	-7.47%***	6.62%**
(-0.38)	(-3.63)	(-5.96)	(-5.98)	(2.3)
Cash-Only Deals				
3.40%	0.41%	2.65%	6.21%	-2.81%
(2.18)	(0.3)	(1.81)	(3.59)	(-1.05)

Table 4-8 Target Runup - by University of Michigan Consumer Sentiment Index (MCSI)

The below table shows the Target Runup sorted across the four sentiment quartiles. The Cumulative Abnormal Return (CAR) is estimated as sum of the Abnormal Returns (AR) over the specified period. The AR is calculated as the difference between the realized return of the firm's stock and the expected return. The expected return is obtained using the market model ($r_{i,t} = \alpha + \beta\, r_{m,t}$). This latter is estimated using daily returns spanning 253 trading days before the announcement day to 43 days before the announcement day. CRSP Value weighted index was used as a proxy for the market. The deals within our sample are classified into four sentiment quartile based on the University of Michigan Consumer Sentiment Index (MCSI) that is associated with the deal. MCSI levels are brought from University of Michigan website. We relied on the logarithm of MCSI in our analysis. For every deal, we estimated a sentiment measure that is equal to the weighted average sentiment index levels that are available during the deal's runup period. This latter spans 42 days before the announcement to 2 days before the announcement. The quartile cutoffs are estimated as per the sentiment original index spanning the period of our analysis: November 1981 till October 2015. Mergers and Acquisitions deals are downloaded from SDC. We limited our sample to Mergers, Acquisitions of Majority Interest and Acquisitions of Remaining Interest. We required that the deal have a reported final offer price on SDC and filtered out the top and bottom deals' percentile when sorted by per their offer premium in order to avoid outliers. The offer premium is estimated as the final offer price divided by the target stock price 42 trading days before the announcement day. We removed any offer that is not the first offer within a multibid contest. Deals fall into a multibid contest if bids on the same target are separated by less than 6 months from each other. We also filtered out any deal whose value is less than $10 Million dollar and whose target stock price on day -42 is less than $5. Deal value is brought from SDC. We have also used Target Cumulative Abnomral Return from the beginning of the Runup period till completion day or 126 days after the deal is completed (whichever is shorter) – we termed this variable as CAR-Base d-Premium. We require that both target and acquirer firms are public US listed firms with CRSP and Compustat data on both. We divided our sample into All, Non-Cash-Only (Mixed or Stock-Only) and Cash-Only based on the medium of exchange as reported by SDC. Price and Return data is brought from CRSP. For price based runup and markup, we followed Betton et al (2008) by dividing the target stock price 2 days before the announcement day by the target stock price 42 days before the announcement date and the Final Offer Price by the target stock price 2 days before the announcement respectively. For the CAR based runup and markup we estimated them as the CAR over [-42, -2] and [-1, +126] respectively. Size is the logarithm of the firm market cap 42 days before the announcement day. The firm market cap is obtained by multiplying the stock price by the number of shares outstanding (in $Millions). B/M is the ratio of the Book Value of the Firm`s equity divided by the Market Value of the Firm 42 days before the announcement. The Book value of the firm's equity is obtained following the approach of Fama and French (1993) by adding the book value of stockholders equity to the balance sheet deferred taxes and investment tax credit and subtracting the book value of preferred share – all data are brought from Compustat. Target (Acquirer) Turnover is estimated as the average of the Volume to Share Outstanding Ratio calculated over the interval spanning 166 days before the announcement to 42 days before the announcement (before the beginning of the runup period). Relying on SDC deals' data we created the following dummy variables: complete – whether the the deal was completed successfully or not, Hostile – whether the bidder attitude was hostile or not, Rumor – whether the deal followed a rumor or not, Tender – whether the deal was a tender offer or not, Toehold – whether the bidder had more than 5% ownership of the target at the deal's announcement, and NYSE/AMEX whether the deal is listed on NYSE, AMEX or not. If the target and acquirer share the same four-digit SIC code, the deal is considered a Horizontal deal. Firms' SIC codes are obtained from CRSP. Q1 – Q4 represents the mean difference between the quintile with lowest index level (Q1) and the quintile with highest index level (Q4). t-stat are reported underneath. The *,**,*** indicates significance at 10%, 5%, and 1% respectively.

Panel A: Runup is estimated as the CAR of the target firm over [-42,-2] period				
All Deals				
Q1	Q2	Q3	Q4	Q1 – Q4
2.54%***	1.94%***	4.36%***	7.06%***	-4.52%***
(2.92)	(3.32)	(7.23)	(12.22)	(-3.83)
Non-Cash-Only Deals (Mixed and Stock-Only Deals)				
2.20%***	1.00%	3.62%***	6.10%***	-3.89%**
(1.92)	(1.39)	(4.99)	(9.14)	(-2.54)
Cash-Only Deals				
3.01%**	3.68%***	5.93%***	10.24%***	-7.23%***
(2.26)	(3.71)	(5.51)	(9.02)	(-3.89)
Panel B: Priced Based Target Runup - Target Runup is estimated as [(P-2 / P-42) – 1]				
All Deals				
Q1	Q2	Q3	Q4	Q1 – Q4
4.55%***	4.72%***	7.91%***	9.90%***	-5.35%***
(4.92)	(7.96)	(12.69)	(16.41)	(-4.32)
Non-Cash-Only Deals (Mixed and Stock-Only Deals)				
3.18%***	3.96%***	6.86%***	9.28%***	-6.10%***
(2.67)	(5.55)	(8.93)	(13.37)	(-3.82)
Cash-Only Deals				
6.47%***	6.13%***	10.16%***	11.94%***	-5.46%***
(4.45)	(5.83)	(9.67)	(9.84)	(-2.73)

Table 4-9 Bidder CAR [-42, -2] during the Runup Period - by University of Michigan Consumer Sentiment Index (MCSI)

The below table shows the Bidder CAR estimated over the runup period sorted across the four sentiment quartiles. The Cumulative Abnormal Return (CAR) is estimated as sum of the Abnormal Returns (AR) over the specified period. The AR is calculated as the difference between the realized return of the firm's stock and the expected return. The expected return is obtained using the market model ($r_{i,t} = \alpha + \beta\, r_{m,t}$). This latter is estimated using daily returns spanning 253 trading days before the announcement day to 43 days before the announcement day. CRSP Value weighted index was used as a proxy for the market. The deals within our sample are classified into four sentiment quartiles based on the University of Michigan Consumer Sentiment Index (MCSI) that is associated with the deal. MCSI levels are brought from University of Michigan website. We relied on the logarithm of MCSI in our analysis. For every deal, we estimated a sentiment measure that is equal to the weighted average sentiment index levels that are available during the deal's runup period. This latter spans 42 days before the announcement to 2 days before the announcement. The quartile cutoffs are estimated as per the sentiment original index spanning the period of our analysis: November 1981 till October 2015. Mergers and Acquisitions deals are downloaded from SDC. We limited our sample to Mergers, Acquisitions of Majority Interest and Acquisitions of Remaining Interest. We required that the deal have a reported final offer price on SDC and filtered out the top and bottom deals' percentile when sorted by per their offer premium in order to avoid outliers. The offer premium is estimated as the final offer price divided by the target stock price 42 trading days before the announcement day. We removed any offer that is not the first offer within a multibid contest. Deals fall into a multibid contest if bids on the same target are separated by less than 6 months from each other. We also filtered out any deal whose value is less than $10 Million dollar and whose target stock price on day -42 is less than $5. Deal value is brought from SDC. We have also used Target Cumulative Abnomral Return from the beginning of the Runup period till completion day or 126 days after the deal is completed (whichever is shorter) – we termed this variable as CAR-Base d-Premium. We require that both target and acquirer firms are public US listed firms with CRSP and Compustat data on both. We divided our sample into All, Non-Cash-Only (Mixed or Stock-Only) and Cash-Only based on the medium of exchange as reported by SDC. Price and Return data is brought from CRSP. For price based runup and markup, we followed Betton et al (2008) by dividing the target stock price 2 days before the announcement day by the target stock price 42 days before the announcement date and the Final Offer Price by the target stock price 2 days before the announcement respectively. For the CAR based runup and markup we estimated them as the CAR over [-42, -2] and [-1, +126] respectively. Size is the logarithm of the firm market cap 42 days before the announcement day. The firm market cap is obtained by multiplying the stock price by the number of shares outstanding (in $Millions). B/M is the ratio of the Book Value of the Firm's equity divided by the Market Value of the Firm 42 days before the announcement. The Book value of the firm's equity is obtained following the approach of Fama and French (1993) by adding the book value of stockholders equity to the balance sheet deferred taxes and investment tax credit and subtracting the book value of preferred share – all data are brought from Compustat. Target (Acquirer) Turnover is estimated as the average of the Volume to Share Outstanding Ratio calculated over the interval spanning 166 days before the announcement to 42 days before the announcement (before the beginning of the runup period). Relying on SDC deals' data we created the following dummy variables: complete – whether the the deal was completed successfully or not, Hostile – whether the bidder attitude was hostile or not, Rumor – whether the deal followed a rumor or not, Tender – whether the deal was a tender offer or not, Toehold – whether the bidder had more than 5% ownership of the target at the deal's announcement, and NYSE/AMEX whether the deal is listed on NYSE, AMEX or not. If the target and acquirer share the same four-digit SIC code, the deal is considered a Horizontal deal. Firms' SIC codes are obtained from CRSP. Q1 – Q4 represents the mean difference between the quintile with lowest index level (Q1) and the quintile with highest index level (Q4). t-stat are reported underneath. The *,**,*** indicates significance at 10%, 5%, and 1% respectively.

All Deals				
Q1	Q2	Q3	Q4	Q1 – Q4
0.61%	-1.03%**	0.32%	-0.09%	0.70%
(0.95)	(-2.25)	(0.72)	(-0.2)	(0.76)
Non-Cash-Only Deals (Mixed and Stock-Only Deals)				
0.78%	-1.09%*	0.26%	-0.18%	0.96%
(0.81)	(-1.78)	(0.45)	(-0.34)	(0.79)
Cash-Only Deals				
0.36%	-0.90%	0.45%	0.20%	0.17%
(0.48)	(-1.43)	(0.66)	(0.22)	(0.12)

Table 4-10 Target Markup - by University of Michigan Consumer Sentiment Index (MCSI)

The below table shows the Target Markup sorted across the four sentiment quartiles. The Cumulative Abnormal Return (CAR) is estimated as sum of the Abnormal Returns (AR) over the specified period. The AR is calculated as the difference between the realized return of the firm's stock and the expected return. The expected return is obtained using the market model ($r_{i,t} = \alpha + \beta\, r_{m,t}$). This latter is estimated using daily returns spanning 253 trading days before the announcement day to 43 days before the announcement day. CRSP Value weighted index was used as a proxy for the market. The deals within our sample are classified into four sentiment quartile based on the University of Michigan Consumer Sentiment Index (MCSI) that is associated with the deal. MCSI levels are brought from University of Michigan website. We relied on the logarithm of MCSI in our analysis. For every deal, we estimated a sentiment measure that is equal to the weighted average sentiment index levels that are available during the deal's runup period. This latter spans 42 days before the announcement to 2 days before the announcement. The quartile cutoffs are estimated as per the sentiment original index spanning the period of our analysis: November 1981 till October 2015. Mergers and Acquisitions deals are downloaded from SDC. We limited our sample to Mergers, Acquisitions of Majority Interest and Acquisitions of Remaining Interest. We required that the deal have a reported final offer price on SDC and filtered out the top and bottom deals' percentile when sorted by per their offer premium in order to avoid outliers. The offer premium is estimated as the final offer price divided by the target stock price 42 trading days before the announcement day. We removed any offer that is not the first offer within a multibid contest. Deals fall into a multibid contest if bids on the same target are separated by less than 6 months from each other. We also filtered out any deal whose value is less than $10 Million dollar and whose target stock price on day -42 is less than $5. Deal value is brought from SDC. We have also used Target Cumulative Abnormal Return from the beginning of the Runup period till completion day or 126 days after the deal is completed (whichever is shorter) – we termed this variable as CAR-Base d-Premium. We require that both target and acquirer firms are public US listed firms with CRSP and Compustat data on both. We divided our sample into All, Non-Cash-Only (Mixed or Stock-Only) and Cash-Only based on the medium of exchange as reported by SDC. Price and Return data is brought from CRSP. For price based runup and markup, we followed Betton et al (2008) by dividing the target stock price 2 days before the announcement day by the target stock price 42 days before the announcement date and the Final Offer Price by the target stock price 2 days before the announcement respectively. For the CAR based runup and markup we estimated them as the CAR over [-42, -2] and [-1, +126] respectively. Size is the logarithm of the firm market cap 42 days before the announcement day. The firm market cap is obtained by multiplying the stock price by the number of shares outstanding (in $Millions). B/M is the ratio of the Book Value of the Firm`s equity divided by the Market Value of the Firm 42 days before the announcement. The Book value of the firm's equity is obtained following the approach of Fama and French (1993) by adding the book value of stockholders equity to the balance sheet deferred taxes and investment tax credit and subtracting the book value of preferred share – all data are brought from Compustat. Target (Acquirer) Turnover is estimated as the average of the Volume to Share Outstanding Ratio calculated over the interval spanning 166 days before the announcement to 42 days before the announcement (before the beginning of the runup period). Relying on SDC deals' data we created the following dummy variables: complete – whether the the deal was completed successfully or not, Hostile – whether the bidder attitude was hostile or not, Rumor – whether the deal followed a rumor or not, Tender – whether the deal was a tender offer or not, Toehold – whether the bidder had more than 5% ownership of the target at the deal's announcement, and NYSE/AMEX whether the deal is listed on NYSE, AMEX or not. If the target and acquirer share the same four-digit SIC code, the deal is considered a Horizontal deal. Firms' SIC codes are obtained from CRSP. Q1 – Q4 represents the mean difference between the quintile with lowest index level (Q1) and the quintile with highest index level (Q4). t-stat are reported underneath. The *,**,*** indicates significance at 10%, 5%, and 1% respectively.

Panel A: Markup is estimated as the CAR of the target firm over [-1,+126] period				
All Deals				
Q1	Q2	Q3	Q4	Q1 – Q4
24.87%***	19.13%***	15.41%***	18.08%***	6.79%***
(12.35)	(17.25)	(14.03)	(19.88)	(3.36)
Non-Cash-Only Deals (Mixed and Stock-Only Deals)				
18.67%***	16.16%***	12.10%***	14.81%***	3.85%
(6.58)	(11.59)	(8.97)	(14.5)	(1.5)
Cash-Only Deals				
33.61%***	24.68%***	22.54%***	28.84%***	4.77%
(12.78)	(13.85)	(12.38)	(15.38)	(1.47)
Panel B: Priced Based Markup - Target Markup is estimated as [(Final Offer Price / P-2) – 1]				
All Deals				
Q1	Q2	Q3	Q4	Q1 – Q4
35.31%***	31.19%***	29.55%***	31.48%***	3.83%
(24.65)	(20.67)	(25.97)	(25.42)	(1.56)
Non-Cash-Only Deals (Mixed and Stock-Only Deals)				
32.98%***	30.26%***	28.11%***	29.69%***	3.29%
(17.73)	(14.07)	(19.34)	(23.4)	(1.15)
Cash-Only Deals				
38.58%***	32.93%***	32.66%***	37.38%***	1.20%
(17.31)	(20.4)	(18.69)	(11.42)	(0.25)

Table 4-11 Target CAR during the Announcement Period - by University of Michigan Consumer Sentiment Index (MCSI)

The below table shows the Target CAR estimated over the announcement period [-1, +1] sorted across the four sentiment quartiles. The Cumulative Abnormal Return (CAR) is estimated as sum of the Abnormal Returns (AR) over the specified period. The AR is calculated as the difference between the realized return of the firm's stock and the expected return. The expected return is obtained using the market model ($r_{i,t} = \alpha + \beta\, r_{m,t}$). This latter is estimated using daily returns spanning 253 trading days before the announcement day to 43 days before the announcement day. CRSP Value weighted index was used as a proxy for the market. The deals within our sample are classified into four sentiment quartile based on the University of Michigan Consumer Sentiment Index (MCSI) that is associated with the deal. MCSI levels are brought from University of Michigan website. We relied on the logarithm of MCSI in our analysis. For every deal, we estimated a sentiment measure that is equal to the weighted average sentiment index levels that are available during the deal's runup period. This latter spans 42 days before the announcement to 2 days before the announcement. The quartile cutoffs are estimated as per the sentiment original index spanning the period of our analysis: November 1981 till October 2015. Mergers and Acquisitions deals are downloaded from SDC. We limited our sample to Mergers, Acquisitions of Majority Interest and Acquisitions of Remaining Interest. We required that the deal have a reported final offer price on SDC and filtered out the top and bottom deals' percentile when sorted by per their offer premium in order to avoid outliers. The offer premium is estimated as the final offer price divided by the target stock price 42 trading days before the announcement day. We removed any offer that is not the first offer within a multibid contest. Deals fall into a multibid contest if bids on the same target are separated by less than 6 months from each other. We also filtered out any deal whose value is less than $10 Million dollar and whose target stock price on day -42 is less than $5. Deal value is brought from SDC. We have also used Target Cumulative Abnomral Return from the beginning of the Runup period till completion day or 126 days after the deal is completed (whichever is shorter) – we termed this variable as CAR-Base d-Premium. We require that both target and acquirer firms are public US listed firms with CRSP and Compustat data on both. We divided our sample into All, Non-Cash-Only (Mixed or Stock-Only) and Cash-Only based on the medium of exchange as reported by SDC. Price and Return data is brought from CRSP. For price based runup and markup, we followed Betton et al (2008) by dividing the target stock price 2 days before the announcement day by the target stock price 42 days before the announcement date and the Final Offer Price by the target stock price 2 days before the announcement respectively. For the CAR based runup and markup we estimated them as the CAR over [-42, -2] and [-1, +126] respectively. Size is the logarithm of the firm market cap 42 days before the announcement day. The firm market cap is obtained by multiplying the stock price by the number of shares outstanding (in $Millions). B/M is the ratio of the Book Value of the Firm's equity divided by the Market Value of the Firm 42 days before the announcement. The Book value of the firm's equity is obtained following the approach of Fama and French (1993) by adding the book value of stockholders equity to the balance sheet deferred taxes and investment tax credit and subtracting the book value of preferred share – all data are brought from Compustat. Target (Acquirer) Turnover is estimated as the average of the Volume to Share Outstanding Ratio calculated over the interval spanning 166 days before the announcement to 42 days before the announcement (before the beginning of the runup period). Relying on SDC deals' data we created the following dummy variables: complete – whether the the deal was completed successfully or not, Hostile – whether the bidder attitude was hostile or not, Rumor – whether the deal followed a rumor or not, Tender – whether the deal was a tender offer or not, Toehold – whether the bidder had more than 5% ownership of the target at the deal's announcement, and NYSE/AMEX whether the deal is listed on NYSE, AMEX or not. If the target and acquirer share the same four-digit SIC code, the deal is considered a Horizontal deal. Firms' SIC codes are obtained from CRSP. Q1 – Q4 represents the mean difference between the quintile with lowest index level (Q1) and the quintile with highest index level (Q4). t-stat are reported underneath. The *,**,*** indicates significance at 10%, 5%, and 1% respectively.

All Deals				
Q1	Q2	Q3	Q4	Q1 – Q4
26.21%***	21.67%***	19.37%***	18.27%***	7.95%***
(22.91)	(29.63)	(28.96)	(35.16)	(6.9)
Non-Cash-Only Deals (Mixed and Stock-Only Deals)				
20.45%***	18.27%***	16.33%***	15.53%***	4.91%***
(16.63)	(22.51)	(22.26)	(29.04)	(3.82)
Cash-Only Deals				
34.32%***	28.01%***	25.90%***	27.27%***	7.05%***
(17.18)	(20.37)	(19.67)	(21.66)	(3.1)

Table 4-12 Premium - by University of Michigan Consumer Sentiment Index (MCSI)

The below table shows the Premium sorted across the four sentiment quartiles. The Cumulative Abnormal Return (CAR) is estimated as sum of the Abnormal Returns (AR) over the specified period. The AR is calculated as the difference between the realized return of the firm's stock and the expected return. The expected return is obtained using the market model ($r_{i,t} = \alpha + \beta\, r_{m,t}$). This latter is estimated using daily returns spanning 253 trading days before the announcement day to 43 days before the announcement day. CRSP Value weighted index was used as a proxy for the market. The deals within our sample are classified into four sentiment quartile based on the University of Michigan Consumer Sentiment Index (MCSI) that is associated with the deal. MCSI levels are brought from University of Michigan website. We relied on the logarithm of MCSI in our analysis. For every deal, we estimated a sentiment measure that is equal to the weighted average sentiment index levels that are available during the deal's runup period. This latter spans 42 days before the announcement to 2 days before the announcement. The quartile cutoffs are estimated as per the sentiment original index spanning the period of our analysis: November 1981 till October 2015. Mergers and Acquisitions deals are downloaded from SDC. We limited our sample to Mergers, Acquisitions of Majority Interest and Acquisitions of Remaining Interest. We required that the deal have a reported final offer price on SDC and filtered out the top and bottom deals' percentile when sorted by per their offer premium in order to avoid outliers. The offer premium is estimated as the final offer price divided by the target stock price 42 trading days before the announcement day. We removed any offer that is not the first offer within a multibid contest. Deals fall into a multibid contest if bids on the same target are separated by less than 6 months from each other. We also filtered out any deal whose value is less than $10 Million dollar and whose target stock price on day -42 is less than $5. Deal value is brought from SDC. We have also used Target Cumulative Abnormal Return from the beginning of the Runup period till completion day or 126 days after the deal is completed (whichever is shorter) – we termed this variable as CAR-Base d-Premium. We require that both target and acquirer firms are public US listed firms with CRSP and Compustat data on both. We divided our sample into All, Non-Cash-Only (Mixed or Stock-Only) and Cash-Only based on the medium of exchange as reported by SDC. Price and Return data is brought from CRSP. For price based runup and markup, we followed **Betton et al (2008)** by dividing the target stock price 2 days before the announcement day by the target stock price 42 days before the announcement date and the Final Offer Price by the target stock price 2 days before the announcement respectively. For the CAR based runup and markup we estimated them as the CAR over [-42, -2] and [-1, +126] respectively. Size is the logarithm of the firm market cap 42 days before the announcement day. The firm market cap is obtained by multiplying the stock price by the number of shares outstanding (in $Millions). B/M is the ratio of the Book Value of the Firm`s equity divided by the Market Value of the Firm 42 days before the announcement. The Book value of the firm's equity is obtained following the approach of Fama and French (1993) by adding the book value of stockholders equity to the balance sheet deferred taxes and investment tax credit and subtracting the book value of preferred share – all data are brought from Compustat. Target (Acquirer) Turnover is estimated as the average of the Volume to Share Outstanding Ratio calculated over the interval spanning 166 days before the announcement to 42 days before the announcement (before the beginning of the runup period). Relying on SDC deals' data we created the following dummy variables: complete – whether the the deal was completed successfully or not, Hostile – whether the bidder attitude was hostile or not, Rumor – whether the deal followed a rumor or not, Tender – whether the deal was a tender offer or not, Toehold – whether the bidder had more than 5% ownership of the target at the deal's announcement, and NYSE/AMEX whether the deal is listed on NYSE, AMEX or not. If the target and acquirer share the same four-digit SIC code, the deal is considered a Horizontal deal. Firms' SIC codes are obtained from CRSP. Q1 – Q4 represents the mean difference between the quintile with lowest index level (Q1) and the quintile with highest index level (Q4). t-stat are reported underneath. The *,**,*** indicates significance at 10%, 5%, and 1% respectively.

Panel A: Premium is estimated as the CAR of the target firm over [-42,+126] period				
All Deals				
Q1	Q2	Q3	Q4	Q1 – Q4
27.41%***	21.07%***	19.77%***	25.14%***	2.27%
(11.6)	(16.13)	(15.39)	(21.83)	(0.91)
Non-Cash-Only Deals (Mixed and Stock-Only Deals)				
20.87%***	17.16%***	15.72%***	20.91%***	-0.04%
(6.08)	(10.43)	(9.93)	(15.72)	(-0.01)
Cash-Only Deals				
36.61%***	28.36%***	28.48%***	39.08%***	-2.46%
(12.7)	(13.67)	(13.57)	(18.27)	(-0.68)
Panel B: Priced Based Premium - Target Markup is estimated as [(Final Offer Price / P-42) – 1]				
All Deals				
Q1	Q2	Q3	Q4	Q1 – Q4
40.32%***	36.94%***	38.65%***	43.05%***	-2.73%
(23.25)	(20.93)	(29.34)	(31)	(-0.98)
Non-Cash-Only Deals (Mixed and Stock-Only Deals)				
36.44%***	35.16%***	35.90%***	40.40%***	-3.97%
(15.88)	(14.2)	(20.86)	(29.51)	(-1.26)
Cash-Only Deals				
45.79%***	40.27%***	44.57%***	51.78%***	-5.99%
(17.61)	(19.63)	(24.29)	(13.38)	(-1.04)

Table 4-13 Logistic Model Estimation of the Probability that the deal will be a cash-only offer versus a deal being a non-cash-only offer

The University of Michigan Consumer Sentiment Index (MCSI) associated with the deal are brought from University of Michigan website. For every deal, we estimated a sentiment measure that is equal to the weighted average sentiment index levels that are available during the deal's runup period. This latter spans 42 days before the announcement to 2 days before the announcement. Mergers and Acquisitions deals are downloaded from SDC. We limited our sample to Mergers, Acquisitions of Majority Interest and Acquisitions of Remaining Interest. We required that the deal have a reported final offer price on SDC and filtered out the top and bottom deals' percentile when sorted by per their offer premium in order to avoid outliers. The offer premium is estimated as the final offer price divided by the target stock price 42 trading days before the announcement day. We removed any offer that is not the first offer within a multibid contest. Deals fall into a multibid contest if bids on the same target are separated by less than 6 months from each other. We also filtered out any deal whose value is less than $10 Million dollar and whose target stock price on day -42 is less than $5. Deal value is brought from SDC. We require that both target and acquirer firms are public US listed firms with CRSP and Compustat data on both. We divided our sample into All, Non-Cash-Only (Mixed or Stock-Only) and Cash-Only based on the medium of exchange as reported by SDC. Size is the logarithm of the firm market cap 42 days before the announcement day. The firm market cap is obtained by multiplying the stock price by the number of shares outstanding (in $Millions). B/M is the ratio of the Book Value of the Firm`s equity divided by the Market Value of the Firm 42 days before the announcement. The Book value of the firm's equity is obtained following the approach of Fama and French (1993) by adding the book value of stockholders equity to the balance sheet deferred taxes and investment tax credit and subtracting the book value of preferred share – all data are brought from Compustat. Target (Acquirer) Turnover is estimated as the average of the Volume to Share Outstanding Ratio calculated over the interval spanning 166 days before the announcement to 42 days before the announcement (before the beginning of the runup period). Relying on SDC deals' data we created the following dummy variables: complete – whether the the deal was completed successfully or not, Hostile – whether the bidder attitude was hostile or not, Rumor – whether the deal followed a rumor or not, Tender – whether the deal was a tender offer or not, Toehold – whether the bidder had more than 5% ownership of the target at the deal's announcement, and NYSE/AMEX whether the deal is listed on NYSE, AMEX or not. If the target and acquirer share the same four-digit SIC code, the deal is considered a Horizontal deal. Firms' SIC codes are obtained from CRSP. The p-values are given underneath and are the MLE p-values. The *, **, *** indicate significance at 1%, 5%, and 10% respectively.

	1	2	3
Constant	8.6644***	17.8784***	20.0556***
(p-value)	(<.0001)	(<.0001)	(<.0001)
MCSI-Sentiment-Proxy	-2.1062***	-2.9089***	-3.1061***
(p-value)	(<.0001)	(<.0001)	(<.0001)
Target Size		-0.0286	-0.029
(p-value)		(0.4155)	(0.4486)
Target Turnover		-0.00102	-0.0174**
(p-value)		(0.8738)	(0.0214)
Target NYSE/Amex		-0.0364	-0.0545
(p-value)		(0.7282)	(0.6359)
Target B/M		-0.1945*	0.043
(p-value)		(0.0637)	(0.7238)
Bidder Turnover		-0.00375	-0.0195**
(p-value)		(0.5861)	(0.0164)
Bidder NYSE/Amex		0.1969*	0.1371
(p-value)		(0.0538)	(0.2219)
Bidder B/M		0.1051**	0.119**
(p-value)		(0.0184)	(0.0277)
Relative Size		-6.1086***	-6.5136***
(p-value)		(<.0001)	(<.0001)
Toehold Exist		0.454**	0.3095
(p-value)		(0.0264)	(0.1555)
Horizontal		-0.309***	-0.2656**
(p-value)		(0.0047)	(0.0233)
Tender Offer		2.7573***	2.4955***
(p-value)		(<.0001)	(<.0001)
Hostile		0.1578	0.2749
(p-value)		(0.5203)	(0.2726)
Multiple Bidders		-0.0255	-0.1483
(p-value)		(0.8683)	(0.355)
Rumor		0.1581	0.1531
(p-value)		(0.4624)	(0.4994)
Pseudo-R^2	0.0162	0.2331	0.2871
Industry Dummies	No	No	Yes
Number of Cases	3705	3705	3705

Table 4-14 Cross-sectional Regression of Bidder CAR [-1,+1] on University of Michigan Consumer Sentiment Index (MCSI)

The below table shows the results of the cross-sectional regressions of Bidder CAR estimated over the announcement period [-1,+1] on Michigan Consumer Sentiment Index (MCSI). The Cumulative Abnormal Return (CAR) is estimated as sum of the Abnormal Returns (AR) over the specified period. The AR is calculated as the difference between the realized return of the firm's stock and the expected return. The expected return is obtained using the market model ($r_{i,t} = \alpha + \beta\, r_{m,t}$). This latter is estimated using daily returns spanning 253 trading days before the announcement day to 43 days before the announcement day. CRSP Value weighted index was used as a proxy for the market. The University of Michigan Consumer Sentiment Index (MCSI) associated with the deal are brought from University of Michigan website. For every deal, we estimated a sentiment measure that is equal to the weighted average sentiment index levels that are available during the deal's runup period. This latter spans 42 days before the announcement to 2 days before the announcement. The quartile cutoffs are estimated as per the sentiment original index spanning the period of our analysis: November 1981 till October 2015. Mergers and Acquisitions deals are downloaded from SDC. We limited our sample to Mergers, Acquisitions of Majority Interest and Acquisitions of Remaining Interest. We required that the deal have a reported final offer price on SDC and filtered out the top and bottom deals' percentile when sorted by their offer premium in order to avoid outliers. The offer premium is estimated as the final offer price divided by the target stock price 42 trading days before the announcement day. We removed any offer that is not the first offer within a multibid contest. Deals fall into a multibid contest if bids on the same target are separated by less than 6 months from each other. We also filtered out any deal whose value is less than $10 Million dollar and whose target stock price on day -42 is less than $5. Deal value is brought from SDC. We have also used Target Cumulative Abnomral Return from the beginning of the Runup period till completion day or 126 days after the deal is completed (whichever is shorter) – we termed this variable as CAR-Base d-Premium. We require that both target and acquirer firms are public US listed firms with CRSP and Compustat data on both. We divided our sample into All, Non-Cash-Only (Mixed or Stock-Only) and Cash-Only based on the medium of exchange as reported by SDC. Price and Return data is brought from CRSP. For price based runup and markup, we followed Betton et al (2008) by dividing the target stock price 2 days before the announcement day by the target stock price 42 days before the announcement date and the Final Offer Price by the target stock price 2 days before the announcement respectively. For the CAR based runup and markup we estimated them as the CAR over [-42, -2] and [-1, +126] respectively. Size is the logarithm of the firm market cap 42 days before the announcement day. The firm market cap is obtained by multiplying the stock price by the number of shares outstanding (in $Millions). B/M is the ratio of the Book Value of the Firm`s equity divided by the Market Value of the Firm 42 days before the announcement. The Book value of the firm's equity is obtained following the approach of Fama and French (1993) by adding the book value of stockholders equity to the balance sheet deferred taxes and investment tax credit and subtracting the book value of preferred share – all data are brought from Compustat. Target (Acquirer) Turnover is estimated as the average of the Volume to Share Outstanding Ratio calculated over the interval spanning 166 days before the announcement to 42 days before the announcement (before the beginning of the runup period). Relying on SDC deals' data we created the following dummy variables: complete – whether the deal was completed successfully or not, Hostile – whether the bidder attitude was hostile or not, Rumor – whether the deal followed a rumor or not, Tender – whether the deal was a tender offer or not, Toehold – whether the bidder had more than 5% ownership of the target at the deal's announcement, and NYSE/AMEX whether the deal is listed on NYSE, AMEX or not. If the target and acquirer share the same four-digit SIC code, the deal is considered a Horizontal deal. Relative size is the ratio of Target to Acquirer size. Firms' SIC codes are obtained from CRSP. Heteroscedasticity consistent white p-value are reported underneath. The *,**,*** indicates significance at 10%, 5%, and 1% respectively.

Deal-Type	All Deals		Non-Cash-Only		Cash-Only	
	1	2	3	4	5	6
Constant	0.18984***	0.30421***	0.241***	0.433***	-0.09257	0.04406
(p-value)	(0.0001)	(<.0001)	(0.0002)	(<.0001)	(0.2145)	(0.6867)
MCSI-Sentiment-Proxy	-0.04509***	-0.04123***	-0.05839***	-0.05591***	0.02244	0.00698
(p-value)	(<.0001)	(0.0002)	(<.0001)	(<.0001)	(0.1785)	(0.6798)
Bidder Size		-0.00373***		-0.00462***		-0.00333**
(p-value)		(<.0001)		(<.0001)		(0.0212)
Bidder Turnover		0.00000419		0.00002728		0.00015354
(p-value)		(0.9516)		(0.6983)		(0.7169)
Bidder NYSE/Amex		0.00752**		0.01039***		0.00216
(p-value)		(0.0166)		(0.0068)		(0.6845)
Bidder B/M		-0.00012115		0.00337*		-0.00044816
(p-value)		(0.8924)		(0.0969)		(0.6494)
Target Turnover		-0.00054581***		-0.00064418***		0.0001956
(p-value)		(0.0067)		(0.0057)		(0.5885)
Target NYSE/Amex		0.00010256		0.00265		-0.00293
(p-value)		(0.9737)		(0.4882)		(0.5775)
Target B/M		0.00111		-0.00957**		0.01178**
(p-value)		(0.7513)		(0.0409)		(0.042)
CAR [-42,-2] Target		0.01333*		0.01777*		-0.00619
(p-value)		(0.0935)		(0.0681)		(0.5448)
CAR [-1,+1] Target		0.02194***		0.04315***		-0.01712**
(p-value)		(0.0009)		(<.0001)		(0.0213)
Relative Size		-0.06894**		-0.13815***		0.02106
(p-value)		(0.0132)		(<.0001)		(0.6627)
Toehold Exist		0.002		0.00361		0.00084053
(p-value)		(0.7804)		(0.7183)		(0.9286)
Horizontal		0.00038214		-0.00011737		0.0017
(p-value)		(0.9077)		(0.9766)		(0.7574)
Tender Offer		0.00692		0.01224		0.00311
(p-value)		(0.1013)		(0.1164)		(0.5703)
Cash Bid		0.02284***				
(p-value)		(<.0001)				
Hostile		-0.00261		0.00973		-0.01696
(p-value)		(0.7051)		(0.2577)		(0.1393)
Multiple Bidders		0.00459		0.00659		-0.00134
(p-value)		(0.3619)		(0.3177)		(0.8481)
Rumor		0.01692***		0.02345***		0.00224
(p-value)		(0.0079)		(0.0066)		(0.7873)
Complete		0.00822		0.00636		0.00984
(p-value)		(0.1081)		(0.2684)		(0.3335)
Adj-R^2	0.0055	0.085	0.0082	0.0794	0.0012	0.1066
Industry Dummies	No	Yes	No	Yes	No	Yes
Number of Cases	3705	3705	2591	2591	1114	1114

Table 4-15 Cross-sectional Regression of Target Bargaining Power estimated over [-1, +1] interval on University of Michigan Consumer Sentiment Index (MCSI)

The below table shows the results of the cross-sectional regressions of target bargaining power estimated over the interval [-1, +1] on Michigan Consumer Sentiment Index (MCSI). The Bargaining power is estimated following Ahern et. Al (2013) as the ratio of the difference of Target and Acquirer Dollar Cumulative Abnormal Return (CAR) divided by the sum of Target and Acquirer market cap obtained 42 days before the announcement. The Dollar CARs are obtained as the sum of the dollar Abnormal Returns (AR). The dollar AR are estimated by multiplying the daily AR by the lagged daily market cap for the corresponding firm. The AR is calculated as the difference between the realized return of the firm's stock and the expected return. The expected return is obtained using the market model ($r_{i,t} = \alpha + \beta\, r_{m,t}$). This latter is estimated using daily returns spanning 253 trading days before the announcement day to 43 days before the announcement day. CRSP Value weighted index was used as a proxy for the market. The University of Michigan Consumer Sentiment Index (MCSI) associated with the deal are brought from University of Michigan website. For every deal, we estimated a sentiment measure that is equal to the weighted average sentiment index levels that are available during the deal's runup period. This latter spans 42 days before the announcement to 2 days before the announcement. The quartile cutoffs are estimated as per the sentiment original index spanning the period of our analysis: November 1981 till October 2015. Mergers and Acquisitions deals are downloaded from SDC. We limited our sample to Mergers, Acquisitions of Majority Interest and Acquisitions of Remaining Interest. We required that the deal have a reported final offer price on SDC and filtered out the top and bottom deals' percentile when sorted by their offer premium in order to avoid outliers. The offer premium is estimated as the final offer price divided by the target stock price 42 trading days before the announcement day. We removed any offer that is not the first offer within a multibid contest. Deals fall into a multibid contest if bids on the same target are separated by less than 6 months from each other. We also filtered out any deal whose value is less than $10 Million dollar and whose target stock price on day -42 is less than $5. Deal value is brought from SDC. We have also used Target Cumulative Abnomral Return from the beginning of the Runup period till completion day or 126 days after the deal is completed (whichever is shorter) – we termed this variable as CAR-Base d-Premium. We require that both target and acquirer firms are public US listed firms with CRSP and Compustat data on both. We divided our sample into All, Non-Cash-Only (Mixed or Stock-Only) and Cash-Only based on the medium of exchange as reported by SDC. Price and Return data is brought from CRSP. For price based runup and markup, we followed Betton et al (2008) by dividing the target stock price 2 days before the announcement day by the target stock price 42 days before the announcement date and the Final Offer Price by the target stock price 2 days before the announcement respectively. For the CAR based runup and markup we estimated them as the CAR over [-42, -2] and [-1, +126] respectively. Size is the logarithm of the firm market cap 42 days before the announcement day. The firm market cap is obtained by multiplying the stock price by the number of shares outstanding (in $Millions). B/M is the ratio of the Book Value of the Firm's equity divided by the Market Value of the Firm 42 days before the announcement. The Book value of the firm's equity is obtained following the approach of Fama and French (1993) by adding the book value of stockholders equity to the balance sheet deferred taxes and investment tax credit and subtracting the book value of preferred share – all data are brought from Compustat. Target (Acquirer) Turnover is estimated as the average of the Volume to Share Outstanding Ratio calculated over the interval spanning 166 days before the announcement to 42 days before the announcement (before the beginning of the runup period). Relying on SDC deals' data we created the following dummy variables: complete – whether the deal was completed successfully or not, Hostile – whether the bidder attitude was hostile or not, Rumor – whether the deal followed a rumor or not, Tender – whether the deal was a tender offer or not, Toehold – whether the bidder had more than 5% ownership of the target at the deal's announcement, and NYSE/AMEX whether the deal is listed on NYSE, AMEX or not. If the target and acquirer share the same four-digit SIC code, the deal is considered a Horizontal deal. Relative size is the ratio of Target to Acquirer size. Firms' SIC codes are obtained from CRSP. Heteroscedasticity consistent white p-value are reported underneath. The *,**,*** indicates significance at 10%, 5%, and 1% respectively.

Deal-Type	All Deals		Non-Cash-Only		Cash-Only	
	1	2	3	4	5	6
Constant	-0.01284	-0.36404***	0.03407	-0.31358***	-0.00647	-0.38894***
(p-value)	(0.7783)	(<.0001)	(0.5408)	(<.0001)	(0.9355)	(<.0001)
MCSI-Sentiment-Proxy	0.01249	0.01867*	0.0032	0.01643	0.00858	0.00582
(p-value)	(0.2164)	(0.0599)	(0.7948)	(0.1738)	(0.6306)	(0.7363)
Target Size		0.00149		0.00431***		-0.00304
(p-value)		(0.1631)		(0.0004)		(0.1455)
Target Turnover		0.00054042***		0.00050427***		0.00058381
(p-value)		(0.0018)		(0.0041)		(0.2563)
Target NYSE/Amex		0.00122		-0.00331		0.00881*
(p-value)		(0.6622)		(0.3231)		(0.0799)
Target B/M		0.00946**		0.01842***		0.00091713
(p-value)		(0.0149)		(<.0001)		(0.8498)
Bidder Turnover		-0.00006061		-0.00004322		-0.0000386
(p-value)		(0.4408)		(0.5085)		(0.9233)
Bidder NYSE/Amex		-0.006*		-0.00945**		0.00421
(p-value)		(0.0601)		(0.0109)		(0.474)
Bidder B/M		0.00027551		-0.0011		0.00115
(p-value)		(0.7323)		(0.593)		(0.3251)
Relative Size		0.30038***		0.21059***		0.4697***
(p-value)		(<.0001)		(<.0001)		(<.0001)
Toehold Exist		-0.0135**		-0.01159		-0.02108**
(p-value)		(0.0259)		(0.1615)		(0.0193)
Horizontal		0.00484		0.0072**		0.00034077
(p-value)		(0.1286)		(0.0408)		(0.9633)
Tender Offer		0.00356		0.00128		0.00628
(p-value)		(0.3605)		(0.8684)		(0.1829)
Cash Bid		-0.00914***				
(p-value)		(0.0041)				
Hostile		0.02809***		0.02551***		0.02059**
(p-value)		(<.0001)		(0.0051)		(0.0199)
Multiple Bidders		-0.00437		-0.00581		0.00312
(p-value)		(0.3309)		(0.3193)		(0.6267)
Rumor		-0.02345***		-0.02652***		-0.01683**
(p-value)		(<.0001)		(0.0003)		(0.0428)
Complete		0.00427		0.00467		0.00236
(p-value)		(0.291)		(0.3245)		(0.7572)
Adj-R^2	0.0002	0.1357	-0.0004	0.105	-0.0007	0.2183
Industry Dummies	No	Yes	No	Yes	No	Yes
Number of Cases	3705	3705	2591	2591	1114	1114

Table 4-16 Cross-sectional Regression of Target Bargaining Power estimated over [-42, +1] interval on University of Michigan Consumer Sentiment Index (MCSI)

The below table shows the results of the cross-sectional regressions of target bargaining power estimated over the interval [-42, +1] on Michigan Consumer Sentiment Index (MCSI). The Bargaining power is estimated following Ahern et. Al (2013) as the ratio of the difference of Target and Acquirer Dollar Cumulative Abnormal Return (CAR) divided by the sum of Target and Acquirer market cap obtained 42 days before the announcement. The Dollar CARs are obtained as the sum of the dollar Abnormal Returns (AR). The dollar AR are estimated by multiplying the daily AR by the lagged daily market cap for the corresponding firm. The AR is calculated as the difference between the realized return of the firm's stock and the expected return. The expected return is obtained using the market model ($r_{i,t} = \alpha + \beta\, r_{m,t}$). This latter is estimated using daily returns spanning 253 trading days before the announcement day to 43 days before the announcement day. CRSP Value weighted index was used as a proxy for the market. The University of Michigan Consumer Sentiment Index (MCSI) associated with the deal are brought from University of Michigan website. For every deal, we estimated a sentiment measure that is equal to the weighted average sentiment index levels that are available during the deal's runup period. This latter spans 42 days before the announcement to 2 days before the announcement. The quartile cutoffs are estimated as per the sentiment original index spanning the period of our analysis: November 1981 till October 2015. Mergers and Acquisitions deals are downloaded from SDC. We limited our sample to Mergers, Acquisitions of Majority Interest and Acquisitions of Remaining Interest. We required that the deal have a reported final offer price on SDC and filtered out the top and bottom deals' percentile when sorted by their offer premium in order to avoid outliers. The offer premium is estimated as the final offer price divided by the target stock price 42 trading days before the announcement day. We removed any offer that is not the first offer within a multibid contest. Deals fall into a multibid contest if bids on the same target are separated by less than 6 months from each other. We also filtered out any deal whose value is less than $10 Million dollar and whose target stock price on day -42 is less than $5. Deal value is brought from SDC. We have also used Target Cumulative Abnomral Return from the beginning of the Runup period till completion day or 126 days after the deal is completed (whichever is shorter) – we termed this variable as CAR-Base d-Premium. We require that both target and acquirer firms are public US listed firms with CRSP and Compustat data on both. We divided our sample into All, Non-Cash-Only (Mixed or Stock-Only) and Cash-Only based on the medium of exchange as reported by SDC. Price and Return data is brought from CRSP. For price based runup and markup, we followed Betton et al (2008) by dividing the target stock price 2 days before the announcement day by the target stock price 42 days before the announcement date and the Final Offer Price by the target stock price 2 days before the announcement respectively. For the CAR based runup and markup we estimated them as the CAR over [-42, -2] and [-1, +126] respectively. Size is the logarithm of the firm market cap 42 days before the announcement day. The firm market cap is obtained by multiplying the stock price by the number of shares outstanding (in $Millions). B/M is the ratio of the Book Value of the Firm's equity divided by the Market Value of the Firm 42 days before the announcement. The Book value of the firm's equity is obtained following the approach of Fama and French (1993) by adding the book value of stockholders equity to the balance sheet deferred taxes and investment tax credit and subtracting the book value of preferred share – all data are brought from Compustat. Target (Acquirer) Turnover is estimated as the average of the Volume to Share Outstanding Ratio calculated over the interval spanning 166 days before the announcement to 42 days before the announcement (before the beginning of the runup period). Relying on SDC deals' data we created the following dummy variables: complete – whether the deal was completed successfully or not, Hostile – whether the bidder attitude was hostile or not, Rumor – whether the deal followed a rumor or not, Tender – whether the deal was a tender offer or not, Toehold – whether the bidder had more than 5% ownership of the target at the deal's announcement, and NYSE/AMEX whether the deal is listed on NYSE, AMEX or not. If the target and acquirer share the same four-digit SIC code, the deal is considered a Horizontal deal. Relative size is the ratio of Target to Acquirer size. Firms' SIC codes are obtained from CRSP. Heteroscedasticity consistent white p-value are reported underneath. The *,**,*** indicates significance at 10%, 5%, and 1% respectively.

Deal-Type	All Deals		Non-Cash-Only		Cash-Only	
	1	2	3	4	5	6
Constant	-0.15506*	-0.50512***	-0.18675*	-0.37557***	-0.02634	-0.50414***
(p-value)	(0.0775)	(<.0001)	(0.0879)	(0.0023)	(0.863)	(0.0067)
MCSI-Sentiment-Proxy	0.04589***	0.05126**	0.05362**	0.06186**	0.01552	-0.01346
(p-value)	(0.0189)	(0.0114)	(0.0272)	(0.0104)	(0.6502)	(0.6978)
Target Size		0.00231		0.00567**		-0.00437
(p-value)		(0.2579)		(0.018)		(0.2565)
Target Turnover		0.00035458		0.00024755		0.0013
(p-value)		(0.4889)		(0.6707)		(0.1187)
Target NYSE/Amex		-0.00075967		0.00227		-0.00767
(p-value)		(0.8982)		(0.7506)		(0.4569)
Target B/M		0.01214*		0.02768***		0.00056203
(p-value)		(0.0823)		(0.0044)		(0.9511)
Bidder Turnover		0.00026312		0.00032602		-0.00028352
(p-value)		(0.4238)		(0.3068)		(0.7597)
Bidder NYSE/Amex		-0.0188***		-0.02454***		-0.00193
(p-value)		(0.0015)		(0.0003)		(0.8664)
Bidder B/M		-0.00307*		-0.00779		0.00007393
(p-value)		(0.0629)		(0.1599)		(0.9775)
Relative Size		0.2779***		0.05302		0.70316***
(p-value)		(<.0001)		(0.2797)		(<.0001)
Toehold Exist		-0.02854**		-0.02178		-0.05919***
(p-value)		(0.0305)		(0.1932)		(0.0066)
Horizontal		0.00368		0.00982		-0.00933
(p-value)		(0.5496)		(0.156)		(0.467)
Tender Offer		0.00923		0.01196		0.00846
(p-value)		(0.2516)		(0.4358)		(0.3781)
Cash Bid		-0.00601				
(p-value)		(0.3418)				
Hostile		0.03458**		0.00517		0.04042**
(p-value)		(0.012)		(0.7925)		(0.0386)
Multiple Bidders		-0.02495**		-0.04092***		0.00735
(p-value)		(0.0105)		(0.0009)		(0.6091)
Rumor		0.01117		0.00848		0.01025
(p-value)		(0.2367)		(0.4569)		(0.5127)
Complete		-0.00135		-0.00562		0.00257
(p-value)		(0.8685)		(0.545)		(0.8737)
Adj-R2	0.0014	0.0481	0.0019	0.0463	-0.0007	0.1277
Industry Dummies	No	Yes	No	Yes	No	Yes
Number of Cases	3705	3705	2591	2591	1114	1114

Table 4-17 Cross-sectional Regression of Target Bargaining Power estimated over [-42, +126] interval on University of Michigan Consumer Sentiment Index (MCSI)

The below table shows the results of the cross-sectional regressions of target bargaining power estimated over the interval [-42, +126] on Michigan Consumer Sentiment Index (MCSI). The Bargaining power is estimated following Ahern et. Al (2013) as the ratio of the difference of Target and Acquirer Dollar Cumulative Abnormal Return (CAR) divided by the sum of Target and Acquirer market cap obtained 42 days before the announcement. The Dollar CARs are obtained as the sum of the dollar Abnormal Returns (AR). The dollar AR are estimated by multiplying the daily AR by the lagged daily market cap for the corresponding firm. The AR is calculated as the difference between the realized return of the firm's stock and the expected return. The expected return is obtained using the market model ($r_{i,t} = \alpha + \beta\, r_{m,t}$). This latter is estimated using daily returns spanning 253 trading days before the announcement day to 43 days before the announcement day. CRSP Value weighted index was used as a proxy for the market. The University of Michigan Consumer Sentiment Index (MCSI) associated with the deal are brought from University of Michigan website. For every deal, we estimated a sentiment measure that is equal to the weighted average sentiment index levels that are available during the deal's runup period. This latter spans 42 days before the announcement to 2 days before the announcement. The quartile cutoffs are estimated as per the sentiment original index spanning the period of our analysis: November 1981 till October 2015. Mergers and Acquisitions deals are downloaded from SDC. We limited our sample to Mergers, Acquisitions of Majority Interest and Acquisitions of Remaining Interest. We required that the deal have a reported final offer price on SDC and filtered out the top and bottom deals' percentile when sorted by their offer premium in order to avoid outliers. The offer premium is estimated as the final offer price divided by the target stock price 42 trading days before the announcement day. We removed any offer that is not the first offer within a multibid contest. Deals fall into a multibid contest if bids on the same target are separated by less than 6 months from each other. We also filtered out any deal whose value is less than $10 Million dollar and whose target stock price on day -42 is less than $5. Deal value is brought from SDC. We have also used Target Cumulative Abnomral Return from the beginning of the Runup period till completion day or 126 days after the deal is completed (whichever is shorter) – we termed this variable as CAR-Base d-Premium. We require that both target and acquirer firms are public US listed firms with CRSP and Compustat data on both. We divided our sample into All, Non-Cash-Only (Mixed or Stock-Only) and Cash-Only based on the medium of exchange as reported by SDC. Price and Return data is brought from CRSP. For price based runup and markup, we followed Betton et al (2008) by dividing the target stock price 2 days before the announcement day by the target stock price 42 days before the announcement date and the Final Offer Price by the target stock price 2 days before the announcement respectively. For the CAR based runup and markup we estimated them as the CAR over [-42, -2] and [-1, +126] respectively. Size is the logarithm of the firm market cap 42 days before the announcement day. The firm market cap is obtained by multiplying the stock price by the number of shares outstanding (in $Millions). B/M is the ratio of the Book Value of the Firm's equity divided by the Market Value of the Firm 42 days before the announcement. The Book value of the firm's equity is obtained following the approach of Fama and French (1993) by adding the book value of stockholders equity to the balance sheet deferred taxes and investment tax credit and subtracting the book value of preferred share – all data are brought from Compustat. Target (Acquirer) Turnover is estimated as the average of the Volume to Share Outstanding Ratio calculated over the interval spanning 166 days before the announcement to 42 days before the announcement (before the beginning of the runup period). Relying on SDC deals' data we created the following dummy variables: complete – whether the deal was completed successfully or not, Hostile – whether the bidder attitude was hostile or not, Rumor – whether the deal followed a rumor or not, Tender – whether the deal was a tender offer or not, Toehold – whether the bidder had more than 5% ownership of the target at the deal's announcement, and NYSE/AMEX whether the deal is listed on NYSE, AMEX or not. If the target and acquirer share the same four-digit SIC code, the deal is considered a Horizontal deal. Relative size is the ratio of Target to Acquirer size. Firms' SIC codes are obtained from CRSP. Heteroscedasticity consistent white p-value are reported underneath. The *,**,*** indicates significance at 10%, 5%, and 1% respectively.

Deal-Type	All Deals		Non-Cash-Only		Cash-Only	
	1	2	3	4	5	6
Constant	-0.56794***	-0.52395**	-0.70872***	-0.30376	-0.0119	-0.59179
(p-value)	(0.0008)	(0.017)	(0.0015)	(0.263)	(0.9626)	(0.0803)
MCSI-Sentiment-Proxy	0.14758***	0.12002***	0.18175***	0.13938***	0.0166	0.00915
(p-value)	(<.0001)	(0.0029)	(0.0002)	(0.0072)	(0.7711)	(0.8786)
Target Size		-0.0035		-0.00151		-0.00781
(p-value)		(0.3527)		(0.7437)		(0.2179)
Target Turnover		0.00129		0.00137		0.00118
(p-value)		(0.1539)		(0.1964)		(0.3531)
Target NYSE/Amex		0.00506		0.00746		0.0126
(p-value)		(0.6589)		(0.6048)		(0.4697)
Target B/M		-0.01277		-0.00662		-0.00926
(p-value)		(0.3519)		(0.7361)		(0.6139)
Bidder Turnover		0.00128		0.00132		0.00218
(p-value)		(0.204)		(0.1667)		(0.1645)
Bidder NYSE/Amex		-0.0443***		-0.05638***		-0.00095469
(p-value)		(0.0003)		(0.0001)		(0.9599)
Bidder B/M		-0.01557***		-0.03175**		-0.00663
(p-value)		(0.0002)		(0.0346)		(0.2026)
Relative Size		0.14452		-0.17434*		0.74853***
(p-value)		(0.1038)		(0.0958)		(<.0001)
Toehold Exist		-0.00325		-0.00924		-0.01696
(p-value)		(0.8887)		(0.7358)		(0.6801)
Horizontal		0.00355		0.01602		-0.02625
(p-value)		(0.7599)		(0.2492)		(0.1946)
Tender Offer		-0.01689		-0.02576		-0.00536
(p-value)		(0.2408)		(0.3795)		(0.7391)
Cash Bid		-0.04096***				
(p-value)		(0.0007)				
Hostile		0.07482***		0.02971		0.08552**
(p-value)		(0.005)		(0.3806)		(0.0404)
Multiple Bidders		-0.02486		-0.03838		-0.00212
(p-value)		(0.2167)		(0.1326)		(0.9368)
Rumor		0.00458		0.00213		0.00281
(p-value)		(0.7999)		(0.9286)		(0.9067)
Complete		-0.0344		-0.04189*		-0.02494
(p-value)		(0.0665)		(0.0635)		(0.4143)
Adj-R^2	0.0042	0.047	0.0054	0.0568	-0.0008	0.0572
Industry Dummies	No	Yes	No	Yes	No	Yes
Number of Cases	3705	3705	2591	2591	1114	1114

Table 4-18 Cross-sectional Regression of Synergy estimated over [-1, +1] interval on University of Michigan Consumer Sentiment Index (MCSI)

The below table shows the results of the cross-sectional regressions of synergy power estimated over the interval [-1, +1] on Michigan Consumer Sentiment Index (MCSI). Synergy is estimated as the ratio of the sum of Target and Acquirer Dollar Cumulative Abnormal Return (CAR) divided by the sum of Target and Acquirer market cap obtained 42 days before the announcement. The Dollar CARs are obtained as the sum of the dollar Abnormal Returns (AR). The dollar AR are estimated by multiplying the daily AR by the lagged daily market cap for the corresponding firm. The AR is calculated as the difference between the realized return of the firm's stock and the expected return. The expected return is obtained using the market model ($r_{i,t} = \alpha + \beta\, r_{m,t}$). This latter is estimated using daily returns spanning 253 trading days before the announcement day to 43 days before the announcement day. CRSP Value weighted index was used as a proxy for the market. The University of Michigan Consumer Sentiment Index (MCSI) associated with the deal are brought from University of Michigan website. For every deal, we estimated a sentiment measure that is equal to the weighted average sentiment index levels that are available during the deal's runup period. This latter spans 42 days before the announcement to 2 days before the announcement. The quartile cutoffs are estimated as per the sentiment original index spanning the period of our analysis: November 1981 till October 2015. Mergers and Acquisitions deals are downloaded from SDC. We limited our sample to Mergers, Acquisitions of Majority Interest and Acquisitions of Remaining Interest. We required that the deal have a reported final offer price on SDC and filtered out the top and bottom deals' percentile when sorted by their offer premium in order to avoid outliers. The offer premium is estimated as the final offer price divided by the target stock price 42 trading days before the announcement day. We removed any offer that is not the first offer within a multibid contest. Deals fall into a multibid contest if bids on the same target are separated by less than 6 months from each other. We also filtered out any deal whose value is less than $10 Million dollar and whose target stock price on day -42 is less than $5. Deal value is brought from SDC. We have also used Target Cumulative Abnomral Return from the beginning of the Runup period till completion day or 126 days after the deal is completed (whichever is shorter) – we termed this variable as CAR-Base d-Premium. We require that both target and acquirer firms are public US listed firms with CRSP and Compustat data on both. We divided our sample into All, Non-Cash-Only (Mixed or Stock-Only) and Cash-Only based on the medium of exchange as reported by SDC. Price and Return data is brought from CRSP. For price based runup and markup, we followed Betton et al. (2008) by dividing the target stock price 2 days before the announcement day by the target stock price 42 days before the announcement date and the Final Offer Price by the target stock price 2 days before the announcement respectively. For the CAR based runup and markup we estimated them as the CAR over [-42, -2] and [-1, +126] respectively. Size is the logarithm of the firm market cap 42 days before the announcement day. The firm market cap is obtained by multiplying the stock price by the number of shares outstanding (in $Millions). B/M is the ratio of the Book Value of the Firm's equity divided by the Market Value of the Firm 42 days before the announcement. The Book value of the firm's equity is obtained following the approach of Fama and French (1993) by adding the book value of stockholders equity to the balance sheet deferred taxes and investment tax credit and subtracting the book value of preferred share – all data are brought from Compustat. Target (Acquirer) Turnover is estimated as the average of the Volume to Share Outstanding Ratio calculated over the interval spanning 166 days before the announcement to 42 days before the announcement (before the beginning of the runup period). Relying on SDC deals' data we created the following dummy variables: complete – whether the deal was completed successfully or not, Hostile – whether the bidder attitude was hostile or not, Rumor – whether the deal followed a rumor or not, Tender – whether the deal was a tender offer or not, Toehold – whether the bidder had more than 5% ownership of the target at the deal's announcement, and NYSE/AMEX whether the deal is listed on NYSE, AMEX or not. If the target and acquirer share the same four-digit SIC code, the deal is considered a Horizontal deal. Relative size is the ratio of Target to Acquirer size. Firms' SIC codes are obtained from CRSP. Heteroscedasticity consistent white p-value are reported underneath. The *,**,*** indicates significance at 10%, 5%, and 1% respectively.

Deal-Type	All Deals		Non-Cash-Only		Cash-Only	
	1	2	3	4	5	6
Constant	0.28949***	0.00574	0.37123***	0.18995**	-0.05942	-0.37309***
(p-value)	(<.0001)	(0.926)	(<.0001)	(0.0158)	(0.4162)	(<.0001)
MCSI-Sentiment-Proxy	-0.05939***	-0.04499***	-0.07951***	-0.06516***	0.02313	0.01016
(p-value)	(<.0001)	(<.0001)	(<.0001)	(<.0001)	(0.1571)	(0.4935)
Target Size		-0.00503***		-0.00426***		-0.00809***
(p-value)		(<.0001)		(0.0013)		(<.0001)
Target Turnover		-0.00037973*		-0.00062775**		0.0009329**
(p-value)		(0.0822)		(0.0147)		(0.0332)
Target NYSE/Amex		0.00435		0.00518		0.00528
(p-value)		(0.1675)		(0.1885)		(0.2562)
Target B/M		0.01108***		0.00501		0.01688***
(p-value)		(0.0023)		(0.3024)		(0.0086)
Bidder Turnover		-0.00007532		-0.00002756		0.00012157
(p-value)		(0.1987)		(0.6148)		(0.7546)
Bidder NYSE/Amex		0.00566*		0.0059		0.00768
(p-value)		(0.093)		(0.1328)		(0.1584)
Bidder B/M		-0.00010274		0.00392*		0.00000911
(p-value)		(0.925)		(0.0887)		(0.9938)
Relative Size		0.33013***		0.19152***		0.57984***
(p-value)		(<.0001)		(<.0001)		(<.0001)
Toehold Exist		-0.00997		-0.00030733		-0.02324**
(p-value)		(0.1347)		(0.972)		(0.02)
Horizontal		0.00291		0.00246		0.00623
(p-value)		(0.3869)		(0.5273)		(0.3335)
Tender Offer		0.01233***		0.02504***		0.0007624
(p-value)		(0.0016)		(0.003)		(0.8566)
Cash Bid		0.03133***				
(p-value)		(<.0001)				
Hostile		0.02359***		0.04402***		-0.00012104
(p-value)		(0.0006)		(<.0001)		(0.9892)
Multiple Bidders		0.00060495		0.00123		-0.00084587
(p-value)		(0.8985)		(0.8392)		(0.8978)
Rumor		-0.00037508		0.00562		-0.01181
(p-value)		(0.9495)		(0.4856)		(0.1099)
Complete		0.0131***		0.00955*		0.02217***
(p-value)		(0.0021)		(0.0569)		(0.0013)
Adj-R^2	0.0088	0.1611	0.0152	0.0919	0.0007	0.3558
Industry Dummies	No	Yes	No	Yes	No	Yes
Number of Cases	3705	3705	2591	2591	1114	1114

Table 4-19 Cross-sectional Regression of Synergy estimated over [-42, +1] interval on University of Michigan Consumer Sentiment Index (MCSI)

The below table shows the results of the cross-sectional regressions of synergy power estimated over the interval [-42, +1] on Michigan Consumer Sentiment Index (MCSI). Synergy is estimated as the ratio of the sum of Target and Acquirer Dollar Cumulative Abnormal Return (CAR) divided by the sum of Target and Acquirer market cap obtained 42 days before the announcement. The Dollar CARs are obtained as the sum of the dollar Abnormal Returns (AR). The dollar AR are estimated by multiplying the daily AR by the lagged daily market cap for the corresponding firm. The AR is calculated as the difference between the realized return of the firm's stock and the expected return. The expected return is obtained using the market model ($r_{i,t} = \alpha + \beta\, r_{m,t}$). This latter is estimated using daily returns spanning 253 trading days before the announcement day to 43 days before the announcement day. CRSP Value weighted index was used as a proxy for the market. The University of Michigan Consumer Sentiment Index (MCSI) associated with the deal are brought from University of Michigan website. For every deal, we estimated a sentiment measure that is equal to the weighted average sentiment index levels that are available during the deal's runup period. This latter spans 42 days before the announcement to 2 days before the announcement. The quartile cutoffs are estimated as per the sentiment original index spanning the period of our analysis: November 1981 till October 2015. Mergers and Acquisitions deals are downloaded from SDC. We limited our sample to Mergers, Acquisitions of Majority Interest and Acquisitions of Remaining Interest. We required that the deal have a reported final offer price on SDC and filtered out the top and bottom deals' percentile when sorted by their offer premium in order to avoid outliers. The offer premium is estimated as the final offer price divided by the target stock price 42 trading days before the announcement day. We removed any offer that is not the first offer within a multibid contest. Deals fall into a multibid contest if bids on the same target are separated by less than 6 months from each other. We also filtered out any deal whose value is less than $10 Million dollar and whose target stock price on day -42 is less than $5. Deal value is brought from SDC. We have also used Target Cumulative Abnomral Return from the beginning of the Runup period till completion day or 126 days after the deal is completed (whichever is shorter) – we termed this variable as CAR-Base d-Premium. We require that both target and acquirer firms are public US listed firms with CRSP and Compustat data on both. We divided our sample into All, Non-Cash-Only (Mixed or Stock-Only) and Cash-Only based on the medium of exchange as reported by SDC. Price and Return data is brought from CRSP. For price based runup and markup, we followed **Betton et al (2008)** by dividing the target stock price 2 days before the announcement day by the target stock price 42 days before the announcement date and the Final Offer Price by the target stock price 2 days before the announcement respectively. For the CAR based runup and markup we estimated them as the CAR over [-42, -2] and [-1, +126] respectively. Size is the logarithm of the firm market cap 42 days before the announcement day. The firm market cap is obtained by multiplying the stock price by the number of shares outstanding (in $Millions). B/M is the ratio of the Book Value of the Firm's equity divided by the Market Value of the Firm 42 days before the announcement. The Book value of the firm's equity is obtained following the approach of Fama and French (1993) by adding the book value of stockholders equity to the balance sheet deferred taxes and investment tax credit and subtracting the book value of preferred share – all data are brought from Compustat. Target (Acquirer) Turnover is estimated as the average of the Volume to Share Outstanding Ratio calculated over the interval spanning 166 days before the announcement to 42 days before the announcement (before the beginning of the runup period). Relying on SDC deals' data we created the following dummy variables: complete – whether the deal was completed successfully or not, Hostile – whether the bidder attitude was hostile or not, Rumor – whether the deal followed a rumor or not, Tender – whether the deal was a tender offer or not, Toehold – whether the bidder had more than 5% ownership of the target at the deal's announcement, and NYSE/AMEX whether the deal is listed on NYSE, AMEX or not. If the target and acquirer share the same four-digit SIC code, the deal is considered a Horizontal deal. Relative size is the ratio of Target to Acquirer size. Firms' SIC codes are obtained from CRSP. Heteroscedasticity consistent white p-value are reported underneath. The *,**,*** indicates significance at 10%, 5%, and 1% respectively.

Deal-Type	All Deals		Non-Cash-Only		Cash-Only	
	1	2	3	4	5	6
Constant	0.22894**	-0.14514	0.36014***	0.03851	-0.27306*	-0.67607***
(p-value)	(0.0267)	(0.2609)	(0.007)	(0.807)	(0.0904)	(0.0012)
MCSI-Sentiment-Proxy	-0.04584**	-0.02021	-0.07751***	-0.04651	0.07221**	0.07227**
(p-value)	(0.0464)	(0.3986)	(0.0089)	(0.1233)	(0.046)	(0.0477)
Target Size		-0.00837***		-0.00699**		-0.0118***
(p-value)		(0.0006)		(0.019)		(0.0024)
Target Turnover		-0.00078254		-0.00128		0.00146*
(p-value)		(0.2409)		(0.1264)		(0.0636)
Target NYSE/Amex		0.00771		0.00053326		0.02714***
(p-value)		(0.2703)		(0.9521)		(0.0097)
Target B/M		0.02955***		0.02256*		0.03183**
(p-value)		(0.0009)		(0.059)		(0.0148)
Bidder Turnover		-0.00043789		-0.00038728		0.00007554
(p-value)		(0.1301)		(0.2161)		(0.9337)
Bidder NYSE/Amex		0.01956***		0.01854**		0.02482**
(p-value)		(0.0043)		(0.0256)		(0.0311)
Bidder B/M		0.00204		0.01345**		0.00051554
(p-value)		(0.333)		(0.0127)		(0.8051)
Relative Size		0.43282***		0.27843***		0.70437***
(p-value)		(<.0001)		(<.0001)		(<.0001)
Toehold Exist		-0.01589		-0.011		-0.01538
(p-value)		(0.2756)		(0.5744)		(0.4852)
Horizontal		0.00669		0.00402		0.01645
(p-value)		(0.3624)		(0.6478)		(0.1995)
Tender Offer		0.00869		0.01648		0.00046171
(p-value)		(0.3092)		(0.3776)		(0.9614)
Cash Bid		0.04143***				
(p-value)		(<.0001)				
Hostile		0.0395**		0.08342***		-0.00778
(p-value)		(0.0115)		(0.0002)		(0.7291)
Multiple Bidders		0.00746		0.01486		-0.00992
(p-value)		(0.4885)		(0.2842)		(0.4833)
Rumor		0.00612		0.01502		-0.00812
(p-value)		(0.594)		(0.3258)		(0.6224)
Complete		0.03483***		0.03776***		0.03228**
(p-value)		(0.0003)		(0.0012)		(0.047)
Adj-R^2	0.001	0.0753	0.0027	0.0556	0.0031	0.1443
Industry Dummies	No	Yes	No	Yes	No	Yes
Number of Cases	3705	3705	2591	2591	1114	1114

Table 4-20 Cross-sectional Regression of Synergy estimated over [-42, +126] interval on University of Michigan Consumer Sentiment Index (MCSI)

The below table shows the results of the cross-sectional regressions of synergy power estimated over the interval [-42, +126] on Michigan Consumer Sentiment Index (MCSI). Synergy is estimated as the ratio of the sum of Target and Acquirer Dollar Cumulative Abnormal Return (CAR) divided by the sum of Target and Acquirer market cap obtained 42 days before the announcement. The Dollar CARs are obtained as the sum of the dollar Abnormal Returns (AR). The dollar AR are estimated by multiplying the daily AR by the lagged daily market cap for the corresponding firm. The AR is calculated as the difference between the realized return of the firm's stock and the expected return. The expected return is obtained using the market model ($r_{i,t} = \alpha + \beta\, r_{m,t}$). This latter is estimated using daily returns spanning 253 trading days before the announcement day to 43 days before the announcement day. CRSP Value weighted index was used as a proxy for the market. The University of Michigan Consumer Sentiment Index (MCSI) associated with the deal are brought from University of Michigan website. For every deal, we estimated a sentiment measure that is equal to the weighted average sentiment index levels that are available during the deal's runup period. This latter spans 42 days before the announcement to 2 days before the announcement. The quartile cutoffs are estimated as per the sentiment original index spanning the period of our analysis: November 1981 till October 2015. Mergers and Acquisitions deals are downloaded from SDC. We limited our sample to Mergers, Acquisitions of Majority Interest and Acquisitions of Remaining Interest. We required that the deal have a reported final offer price on SDC and filtered out the top and bottom deals' percentile when sorted by their offer premium in order to avoid outliers. The offer premium is estimated as the final offer price divided by the target stock price 42 trading days before the announcement day. We removed any offer that is not the first offer within a multibid contest. Deals fall into a multibid contest if bids on the same target are separated by less than 6 months from each other. We also filtered out any deal whose value is less than $10 Million dollar and whose target stock price on day -42 is less than $5. Deal value is brought from SDC. We have also used Target Cumulative Abnomral Return from the beginning of the Runup period till completion day or 126 days after the deal is completed (whichever is shorter) – we termed this variable as CAR-Base d-Premium. We require that both target and acquirer firms are public US listed firms with CRSP and Compustat data on both. We divided our sample into All, Non-Cash-Only (Mixed or Stock-Only) and Cash-Only based on the medium of exchange as reported by SDC. Price and Return data is brought from CRSP. For price based runup and markup, we followed Betton et al (2008) by dividing the target stock price 2 days before the announcement day by the target stock price 42 days before the announcement date and the Final Offer Price by the target stock price 2 days before the announcement respectively. For the CAR based runup and markup we estimated them as the CAR over [-42, -2] and [-1, +126] respectively. Size is the logarithm of the firm market cap 42 days before the announcement day. The firm market cap is obtained by multiplying the stock price by the number of shares outstanding (in $Millions). B/M is the ratio of the Book Value of the Firm`s equity divided by the Market Value of the Firm 42 days before the announcement. The Book value of the firm's equity is obtained following the approach of Fama and French (1993) by adding the book value of stockholders equity to the balance sheet deferred taxes and investment tax credit and subtracting the book value of preferred share – all data are brought from Compustat. Target (Acquirer) Turnover is estimated as the average of the Volume to Share Outstanding Ratio calculated over the interval spanning 166 days before the announcement to 42 days before the announcement (before the beginning of the runup period). Relying on SDC deals' data we created the following dummy variables: complete – whether the deal was completed successfully or not, Hostile – whether the bidder attitude was hostile or not, Rumor – whether the deal followed a rumor or not, Tender – whether the deal was a tender offer or not, Toehold – whether the bidder had more than 5% ownership of the target at the deal's announcement, and NYSE/AMEX whether the deal is listed on NYSE, AMEX or not. If the target and acquirer share the same four-digit SIC code, the deal is considered a Horizontal deal. Relative size is the ratio of Target to Acquirer size. Firms' SIC codes are obtained from CRSP. Heteroscedasticity consistent white p-value are reported underneath. The *,**,*** indicates significance at 10%, 5%, and 1% respectively.

Deal-Type	All Deals		Non-Cash-Only		Cash-Only	
	1	2	3	4	5	6
Constant	0.57533***	-0.43442	0.84075***	-0.26316	-0.49774*	-1.14899***
(p-value)	(0.0065)	(0.1049)	(0.0035)	(0.4472)	(0.0689)	(0.0033)
MCSI-Sentiment-Proxy	-0.13491***	-0.05122	-0.19961***	-0.08321	0.11817*	0.11277*
(p-value)	(0.0042)	(0.2962)	(0.0018)	(0.205)	(0.0546)	(0.0782)
Target Size		0.00233		0.00537		-0.00507
(p-value)		(0.6283)		(0.3637)		(0.4811)
Target Turnover		-0.00325***		-0.00457***		0.00339**
(p-value)		(0.0033)		(0.0012)		(0.0109)
Target NYSE/Amex		0.00835		-0.00331		0.02426
(p-value)		(0.5472)		(0.8545)		(0.1939)
Target B/M		0.12039***		0.1379***		0.08679***
(p-value)		(<.0001)		(<.0001)		(0.0001)
Bidder Turnover		-0.00119		-0.00109		-0.00129
(p-value)		(0.2678)		(0.3049)		(0.4196)
Bidder NYSE/Amex		0.04805***		0.05487***		0.02906
(p-value)		(0.0007)		(0.0021)		(0.1452)
Bidder B/M		0.01809***		0.04962***		0.00877*
(p-value)		(0.0017)		(0.0072)		(0.0859)
Relative Size		0.47902***		0.3089***		0.76809***
(p-value)		(<.0001)		(0.0109)		(<.0001)
Toehold Exist		-0.02212		0.01991		-0.08905**
(p-value)		(0.4753)		(0.6304)		(0.0333)
Horizontal		0.02414		0.02469		0.02903
(p-value)		(0.1054)		(0.1824)		(0.182)
Tender Offer		0.02793*		0.03974		0.01147
(p-value)		(0.0653)		(0.2134)		(0.4755)
Cash Bid		0.0837***				
(p-value)		(<.0001)				
Hostile		0.10147***		0.13731***		0.07085
(p-value)		(0.0018)		(0.0026)		(0.1572)
Multiple Bidders		0.0624***		0.06317**		0.05115*
(p-value)		(0.0073)		(0.0299)		(0.0705)
Rumor		-0.01006		-0.00594		-0.01364
(p-value)		(0.6818)		(0.8635)		(0.606)
Complete		0.16881***		0.18219***		0.12601***
(p-value)		(<.0001)		(<.0001)		(<.0001)
Adj-R^2	0.0022	0.1012	0.0039	0.104	0.0027	0.0899
Industry Dummies	No	Yes	No	Yes	No	Yes
Number of Cases	3705	3705	2591	2591	1114	1114

Table 4-21 Cross-sectional Regression of Target Runup 'CAR[-42, -2]' on University of Michigan Consumer Sentiment Index (MCSI)

The below table shows the results of the cross-sectional regressions of Target CAR estimated over the runup period on Michigan Consumer Sentiment Index (MCSI). The Cumulative Abnormal Return (CAR) is estimated as sum of the Abnormal Returns (AR) over the specified period. The AR is calculated as the difference between the realized return of the firm's stock and the expected return. The expected return is obtained using the market model ($r_{i,t} = \alpha + \beta\, r_{m,t}$). This latter is estimated using daily returns spanning 253 trading days before the announcement day to 43 days before the announcement day. CRSP Value weighted index was used as a proxy for the market. The University of Michigan Consumer Sentiment Index (MCSI) associated with the deal are brought from University of Michigan website. For every deal, we estimated a sentiment measure that is equal to the weighted average sentiment index levels that are available during the deal's runup period. This latter spans 42 days before the announcement to 2 days before the announcement. The quartile cutoffs are estimated as per the sentiment original index spanning the period of our analysis: November 1981 till October 2015. Mergers and Acquisitions deals are downloaded from SDC. We limited our sample to Mergers, Acquisitions of Majority Interest and Acquisitions of Remaining Interest. We required that the deal have a reported final offer price on SDC and filtered out the top and bottom deals' percentile when sorted by their offer premium in order to avoid outliers. The offer premium is estimated as the final offer price divided by the target stock price 42 trading days before the announcement day. We removed any offer that is not the first offer within a multibid contest. Deals fall into a multibid contest if bids on the same target are separated by less than 6 months from each other. We also filtered out any deal whose value is less than $10 Million dollar and whose target stock price on day -42 is less than $5. Deal value is brought from SDC. We have also used Target Cumulative Abnomral Return from the beginning of the Runup period till completion day or 126 days after the deal is completed (whichever is shorter) – we termed this variable as CAR-Base d-Premium. We require that both target and acquirer firms are public US listed firms with CRSP and Compustat data on both. We divided our sample into All, Non-Cash-Only (Mixed or Stock-Only) and Cash-Only based on the medium of exchange as reported by SDC. Price and Return data is brought from CRSP. For price based runup and markup, we followed Betton et al (2008) by dividing the target stock price 2 days before the announcement day by the target stock price 42 days before the announcement date and the Final Offer Price by the target stock price 2 days before the announcement respectively. For the CAR based runup and markup we estimated them as the CAR over [-42, -2] and [-1, +126] respectively. Size is the logarithm of the firm market cap 42 days before the announcement day. The firm market cap is obtained by multiplying the stock price by the number of shares outstanding (in $Millions). B/M is the ratio of the Book Value of the Firm's equity divided by the Market Value of the Firm 42 days before the announcement. The Book value of the firm's equity is obtained following the approach of Fama and French (1993) by adding the book value of stockholders equity to the balance sheet deferred taxes and investment tax credit and subtracting the book value of preferred share – all data are brought from Compustat. Target (Acquirer) Turnover is estimated as the average of the Volume to Share Outstanding Ratio calculated over the interval spanning 166 days before the announcement to 42 days before the announcement (before the beginning of the runup period). Relying on SDC deals' data we created the following dummy variables: complete – whether the deal was completed successfully or not, Hostile – whether the bidder attitude was hostile or not, Rumor – whether the deal followed a rumor or not, Tender – whether the deal was a tender offer or not, Toehold – whether the bidder had more than 5% ownership of the target at the deal's announcement, and NYSE/AMEX whether the deal is listed on NYSE, AMEX or not. If the target and acquirer share the same four-digit SIC code, the deal is considered a Horizontal deal. Relative size is the ratio of Target to Acquirer size. Firms' SIC codes are obtained from CRSP. Heteroscedasticity consistent white p-value are reported underneath. The *,**,*** indicates significance at 10%, 5%, and 1% respectively.

Deal-Type	All Deals		Non-Cash-Only		Cash-Only	
	1	2	3	4	5	6
Constant	-0.61139***	-0.48703***	-0.5734***	-0.47592***	-0.85017***	-0.50519**
(p-value)	(<.0001)	(0.0012)	(0.0002)	(0.0091)	(<.0001)	(0.0488)
MCSI-Sentiment-Proxy	0.14571***	0.16723***	0.13551***	0.1608***	0.20307***	0.17798***
(p-value)	(<.0001)	(<.0001)	(<.0001)	(<.0001)	(<.0001)	(0.0002)
Target Size		-0.00446		-0.00125		-0.01343**
(p-value)		(0.1118)		(0.6947)		(0.0115)
Target Turnover		-0.00054288		-0.00094484		0.00259**
(p-value)		(0.3517)		(0.1584)		(0.0104)
Target NYSE/Amex		-0.00818		-0.01182		0.00246
(p-value)		(0.3211)		(0.2423)		(0.8623)
Target B/M		0.06675***		0.08764***		0.03934**
(p-value)		(<.0001)		(<.0001)		(0.0428)
Relative Size		-0.23187***		-0.33438***		-0.01573
(p-value)		(<.0001)		(<.0001)		(0.8426)
Toehold Exist		-0.0314**		-0.03068		-0.03688
(p-value)		(0.0422)		(0.1038)		(0.1597)
Horizontal		0.00926		0.01342		-0.00428
(p-value)		(0.2537)		(0.1689)		(0.7646)
Tender Offer		0.00991		0.00271		0.00615
(p-value)		(0.3502)		(0.8949)		(0.6233)
Cash Bid		0.00724				
(p-value)		(0.3823)				
Hostile		0.00045383		0.01274		-0.02337
(p-value)		(0.9823)		(0.6338)		(0.4428)
Multiple Bidders		-0.01304		-0.02535		-0.00125
(p-value)		(0.3127)		(0.1127)		(0.9513)
Rumor		0.08973***		0.06602***		0.12305***
(p-value)		(<.0001)		(0.0005)		(<.0001)
Complete		0.03345***		0.04418***		0.00561
(p-value)		(0.0032)		(0.0012)		(0.7561)
Adj-R^2	0.0087	0.0462	0.0066	0.0509	0.0201	0.0607
Industry Dummies	No	Yes	No	Yes	No	Yes
Number of Cases	3705	3705	2591	2591	1114	1114

Table 4-22 Cross-sectional Regression of Target Runup '[(P-2 / P-42) - 1]' on University of Michigan Consumer Sentiment Index (MCSI)

The below table shows the results of the cross-sectional regressions of Target Runup on Michigan Consumer Sentiment Index (MCSI). The Cumulative Abnormal Return (CAR) is estimated as sum of the Abnormal Returns (AR) over the specified period. The AR is calculated as the difference between the realized return of the firm's stock and the expected return. The expected return is obtained using the market model ($r_{i,t} = \alpha + \beta\, r_{m,t}$). This latter is estimated using daily returns spanning 253 trading days before the announcement day to 43 days before the announcement day. CRSP Value weighted index was used as a proxy for the market. The University of Michigan Consumer Sentiment Index (MCSI) associated with the deal are brought from University of Michigan website. For every deal, we estimated a sentiment measure that is equal to the weighted average sentiment index levels that are available during the deal's runup period. This latter spans 42 days before the announcement to 2 days before the announcement. The quartile cutoffs are estimated as per the sentiment original index spanning the period of our analysis: November 1981 till October 2015. Mergers and Acquisitions deals are downloaded from SDC. We limited our sample to Mergers, Acquisitions of Majority Interest and Acquisitions of Remaining Interest. We required that the deal have a reported final offer price on SDC and filtered out the top and bottom deals' percentile when sorted by their offer premium in order to avoid outliers. The offer premium is estimated as the final offer price divided by the target stock price 42 trading days before the announcement day. We removed any offer that is not the first offer within a multibid contest. Deals fall into a multibid contest if bids on the same target are separated by less than 6 months from each other. We also filtered out any deal whose value is less than $10 Million dollar and whose target stock price on day -42 is less than $5. Deal value is brought from SDC. We have also used Target Cumulative Abnomral Return from the beginning of the Runup period till completion day or 126 days after the deal is completed (whichever is shorter) – we termed this variable as CAR-Base d-Premium. We require that both target and acquirer firms are public US listed firms with CRSP and Compustat data on both. We divided our sample into All, Non-Cash-Only (Mixed or Stock-Only) and Cash-Only based on the medium of exchange as reported by SDC. Price and Return data is brought from CRSP. For price based runup and markup, we followed Betton et al (2008) by dividing the target stock price 2 days before the announcement day by the target stock price 42 days before the announcement date and the Final Offer Price by the target stock price 2 days before the announcement respectively. For the CAR based runup and markup we estimated them as the CAR over [-42, -2] and [-1, +126] respectively. Size is the logarithm of the firm market cap 42 days before the announcement day. The firm market cap is obtained by multiplying the stock price by the number of shares outstanding (in $Millions). B/M is the ratio of the Book Value of the Firm's equity divided by the Market Value of the Firm 42 days before the announcement. The Book value of the firm's equity is obtained following the approach of Fama and French (1993) by adding the book value of stockholders equity to the balance sheet deferred taxes and investment tax credit and subtracting the book value of preferred share – all data are brought from Compustat. Target (Acquirer) Turnover is estimated as the average of the Volume to Share Outstanding Ratio calculated over the interval spanning 166 days before the announcement to 42 days before the announcement (before the beginning of the runup period). Relying on SDC deals' data we created the following dummy variables: complete – whether the deal was completed successfully or not, Hostile – whether the bidder attitude was hostile or not, Rumor – whether the deal followed a rumor or not, Tender – whether the deal was a tender offer or not, Toehold – whether the bidder had more than 5% ownership of the target at the deal's announcement, and NYSE/AMEX whether the deal is listed on NYSE, AMEX or not. If the target and acquirer share the same four-digit SIC code, the deal is considered a Horizontal deal. Relative size is the ratio of Target to Acquirer size. Firms' SIC codes are obtained from CRSP. Heteroscedasticity consistent white p-value are reported underneath. The *,**,*** indicates significance at 10%, 5%, and 1% respectively.

Deal-Type	All Deals		Non-Cash-Only		Cash-Only	
	1	2	3	4	5	6
Constant	-0.76829***	-0.4352***	-0.86579***	-0.42598**	-0.7473***	-0.26458
(p-value)	(<.0001)	(0.0049)	(<.0001)	(0.0209)	(0.0009)	(0.3488)
MCSI-Sentiment-Proxy	0.18682***	0.19272***	0.20649***	0.18804***	0.18645***	0.1637***
(p-value)	(<.0001)	(<.0001)	(<.0001)	(<.0001)	(0.0002)	(0.0026)
Target Size		-0.00615**		-0.00366		-0.01473***
(p-value)		(0.0294)		(0.2845)		(0.0074)
Target Turnover		-0.00006256		-0.00040672		0.00219**
(p-value)		(0.9096)		(0.507)		(0.0392)
Target NYSE/Amex		-0.01615*		-0.01855*		-0.00542
(p-value)		(0.0525)		(0.0705)		(0.7103)
Target B/M		0.02574**		0.02256*		0.0306*
(p-value)		(0.0215)		(0.0847)		(0.0983)
Relative Size		-0.30423***		-0.40528***		-0.11158
(p-value)		(<.0001)		(<.0001)		(0.2021)
Toehold Exist		-0.05563***		-0.06945***		-0.04028
(p-value)		(0.0005)		(0.0005)		(0.1186)
Horizontal		-0.00278		-0.00233		-0.00838
(p-value)		(0.7307)		(0.8092)		(0.5733)
Tender Offer		-0.00298		-0.0066		-0.00574
(p-value)		(0.7842)		(0.7445)		(0.6669)
Cash Bid		0.00704				
(p-value)		(0.4005)				
Hostile		-0.00989		-0.00442		-0.02585
(p-value)		(0.616)		(0.8706)		(0.3708)
Multiple Bidders		-0.00472		-0.01417		-0.00203
(p-value)		(0.715)		(0.3783)		(0.9241)
Rumor		0.10122***		0.09119***		0.11669***
(p-value)		(<.0001)		(<.0001)		(<.0001)
Complete		0.04326***		0.05051***		0.02518
(p-value)		(<.0001)		(<.0001)		(0.1879)
Adj-R^2	0.0133	0.0514	0.0147	0.0519	0.0153	0.0549
Industry Dummies	No	Yes	No	Yes	No	Yes
Number of Cases	3705	3705	2591	2591	1114	1114

Table 4-23 Cross-sectional Regression of Bidder CAR [-42,-2] on University of Michigan Consumer Sentiment Index (MCSI)

The below table shows the results of the cross-sectional regressions of Bidder CAR estimated over the runup period on Michigan Consumer Sentiment Index (MCSI). The Cumulative Abnormal Return (CAR) is estimated as sum of the Abnormal Returns (AR) over the specified period. The AR is calculated as the difference between the realized return of the firm's stock and the expected return. The expected return is obtained using the market model ($r_{i,t} = \alpha + \beta\, r_{m,t}$). This latter is estimated using daily returns spanning 253 trading days before the announcement day to 43 days before the announcement day. CRSP Value weighted index was used as a proxy for the market. The University of Michigan Consumer Sentiment Index (MCSI) associated with the deal are brought from University of Michigan website. For every deal, we estimated a sentiment measure that is equal to the weighted average sentiment index levels that are available during the deal's runup period. This latter spans 42 days before the announcement to 2 days before the announcement. The quartile cutoffs are estimated as per the sentiment original index spanning the period of our analysis: November 1981 till October 2015. Mergers and Acquisitions deals are downloaded from SDC. We limited our sample to Mergers, Acquisitions of Majority Interest and Acquisitions of Remaining Interest. We required that the deal have a reported final offer price on SDC and filtered out the top and bottom deals' percentile when sorted by their offer premium in order to avoid outliers. The offer premium is estimated as the final offer price divided by the target stock price 42 trading days before the announcement day. We removed any offer that is not the first offer within a multibid contest. Deals fall into a multibid contest if bids on the same target are separated by less than 6 months from each other. We also filtered out any deal whose value is less than $10 Million dollar and whose target stock price on day -42 is less than $5. Deal value is brought from SDC. We have also used Target Cumulative Abnomral Return from the beginning of the Runup period till completion day or 126 days after the deal is completed (whichever is shorter) – we termed this variable as CAR-Base d-Premium. We require that both target and acquirer firms are public US listed firms with CRSP and Compustat data on both. We divided our sample into All, Non-Cash-Only (Mixed or Stock-Only) and Cash-Only based on the medium of exchange as reported by SDC. Price and Return data is brought from CRSP. For price based runup and markup, we followed Betton et al (2008) by dividing the target stock price 2 days before the announcement day by the target stock price 42 days before the announcement date and the Final Offer Price by the target stock price 2 days before the announcement respectively. For the CAR based runup and markup we estimated them as the CAR over [-42, -2] and [-1, +126] respectively. Size is the logarithm of the firm market cap 42 days before the announcement day. The firm market cap is obtained by multiplying the stock price by the number of shares outstanding (in $Millions). B/M is the ratio of the Book Value of the Firm's equity divided by the Market Value of the Firm 42 days before the announcement. The Book value of the firm's equity is obtained following the approach of Fama and French (1993) by adding the book value of stockholders equity to the balance sheet deferred taxes and investment tax credit and subtracting the book value of preferred share – all data are brought from Compustat. Target (Acquirer) Turnover is estimated as the average of the Volume to Share Outstanding Ratio calculated over the interval spanning 166 days before the announcement to 42 days before the announcement (before the beginning of the runup period). Relying on SDC deals' data we created the following dummy variables: complete – whether the deal was completed successfully or not, Hostile – whether the bidder attitude was hostile or not, Rumor – whether the deal followed a rumor or not, Tender – whether the deal was a tender offer or not, Toehold – whether the bidder had more than 5% ownership of the target at the deal's announcement, and NYSE/AMEX whether the deal is listed on NYSE, AMEX or not. If the target and acquirer share the same four-digit SIC code, the deal is considered a Horizontal deal. Relative size is the ratio of Target to Acquirer size. Firms' SIC codes are obtained from CRSP. Heteroscedasticity consistent white p-value are reported underneath. The *,**,*** indicates significance at 10%, 5%, and 1% respectively.

Deal-Type	All Deals		Non-Cash-Only		Cash-Only	
	1	2	3	4	5	6
Constant	0.04695	0.04314	0.12555	0.00396	-0.11324	-0.0765
(p-value)	(0.6215)	(0.7376)	(0.326)	(0.9801)	(0.4092)	(0.7333)
MCSI-Sentiment-Proxy	-0.01065	-0.0255	-0.02808	-0.03525	0.0252	0.02746
(p-value)	(0.615)	(0.25)	(0.3216)	(0.2188)	(0.4139)	(0.4007)
Bidder Size		-0.00194		-0.00321		0.00003116
(p-value)		(0.3239)		(0.199)		(0.9921)
Bidder Turnover		-0.00030207		-0.00033371		0.00014271
(p-value)		(0.3009)		(0.2611)		(0.8867)
Bidder NYSE/Amex		0.00998		0.0093		0.01441
(p-value)		(0.1007)		(0.2142)		(0.1588)
Bidder B/M		0.00627***		0.01356*		0.00284
(p-value)		(0.0005)		(0.0575)		(0.1451)
Target Turnover		6.44568E-07		-0.00002125		0.00004906
(p-value)		(0.9991)		(0.9743)		(0.9411)
Target NYSE/Amex		0.0006002		-0.00618		0.01679*
(p-value)		(0.9255)		(0.4526)		(0.0929)
Target B/M		-0.00184		-0.01819		0.01225
(p-value)		(0.7957)		(0.1021)		(0.1891)
CAR [-42,-2] Target		0.18513***		0.22535***		0.09899***
(p-value)		(<.0001)		(<.0001)		(0.0003)
CAR [-1,+1] Target		0.05649***		0.09807***		-0.00379
(p-value)		(<.0001)		(<.0001)		(0.847)
Relative Size		0.11218**		0.206***		-0.02833
(p-value)		(0.032)		(0.0012)		(0.7649)
Toehold Exist		0.00723		0.01042		0.01642
(p-value)		(0.5913)		(0.5532)		(0.4378)
Horizontal		-0.00168		-0.00463		0.00374
(p-value)		(0.8038)		(0.5683)		(0.7411)
Tender Offer		-0.00569		-0.0087		0.00629
(p-value)		(0.4843)		(0.6023)		(0.5358)
Cash Bid		-0.00343				
(p-value)		(0.5691)				
Hostile		0.00398		0.02861		-0.02044
(p-value)		(0.7862)		(0.1895)		(0.3363)
Multiple Bidders		0.01805*		0.03453***		-0.0085
(p-value)		(0.0637)		(0.0057)		(0.5435)
Rumor		-0.02552***		-0.02018		-0.02515*
(p-value)		(0.0098)		(0.1139)		(0.0763)
Complete		0.0086		0.01489		-0.01035
(p-value)		(0.3776)		(0.1902)		(0.5913)
Adj-R^2	-0.0002	0.0583	0.0001	0.0857	-0.0002	0.0169
Industry Dummies	No	Yes	No	Yes	No	Yes
Number of Cases	3705	3705	2591	2591	1114	1114

Table 4-24 Cross-sectional Regression of Target Markup 'CAR[-1, +126]' on University of Michigan Consumer Sentiment Index (MCSI)

The below table shows the results of the cross-sectional regressions of Target CAR estimated over the markup period [-1, +126] on Michigan Consumer Sentiment Index (MCSI). The Cumulative Abnormal Return (CAR) is estimated as sum of the Abnormal Returns (AR) over the specified period. The AR is calculated as the difference between the realized return of the firm's stock and the expected return. The expected return is obtained using the market model ($r_{i,t} = \alpha + \beta\, r_{m,t}$). This latter is estimated using daily returns spanning 253 trading days before the announcement day to 43 days before the announcement day. CRSP Value weighted index was used as a proxy for the market. The University of Michigan Consumer Sentiment Index (MCSI) associated with the deal are brought from University of Michigan website. For every deal, we estimated a sentiment measure that is equal to the weighted average sentiment index levels that are available during the deal's runup period. This latter spans 42 days before the announcement to 2 days before the announcement. The quartile cutoffs are estimated as per the sentiment original index spanning the period of our analysis: November 1981 till October 2015. Mergers and Acquisitions deals are downloaded from SDC. We limited our sample to Mergers, Acquisitions of Majority Interest and Acquisitions of Remaining Interest. We required that the deal have a reported final offer price on SDC and filtered out the top and bottom deals' percentile when sorted by their offer premium in order to avoid outliers. The offer premium is estimated as the final offer price divided by the target stock price 42 trading days before the announcement day. We removed any offer that is not the first offer within a multibid contest. Deals fall into a multibid contest if bids on the same target are separated by less than 6 months from each other. We also filtered out any deal whose value is less than $10 Million dollar and whose target stock price on day -42 is less than $5. Deal value is brought from SDC. We have also used Target Cumulative Abnomral Return from the beginning of the Runup period till completion day or 126 days after the deal is completed (whichever is shorter) – we termed this variable as CAR-Base d-Premium. We require that both target and acquirer firms are public US listed firms with CRSP and Compustat data on both. We divided our sample into All, Non-Cash-Only (Mixed or Stock-Only) and Cash-Only based on the medium of exchange as reported by SDC. Price and Return data is brought from CRSP. For price based runup and markup, we followed Betton et al (2008) by dividing the target stock price 2 days before the announcement day by the target stock price 42 days before the announcement date and the Final Offer Price by the target stock price 2 days before the announcement respectively. For the CAR based runup and markup we estimated them as the CAR over [-42, -2] and [-1, +126] respectively. Size is the logarithm of the firm market cap 42 days before the announcement day. The firm market cap is obtained by multiplying the stock price by the number of shares outstanding (in $Millions). B/M is the ratio of the Book Value of the Firm's equity divided by the Market Value of the Firm 42 days before the announcement. The Book value of the firm's equity is obtained following the approach of Fama and French (1993) by adding the book value of stockholders equity to the balance sheet deferred taxes and investment tax credit and subtracting the book value of preferred share – all data are brought from Compustat. Target (Acquirer) Turnover is estimated as the average of the Volume to Share Outstanding Ratio calculated over the interval spanning 166 days before the announcement to 42 days before the announcement (before the beginning of the runup period). Relying on SDC deals' data we created the following dummy variables: complete – whether the deal was completed successfully or not, Hostile – whether the bidder attitude was hostile or not, Rumor – whether the deal followed a rumor or not, Tender – whether the deal was a tender offer or not, Toehold – whether the bidder had more than 5% ownership of the target at the deal's announcement, and NYSE/AMEX whether the deal is listed on NYSE, AMEX or not. If the target and acquirer share the same four-digit SIC code, the deal is considered a Horizontal deal. Relative size is the ratio of Target to Acquirer size. Firms' SIC codes are obtained from CRSP. Heteroscedasticity consistent white p-value are reported underneath. The *,**,*** indicates significance at 10%, 5%, and 1% respectively.

Deal-Type	All Deals		Non-Cash-Only		Cash-Only	
	1	2	3	4	5	6
Constant	0.83807***	0.51758*	0.57069**	0.40171	0.65452*	0.37082
(p-value)	(0.0003)	(0.059)	(0.0487)	(0.1917)	(0.0906)	(0.4561)
MCSI-Sentiment-Proxy	-0.14449***	-0.07977	-0.09317	-0.06267	-0.08565	-0.01823
(p-value)	(0.0048)	(0.1117)	(0.1439)	(0.2732)	(0.3192)	(0.8411)
Target Size		0.01382***		0.01318**		0.01074
(p-value)		(0.0036)		(0.0112)		(0.2398)
Target Turnover		-0.00157*		-0.0023**		0.00363**
(p-value)		(0.0734)		(0.0251)		(0.045)
Target NYSE/Amex		0.018		0.01217		0.04075*
(p-value)		(0.196)		(0.4676)		(0.092)
Target B/M		0.18479***		0.21431***		0.14645***
(p-value)		(<.0001)		(<.0001)		(0.0013)
Target CAR [-42,-2]		0.15393***		0.21719***		-0.08772
(p-value)		(<.0001)		(<.0001)		(0.1867)
Relative Size		-0.5539***		-0.57912***		-0.44258***
(p-value)		(<.0001)		(<.0001)		(0.0015)
Toehold Exist		-0.02158		-0.01607		-0.04218
(p-value)		(0.455)		(0.6922)		(0.2831)
Horizontal		0.01985		0.02638		0.00312
(p-value)		(0.1485)		(0.1036)		(0.9054)
Tender Offer		0.05468***		0.02047		0.07706***
(p-value)		(0.0069)		(0.6393)		(0.0002)
Cash Bid		0.04473***				
(p-value)		(0.0022)				
Hostile		0.20139***		0.19226***		0.15014***
(p-value)		(<.0001)		(<.0001)		(0.0038)
Multiple Bidders		0.11986***		0.10353***		0.13976***
(p-value)		(<.0001)		(0.0006)		(0.0003)
Rumor		-0.11189***		-0.10049***		-0.1029***
(p-value)		(<.0001)		(0.0015)		(0.0043)
Complete		0.21002***		0.24459***		0.08108**
(p-value)		(<.0001)		(<.0001)		(0.0305)
Adj-R^2	0.0026	0.1452	0.0007	0.1453	0.0003	0.1267
Industry Dummies	No	Yes	No	Yes	No	Yes
Number of Cases	3705	3705	2591	2591	1114	1114

Table 4-25 Cross-sectional Regression of Target Markup '[(Final Offer Price / P-1) - 1]' on University of Michigan Consumer Sentiment Index (MCSI)

The below table shows the results of the cross-sectional regressions of Target Markup [(Final Offer Price / P-1) - 1] on Michigan Consumer Sentiment Index (MCSI). The Cumulative Abnormal Return (CAR) is estimated as sum of the Abnormal Returns (AR) over the specified period. The AR is calculated as the difference between the realized return of the firm's stock and the expected return. The expected return is obtained using the market model ($r_{i,t} = \alpha + \beta\, r_{m,t}$). This latter is estimated using daily returns spanning 253 trading days before the announcement day to 43 days before the announcement day. CRSP Value weighted index was used as a proxy for the market. The University of Michigan Consumer Sentiment Index (MCSI) associated with the deal are brought from University of Michigan website. For every deal, we estimated a sentiment measure that is equal to the weighted average sentiment index levels that are available during the deal's runup period. This latter spans 42 days before the announcement to 2 days before the announcement. The quartile cutoffs are estimated as per the sentiment original index spanning the period of our analysis: November 1981 till October 2015. Mergers and Acquisitions deals are downloaded from SDC. We limited our sample to Mergers, Acquisitions of Majority Interest and Acquisitions of Remaining Interest. We required that the deal have a reported final offer price on SDC and filtered out the top and bottom deals' percentile when sorted by their offer premium in order to avoid outliers. The offer premium is estimated as the final offer price divided by the target stock price 42 trading days before the announcement day. We removed any offer that is not the first offer within a multibid contest. Deals fall into a multibid contest if bids on the same target are separated by less than 6 months from each other. We also filtered out any deal whose value is less than $10 Million dollar and whose target stock price on day -42 is less than $5. Deal value is brought from SDC. We have also used Target Cumulative Abnomral Return from the beginning of the Runup period till completion day or 126 days after the deal is completed (whichever is shorter) – we termed this variable as CAR-Base d-Premium. We require that both target and acquirer firms are public US listed firms with CRSP and Compustat data on both. We divided our sample into All, Non-Cash-Only (Mixed or Stock-Only) and Cash-Only based on the medium of exchange as reported by SDC. Price and Return data is brought from CRSP. For price based runup and markup, we followed Betton et al (2008) by dividing the target stock price 2 days before the announcement day by the target stock price 42 days before the announcement date and the Final Offer Price by the target stock price 2 days before the announcement respectively. For the CAR based runup and markup we estimated them as the CAR over [-42, -2] and [-1, +126] respectively. Size is the logarithm of the firm market cap 42 days before the announcement day. The firm market cap is obtained by multiplying the stock price by the number of shares outstanding (in $Millions). B/M is the ratio of the Book Value of the Firm's equity divided by the Market Value of the Firm 42 days before the announcement. The Book value of the firm's equity is obtained following the approach of Fama and French (1993) by adding the book value of stockholders equity to the balance sheet deferred taxes and investment tax credit and subtracting the book value of preferred share – all data are brought from Compustat. Target (Acquirer) Turnover is estimated as the average of the Volume to Share Outstanding Ratio calculated over the interval spanning 166 days before the announcement to 42 days before the announcement (before the beginning of the runup period). Relying on SDC deals' data we created the following dummy variables: complete – whether the deal was completed successfully or not, Hostile – whether the bidder attitude was hostile or not, Rumor – whether the deal followed a rumor or not, Tender – whether the deal was a tender offer or not, Toehold – whether the bidder had more than 5% ownership of the target at the deal's announcement, and NYSE/AMEX whether the deal is listed on NYSE, AMEX or not. If the target and acquirer share the same four-digit SIC code, the deal is considered a Horizontal deal. Relative size is the ratio of Target to Acquirer size. Firms' SIC codes are obtained from CRSP. Heteroscedasticity consistent white p-value are reported underneath. The *,**,*** indicates significance at 10%, 5%, and 1% respectively.

Deal-Type	All Deals		Non-Cash-Only		Cash-Only	
	1	2	3	4	5	6
Constant	0.62639**	1.11309***	0.60385*	0.94224*	0.35442	1.22828***
(p-value)	(0.0175)	(0.0032)	(0.0669)	(0.0505)	(0.4716)	(0.0046)
MCSI-Sentiment-Proxy	-0.06908	-0.01511	-0.06756	-0.00559	-0.00046991	-0.00783
(p-value)	(0.2386)	(0.7952)	(0.3528)	(0.9384)	(0.9966)	(0.9309)
Target Size		-0.01766		-0.01222		-0.03187*
(p-value)		(0.1017)		(0.3088)		(0.0733)
Target Turnover		0.00109		0.00070794		0.00305*
(p-value)		(0.1784)		(0.4284)		(0.0541)
Target NYSE/Amex		0.05694**		0.04191		0.0943*
(p-value)		(0.0293)		(0.118)		(0.0978)
Target B/M		0.07814***		0.09407***		0.06511
(p-value)		(0.0021)		(0.0003)		(0.1386)
Target CAR [-42,-2]		-0.23717***		-0.21667***		-0.35145***
(p-value)		(<.0001)		(<.0001)		(<.0001)
Relative Size		-0.45351***		-0.51862***		-0.26764
(p-value)		(<.0001)		(<.0001)		(0.2122)
Toehold Exist		-0.07645***		-0.05375*		-0.09913**
(p-value)		(0.0016)		(0.0982)		(0.0115)
Horizontal		-0.00855		-0.0006852		-0.03435
(p-value)		(0.6613)		(0.975)		(0.3865)
Tender Offer		0.07251***		0.09691**		0.06138***
(p-value)		(0.0019)		(0.0258)		(0.0095)
Cash Bid		-0.0077				
(p-value)		(0.5984)				
Hostile		0.11867***		0.09743*		0.12831**
(p-value)		(0.0048)		(0.0619)		(0.0299)
Multiple Bidders		0.04721		0.04983		0.03409
(p-value)		(0.1593)		(0.286)		(0.4034)
Rumor		-0.06401**		-0.04275		-0.08539***
(p-value)		(0.0284)		(0.309)		(0.0007)
Complete		-0.02753		-0.03613		-0.00061655
(p-value)		(0.3401)		(0.3361)		(0.9853)
Adj-R^2	0.0002	0.0566	0	0.0541	-0.0009	0.0427
Industry Dummies	No	Yes	No	Yes	No	Yes
Number of Cases	3705	3705	2591	2591	1114	1114

Table 4-26 Cross-sectional Regression of Target CAR [-1,+1] on University of Michigan Consumer Sentiment Index (MCSI)

The below table shows the results of the cross-sectional regressions of Target CAR estimated over the announcement period [-1,+1] on Michigan Consumer Sentiment Index (MCSI). The Cumulative Abnormal Return (CAR) is estimated as sum of the Abnormal Returns (AR) over the specified period. The AR is calculated as the difference between the realized return of the firm's stock and the expected return. The expected return is obtained using the market model ($r_{i,t} = \alpha + \beta\, r_{m,t}$). This latter is estimated using daily returns spanning 253 trading days before the announcement day to 43 days before the announcement day. CRSP Value weighted index was used as a proxy for the market. The University of Michigan Consumer Sentiment Index (MCSI) associated with the deal are brought from University of Michigan website. For every deal, we estimated a sentiment measure that is equal to the weighted average sentiment index levels that are available during the deal's runup period. This latter spans 42 days before the announcement to 2 days before the announcement. The quartile cutoffs are estimated as per the sentiment original index spanning the period of our analysis: November 1981 till October 2015. Mergers and Acquisitions deals are downloaded from SDC. We limited our sample to Mergers, Acquisitions of Majority Interest and Acquisitions of Remaining Interest. We required that the deal have a reported final offer price on SDC and filtered out the top and bottom deals' percentile when sorted by their offer premium in order to avoid outliers. The offer premium is estimated as the final offer price divided by the target stock price 42 trading days before the announcement day. We removed any offer that is not the first offer within a multibid contest. Deals fall into a multibid contest if bids on the same target are separated by less than 6 months from each other. We also filtered out any deal whose value is less than $10 Million dollar and whose target stock price on day -42 is less than $5. Deal value is brought from SDC. We have also used Target Cumulative Abnomral Return from the beginning of the Runup period till completion day or 126 days after the deal is completed (whichever is shorter) – we termed this variable as CAR-Base d-Premium. We require that both target and acquirer firms are public US listed firms with CRSP and Compustat data on both. We divided our sample into All, Non-Cash-Only (Mixed or Stock-Only) and Cash-Only based on the medium of exchange as reported by SDC. Price and Return data is brought from CRSP. For price based runup and markup, we followed Betton et al (2008) by dividing the target stock price 2 days before the announcement day by the target stock price 42 days before the announcement date and the Final Offer Price by the target stock price 2 days before the announcement respectively. For the CAR based runup and markup we estimated them as the CAR over [-42, -2] and [-1, +126] respectively. Size is the logarithm of the firm market cap 42 days before the announcement day. The firm market cap is obtained by multiplying the stock price by the number of shares outstanding (in $Millions). B/M is the ratio of the Book Value of the Firm`s equity divided by the Market Value of the Firm 42 days before the announcement. The Book value of the firm's equity is obtained following the approach of Fama and French (1993) by adding the book value of stockholders equity to the balance sheet deferred taxes and investment tax credit and subtracting the book value of preferred share – all data are brought from Compustat. Target (Acquirer) Turnover is estimated as the average of the Volume to Share Outstanding Ratio calculated over the interval spanning 166 days before the announcement to 42 days before the announcement (before the beginning of the runup period). Relying on SDC deals' data we created the following dummy variables: complete – whether the deal was completed successfully or not, Hostile – whether the bidder attitude was hostile or not, Rumor – whether the deal followed a rumor or not, Tender – whether the deal was a tender offer or not, Toehold – whether the bidder had more than 5% ownership of the target at the deal's announcement, and NYSE/AMEX whether the deal is listed on NYSE, AMEX or not. If the target and acquirer share the same four-digit SIC code, the deal is considered a Horizontal deal. Relative size is the ratio of Target to Acquirer size. Firms' SIC codes are obtained from CRSP. Heteroscedasticity consistent white p-value are reported underneath. The *,**,*** indicates significance at 10%, 5%, and 1% respectively.

Deal-Type	All Deals		Non-Cash-Only		Cash-Only	
	1	2	3	4	5	6
Constant	1.03808***	1.27288***	0.72084***	1.20284***	0.99692***	1.33917***
(p-value)	(<.0001)	(<.0001)	(<.0001)	(<.0001)	(0.0007)	(0.0002)
MCSI-Sentiment-Proxy	-0.18487***	-0.11906***	-0.12204***	-0.11478***	-0.15888**	-0.10879
(p-value)	(<.0001)	(<.0001)	(<.0001)	(<.0001)	(0.0143)	(0.1045)
Target Size		0.0016		0.00312		-0.00606
(p-value)		(0.5429)		(0.2897)		(0.2876)
Target Turnover		-0.00034348		-0.0006947		0.00202
(p-value)		(0.4427)		(0.1464)		(0.117)
Target NYSE/Amex		0.00945		0.00376		0.0251
(p-value)		(0.2567)		(0.69)		(0.1345)
Target B/M		0.07134***		0.0792***		0.06263***
(p-value)		(<.0001)		(<.0001)		(0.0094)
CAR [-42,-2] Target		-0.16631***		-0.14421***		-0.25158***
(p-value)		(<.0001)		(<.0001)		(<.0001)
Relative Size		-0.66355***		-0.71563***		-0.51255***
(p-value)		(<.0001)		(<.0001)		(<.0001)
Toehold Exist		-0.04654***		-0.03783**		-0.05875**
(p-value)		(0.0015)		(0.043)		(0.0194)
Horizontal		0.00857		0.00728		0.0083
(p-value)		(0.2825)		(0.378)		(0.6835)
Tender Offer		0.05895***		0.05321**		0.06078***
(p-value)		(<.0001)		(0.0126)		(<.0001)
Cash Bid		0.05089***				
(p-value)		(<.0001)				
Hostile		0.06294***		0.0735***		0.03479
(p-value)		(<.0001)		(0.0002)		(0.2231)
Multiple Bidders		0.00305		-0.01055		0.02922
(p-value)		(0.8064)		(0.4623)		(0.2433)
Rumor		-0.06298***		-0.04216**		-0.08993***
(p-value)		(<.0001)		(0.0101)		(<.0001)
Complete		0.03595***		0.03637***		0.03103
(p-value)		(0.0002)		(0.0006)		(0.1532)
Adj-R^2	0.0128	0.1865	0.0064	0.1385	0.0073	0.1318
Industry Dummies	No	Yes	No	Yes	No	Yes
Number of Cases	3705	3705	2591	2591	1114	1114

Table 4-27 Cross-sectional Regression of Premium 'CAR[-42, +126]' on University of Michigan Consumer Sentiment Index (MCSI)

The below table shows the results of the cross-sectional regressions of Premium 'CAR[-42, +126]' on Michigan Consumer Sentiment Index (MCSI). The Cumulative Abnormal Return (CAR) is estimated as sum of the Abnormal Returns (AR) over the specified period. The AR is calculated as the difference between the realized return of the firm's stock and the expected return. The expected return is obtained using the market model ($r_{i,t} = \alpha + \beta\, r_{m,t}$). This latter is estimated using daily returns spanning 253 trading days before the announcement day to 43 days before the announcement day. CRSP Value weighted index was used as a proxy for the market. The University of Michigan Consumer Sentiment Index (MCSI) associated with the deal are brought from University of Michigan website. For every deal, we estimated a sentiment measure that is equal to the weighted average sentiment index levels that are available during the deal's runup period. This latter spans 42 days before the announcement to 2 days before the announcement. The quartile cutoffs are estimated as per the sentiment original index spanning the period of our analysis: November 1981 till October 2015. Mergers and Acquisitions deals are downloaded from SDC. We limited our sample to Mergers, Acquisitions of Majority Interest and Acquisitions of Remaining Interest. We required that the deal have a reported final offer price on SDC and filtered out the top and bottom deals' percentile when sorted by their offer premium in order to avoid outliers. The offer premium is estimated as the final offer price divided by the target stock price 42 trading days before the announcement day. We removed any offer that is not the first offer within a multibid contest. Deals fall into a multibid contest if bids on the same target are separated by less than 6 months from each other. We also filtered out any deal whose value is less than $10 Million dollar and whose target stock price on day -42 is less than $5. Deal value is brought from SDC. We have also used Target Cumulative Abnomral Return from the beginning of the Runup period till completion day or 126 days after the deal is completed (whichever is shorter) – we termed this variable as CAR-Base d-Premium. We require that both target and acquirer firms are public US listed firms with CRSP and Compustat data on both. We divided our sample into All, Non-Cash-Only (Mixed or Stock-Only) and Cash-Only based on the medium of exchange as reported by SDC. Price and Return data is brought from CRSP. For price based runup and markup, we followed Betton et al (2008) by dividing the target stock price 2 days before the announcement day by the target stock price 42 days before the announcement date and the Final Offer Price by the target stock price 2 days before the announcement respectively. For the CAR based runup and markup we estimated them as the CAR over [-42, -2] and [-1, +126] respectively. Size is the logarithm of the firm market cap 42 days before the announcement day. The firm market cap is obtained by multiplying the stock price by the number of shares outstanding (in $Millions). B/M is the ratio of the Book Value of the Firm's equity divided by the Market Value of the Firm 42 days before the announcement. The Book value of the firm's equity is obtained following the approach of Fama and French (1993) by adding the book value of stockholders equity to the balance sheet deferred taxes and investment tax credit and subtracting the book value of preferred share – all data are brought from Compustat. Target (Acquirer) Turnover is estimated as the average of the Volume to Share Outstanding Ratio calculated over the interval spanning 166 days before the announcement to 42 days before the announcement (before the beginning of the runup period). Relying on SDC deals' data we created the following dummy variables: complete – whether the deal was completed successfully or not, Hostile – whether the bidder attitude was hostile or not, Rumor – whether the deal followed a rumor or not, Tender – whether the deal was a tender offer or not, Toehold – whether the bidder had more than 5% ownership of the target at the deal's announcement, and NYSE/AMEX whether the deal is listed on NYSE, AMEX or not. If the target and acquirer share the same four-digit SIC code, the deal is considered a Horizontal deal. Relative size is the ratio of Target to Acquirer size. Firms' SIC codes are obtained from CRSP. Heteroscedasticity consistent white p-value are reported underneath. The *,**,*** indicates significance at 10%, 5%, and 1% respectively.

Deal-Type	All Deals		Non-Cash-Only		Cash-Only	
	1	2	3	4	5	6
Constant	0.22668	0.51758*	-0.00271	0.40171	-0.19564	0.37082
(p-value)	(0.4113)	(0.059)	(0.9939)	(0.1917)	(0.6426)	(0.4561)
MCSI-Sentiment-Proxy	0.00122	-0.07977	0.04234	-0.06267	0.11742	-0.01823
(p-value)	(0.9841)	(0.1117)	(0.5911)	(0.2732)	(0.211)	(0.8411)
Target Size		0.01382***		0.01318**		0.01074
(p-value)		(0.0036)		(0.0112)		(0.2398)
Target Turnover		-0.00157*		-0.0023**		0.00363**
(p-value)		(0.0734)		(0.0251)		(0.045)
Target NYSE/Amex		0.018		0.01217		0.04075*
(p-value)		(0.196)		(0.4676)		(0.092)
Target B/M		0.18479***		0.21431***		0.14645***
(p-value)		(<.0001)		(<.0001)		(0.0013)
Target CAR [-42,-2]		1.15393***		1.21719***		0.91228***
(p-value)		(<.0001)		(<.0001)		(<.0001)
Relative Size		-0.5539***		-0.57912***		-0.44258***
(p-value)		(<.0001)		(<.0001)		(0.0015)
Toehold Exist		-0.02158		-0.01607		-0.04218
(p-value)		(0.455)		(0.6922)		(0.2831)
Horizontal		0.01985		0.02638		0.00312
(p-value)		(0.1485)		(0.1036)		(0.9054)
Tender Offer		0.05468***		0.02047		0.07706***
(p-value)		(0.0069)		(0.6393)		(0.0002)
Cash Bid		0.04473***				
(p-value)		(0.0022)				
Hostile		0.20139***		0.19226***		0.15014***
(p-value)		(<.0001)		(<.0001)		(0.0038)
Multiple Bidders		0.11986***		0.10353***		0.13976***
(p-value)		(<.0001)		(0.0006)		(0.0003)
Rumor		-0.11189***		-0.10049***		-0.1029***
(p-value)		(<.0001)		(0.0015)		(0.0043)
Complete		0.21002***		0.24459***		0.08108**
(p-value)		(<.0001)		(<.0001)		(0.0305)
Adj-R^2	-0.0003	0.4198	-0.0002	0.4449	0.0009	0.3308
Industry Dummies	No	Yes	No	Yes	No	Yes
Number of Cases	3705	3705	2591	2591	1114	1114

Table 4-28 Cross-sectional Regression of Premium '[(Final Offer Price / P-42) - 1]' on University of Michigan Consumer Sentiment Index (MCSI)

The below table shows the results of the cross-sectional regressions of Premium [(Final Offer Price / P-42) - 1] on Michigan Consumer Sentiment Index (MCSI). The Cumulative Abnormal Return (CAR) is estimated as sum of the Abnormal Returns (AR) over the specified period. The AR is calculated as the difference between the realized return of the firm's stock and the expected return. The expected return is obtained using the market model ($r_{i,t} = \alpha + \beta\, r_{m,t}$). This latter is estimated using daily returns spanning 253 trading days before the announcement day to 43 days before the announcement day. CRSP Value weighted index was used as a proxy for the market. The University of Michigan Consumer Sentiment Index (MCSI) associated with the deal are brought from University of Michigan website. For every deal, we estimated a sentiment measure that is equal to the weighted average sentiment index levels that are available during the deal's runup period. This latter spans 42 days before the announcement to 2 days before the announcement. The quartile cutoffs are estimated as per the sentiment original index spanning the period of our analysis: November 1981 till October 2015. Mergers and Acquisitions deals are downloaded from SDC. We limited our sample to Mergers, Acquisitions of Majority Interest and Acquisitions of Remaining Interest. We required that the deal have a reported final offer price on SDC and filtered out the top and bottom deals' percentile when sorted by their offer premium in order to avoid outliers. The offer premium is estimated as the final offer price divided by the target stock price 42 trading days before the announcement day. We removed any offer that is not the first offer within a multibid contest. Deals fall into a multibid contest if bids on the same target are separated by less than 6 months from each other. We also filtered out any deal whose value is less than $10 Million dollar and whose target stock price on day -42 is less than $5. Deal value is brought from SDC. We have also used Target Cumulative Abnomral Return from the beginning of the Runup period till completion day or 126 days after the deal is completed (whichever is shorter) – we termed this variable as CAR-Base d-Premium. We require that both target and acquirer firms are public US listed firms with CRSP and Compustat data on both. We divided our sample into All, Non-Cash-Only (Mixed or Stock-Only) and Cash-Only based on the medium of exchange as reported by SDC. Price and Return data is brought from CRSP. For price based runup and markup, we followed **Betton et al (2008)** by dividing the target stock price 2 days before the announcement day by the target stock price 42 days before the announcement date and the Final Offer Price by the target stock price 2 days before the announcement respectively. For the CAR based runup and markup we estimated them as the CAR over [-42, -2] and [-1, +126] respectively. Size is the logarithm of the firm market cap 42 days before the announcement day. The firm market cap is obtained by multiplying the stock price by the number of shares outstanding (in $Millions). B/M is the ratio of the Book Value of the Firm's equity divided by the Market Value of the Firm 42 days before the announcement. The Book value of the firm's equity is obtained following the approach of Fama and French (1993) by adding the book value of stockholders equity to the balance sheet deferred taxes and investment tax credit and subtracting the book value of preferred share – all data are brought from Compustat. Target (Acquirer) Turnover is estimated as the average of the Volume to Share Outstanding Ratio calculated over the interval spanning 166 days before the announcement to 42 days before the announcement (before the beginning of the runup period). Relying on SDC deals' data we created the following dummy variables: complete – whether the deal was completed successfully or not, Hostile – whether the bidder attitude was hostile or not, Rumor – whether the deal followed a rumor or not, Tender – whether the deal was a tender offer or not, Toehold – whether the bidder had more than 5% ownership of the target at the deal's announcement, and NYSE/AMEX whether the deal is listed on NYSE, AMEX or not. If the target and acquirer share the same four-digit SIC code, the deal is considered a Horizontal deal. Relative size is the ratio of Target to Acquirer size. Firms' SIC codes are obtained from CRSP. Heteroscedasticity consistent white p-value are reported underneath. The *,**,*** indicates significance at 10%, 5%, and 1% respectively.

Deal-Type	All Deals		Non-Cash-Only		Cash-Only	
	1	2	3	4	5	6
Constant	-0.30415	1.14702***	-0.38974	0.95259*	-0.66516	1.48865***
(p-value)	(0.3124)	(0.0029)	(0.2938)	(0.0561)	(0.2506)	(0.0005)
MCSI-Sentiment-Proxy	0.15645**	0.02753	0.16956**	0.03978	0.25028*	-0.01825
(p-value)	(0.0193)	(0.6444)	(0.0382)	(0.5945)	(0.0554)	(0.8402)
Target Size		-0.02222**		-0.01589		-0.03646*
(p-value)		(0.0471)		(0.1724)		(0.0813)
Target Turnover		0.00158		0.00119		0.00266*
(p-value)		(0.1302)		(0.319)		(0.0889)
Target NYSE/Amex		0.04631		0.02974		0.08839
(p-value)		(0.1161)		(0.311)		(0.1806)
Target B/M		0.03727		0.04117		0.04136
(p-value)		(0.164)		(0.1335)		(0.4055)
Target CAR [-42,-2]		0.88449***		0.86346***		0.89563***
(p-value)		(<.0001)		(<.0001)		(<.0001)
Relative Size		-0.54698***		-0.66501***		-0.31854
(p-value)		(<.0001)		(<.0001)		(0.1869)
Toehold Exist		-0.11479***		-0.11961***		-0.09667**
(p-value)		(<.0001)		(0.0009)		(0.0193)
Horizontal		-0.01888		-0.01574		-0.03322
(p-value)		(0.368)		(0.493)		(0.4631)
Tender Offer		0.06014**		0.07187		0.05428**
(p-value)		(0.0173)		(0.1021)		(0.0411)
Cash Bid		-0.009				
(p-value)		(0.5549)				
Hostile		0.09439**		0.0744		0.10476**
(p-value)		(0.0167)		(0.1692)		(0.0378)
Multiple Bidders		0.06621*		0.07245		0.0302
(p-value)		(0.0705)		(0.1605)		(0.4932)
Rumor		-0.03994		-0.00177		-0.1031***
(p-value)		(0.209)		(0.9688)		(0.0004)
Complete		0.00281		-0.00459		0.02776
(p-value)		(0.9157)		(0.8928)		(0.4217)
Adj-R^2	0.0015	0.1874	0.0016	0.1967	0.0037	0.1474
Industry Dummies	No	Yes	No	Yes	No	Yes
Number of Cases	3705	3705	2591	2591	1114	1114

Table 4-29 Cross-sectional Regression of Premium 'CAR[-42, +126]' on Target Runup (CAR [-42,-2]) and Runup Multiplied by University of Michigan Consumer Sentiment Index (MCSI) Quartiles – Testing Markup Pricing

The below table shows the results of the cross-sectional regressions of Premium 'CAR[-42, +126]' on Target Runup 'CAR[-42, -2]' and the Runup multiplied by the sentiment quartile dummies. The Cumulative Abnormal Return (CAR) is estimated as sum of the Abnormal Returns (AR) over the specified period. The AR is calculated as the difference between the realized return of the firm's stock and the expected return. The expected return is obtained using the market model ($r_{i,t} = \alpha + \beta\, r_{m,t}$). This latter is estimated using daily returns spanning 253 trading days before the announcement day to 43 days before the announcement day. CRSP Value weighted index was used as a proxy for the market. The University of Michigan Consumer Sentiment Index (MCSI) associated with the deal are brought from University of Michigan website. For every deal, we estimated a sentiment measure that is equal to the weighted average sentiment index levels that are available during the deal's runup period. This latter spans 42 days before the announcement to 2 days before the announcement. The quartile cutoffs are estimated as per the sentiment original index spanning the period of our analysis: November 1981 till October 2015. Mergers and Acquisitions deals are downloaded from SDC. We limited our sample to Mergers, Acquisitions of Majority Interest and Acquisitions of Remaining Interest. We required that the deal have a reported final offer price on SDC and filtered out the top and bottom deals' percentile when sorted by their offer premium in order to avoid outliers. The offer premium is estimated as the final offer price divided by the target stock price 42 trading days before the announcement day. We removed any offer that is not the first offer within a multibid contest. Deals fall into a multibid contest if bids on the same target are separated by less than 6 months from each other. We also filtered out any deal whose value is less than $10 Million dollar and whose target stock price on day -42 is less than $5. Deal value is brought from SDC. We have also used Target Cumulative Abnomral Return from the beginning of the Runup period till completion day or 126 days after the deal is completed (whichever is shorter) – we termed this variable as CAR-Based-Premium. We require that both target and acquirer firms are public US listed firms with CRSP and Compustat data on both. We divided our sample into All, Non-Cash-Only (Mixed or Stock-Only) and Cash-Only based on the medium of exchange as reported by SDC. Price and Return data is brought from CRSP. For price based runup and markup, we followed Betton et al (2008) by dividing the target stock price 2 days before the announcement day by the target stock price 42 days before the announcement date and the Final Offer Price by the target stock price 2 days before the announcement respectively. For the CAR based runup and markup we estimated them as the CAR over [-42, -2] and [-1, +126] respectively. Size is the logarithm of the firm market cap 42 days before the announcement day. The firm market cap is obtained by multiplying the stock price by the number of shares outstanding (in $Millions). B/M is the ratio of the Book Value of the Firm`s equity divided by the Market Value of the Firm 42 days before the announcement. The Book value of the firm's equity is obtained following the approach of Fama and French (1993) by adding the book value of stockholders equity to the balance sheet deferred taxes and investment tax credit and subtracting the book value of preferred share – all data are brought from Compustat. Target (Acquirer) Turnover is estimated as the average of the Volume to Share Outstanding Ratio calculated over the interval spanning 166 days before the announcement to 42 days before the announcement (before the beginning of the runup period). Relying on SDC deals' data we created the following dummy variables: complete – whether the deal was completed successfully or not, Hostile – whether the bidder attitude was hostile or not, Rumor – whether the deal followed a rumor or not, Tender – whether the deal was a tender offer or not, Toehold – whether the bidder had more than 5% ownership of the target at the deal's announcement, and NYSE/AMEX whether the deal is listed on NYSE, AMEX or not. If the target and acquirer share the same four-digit SIC code, the deal is considered a Horizontal deal. Relative size is the ratio of Target to Acquirer size. Firms' SIC codes are obtained from CRSP. Heteroscedasticity consistent white p-value are reported underneath. The *,**,*** indicates significance at 10%, 5%, and 1% respectively.

Deal-Type	All Deals		Non-Cash-Only		Cash-Only	
	1	2	3	4	5	6
Constant	0.1745***	0.14964	0.13614***	0.11657	0.27243***	0.28598
(p-value)	(<.0001)	(0.1931)	(<.0001)	(0.4143)	(<.0001)	(0.1505)
Target CAR [-42,-2]	1.56017***	1.41994***	1.94075***	1.75339***	0.95339***	0.82724***
(p-value)	(<.0001)	(<.0001)	(<.0001)	(<.0001)	(<.0001)	(<.0001)
Q2 x Target CAR [-42,-2]	-0.35315	-0.27213	-0.69282*	-0.56145*	0.08474	0.15313
(p-value)	(0.1592)	(0.2223)	(0.0515)	(0.0576)	(0.7239)	(0.4784)
Q3 x Target CAR [-42,-2]	-0.48238*	-0.44884**	-0.80967**	-0.74426**	-0.05915	0.01931
(p-value)	(0.0551)	(0.0449)	(0.0226)	(0.0124)	(0.808)	(0.9283)
Q4 x Target CAR [-42,-2]	-0.326	-0.25618	-0.6338*	-0.54345*	0.00165	0.10799
(p-value)	(0.1811)	(0.2381)	(0.0681)	(0.0604)	(0.9942)	(0.6006)
Target Size		0.01452***		0.01384***		0.01116
(p-value)		(0.0018)		(0.0077)		(0.21)
Target Turnover		-0.00149*		-0.00226**		0.00368**
(p-value)		(0.0867)		(0.0254)		(0.041)
Target NYSE/Amex		0.01588		0.01197		0.04023*
(p-value)		(0.253)		(0.475)		(0.0953)
Target B/M		0.18611***		0.21509***		0.14846***
(p-value)		(<.0001)		(<.0001)		(0.0013)
Relative Size		-0.55708***		-0.58351***		-0.44305***
(p-value)		(<.0001)		(<.0001)		(0.0016)
Toehold Exist		-0.02176		-0.02403		-0.04168
(p-value)		(0.4476)		(0.5498)		(0.2885)
Horizontal		0.02053		0.0244		0.00241
(p-value)		(0.1324)		(0.1255)		(0.9264)
Tender Offer		0.05475***		0.02384		0.07724***
(p-value)		(0.0054)		(0.5646)		(0.0002)
Cash Bid		0.04868***				
(p-value)		(0.0007)				
Hostile		0.19451***		0.17928***		0.14909***
(p-value)		(<.0001)		(<.0001)		(0.0035)
Multiple Bidders		0.12448***		0.10911***		0.1414***
(p-value)		(<.0001)		(0.0002)		(0.0002)
Rumor		-0.11644***		-0.1054***		-0.10025***
(p-value)		(<.0001)		(0.0008)		(0.0058)
Complete		0.20876***		0.23984***		0.08095**
(p-value)		(<.0001)		(<.0001)		(0.0302)
Adj-R^2	0.3357	0.422	0.3796	0.4509	0.232	0.3304
Industry Dummies	No	Yes	No	Yes	No	Yes
Number of Cases	3705	3705	2591	2591	1114	1114

Table 4-30 Cross-sectional Regression of Premium (Final Offer Price / P-42 - 1) on Target Runup (P-2 / P-42 - 1) and Runup Multiplied by University of Michigan Consumer Sentiment Index (MCSI) Quartiles – Testing Markup Pricing

The below table shows the results of the cross-sectional regressions of Premium 'CAR[-42, +126]' on Target Runup 'CAR[-42, -2]' and the Runup multiplied by the sentiment quartile dummies. The Cumulative Abnormal Return (CAR) is estimated as sum of the Abnormal Returns (AR) over the specified period. The AR is calculated as the difference between the realized return of the firm's stock and the expected return. The expected return is obtained using the market model ($r_{i,t} = \alpha + \beta\, r_{m,t}$). This latter is estimated using daily returns spanning 253 trading days before the announcement day to 43 days before the announcement day. CRSP Value weighted index was used as a proxy for the market. The University of Michigan Consumer Sentiment Index (MCSI) associated with the deal are brought from University of Michigan website. For every deal, we estimated a sentiment measure that is equal to the weighted average sentiment index levels that are available during the deal's runup period. This latter spans 42 days before the announcement to 2 days before the announcement. The quartile cutoffs are estimated as per the sentiment original index spanning the period of our analysis: November 1981 till October 2015. Mergers and Acquisitions deals are downloaded from SDC. We limited our sample to Mergers, Acquisitions of Majority Interest and Acquisitions of Remaining Interest. We required that the deal have a reported final offer price on SDC and filtered out the top and bottom deals' percentile when sorted by their offer premium in order to avoid outliers. The offer premium is estimated as the final offer price divided by the target stock price 42 trading days before the announcement day. We removed any offer that is not the first offer within a multibid contest. Deals fall into a multibid contest if bids on the same target are separated by less than 6 months from each other. We also filtered out any deal whose value is less than $10 Million dollar and whose target stock price on day -42 is less than $5. Deal value is brought from SDC. We have also used Target Cumulative Abnomral Return from the beginning of the Runup period till completion day or 126 days after the deal is completed (whichever is shorter) – we termed this variable as CAR-Based-Premium. We require that both target and acquirer firms are public US listed firms with CRSP and Compustat data on both. We divided our sample into All, Non-Cash-Only (Mixed or Stock-Only) and Cash-Only based on the medium of exchange as reported by SDC. Price and Return data is brought from CRSP. For price based runup and markup, we followed Betton et al (2008) by dividing the target stock price 2 days before the announcement day by the target stock price 42 days before the announcement date and the Final Offer Price by the target stock price 2 days before the announcement respectively. For the CAR based runup and markup we estimated them as the CAR over [-42, -2] and [-1, +126] respectively. Size is the logarithm of the firm market cap 42 days before the announcement day. The firm market cap is obtained by multiplying the stock price by the number of shares outstanding (in $Millions). B/M is the ratio of the Book Value of the Firm`s equity divided by the Market Value of the Firm 42 days before the announcement. The Book value of the firm's equity is obtained following the approach of Fama and French (1993) by adding the book value of stockholders equity to the balance sheet deferred taxes and investment tax credit and subtracting the book value of preferred share – all data are brought from Compustat. Target (Acquirer) Turnover is estimated as the average of the Volume to Share Outstanding Ratio calculated over the interval spanning 166 days before the announcement to 42 days before the announcement (before the beginning of the runup period). Relying on SDC deals' data we created the following dummy variables: complete – whether the deal was completed successfully or not, Hostile – whether the bidder attitude was hostile or not, Rumor – whether the deal followed a rumor or not, Tender – whether the deal was a tender offer or not, Toehold – whether the bidder had more than 5% ownership of the target at the deal's announcement, and NYSE/AMEX whether the deal is listed on NYSE, AMEX or not. If the target and acquirer share the same four-digit SIC code, the deal is considered a Horizontal deal. Relative size is the ratio of Target to Acquirer size. Firms' SIC codes are obtained from CRSP. Heteroscedasticity consistent white p-value are reported underneath. The *,**,*** indicates significance at 10%, 5%, and 1% respectively.

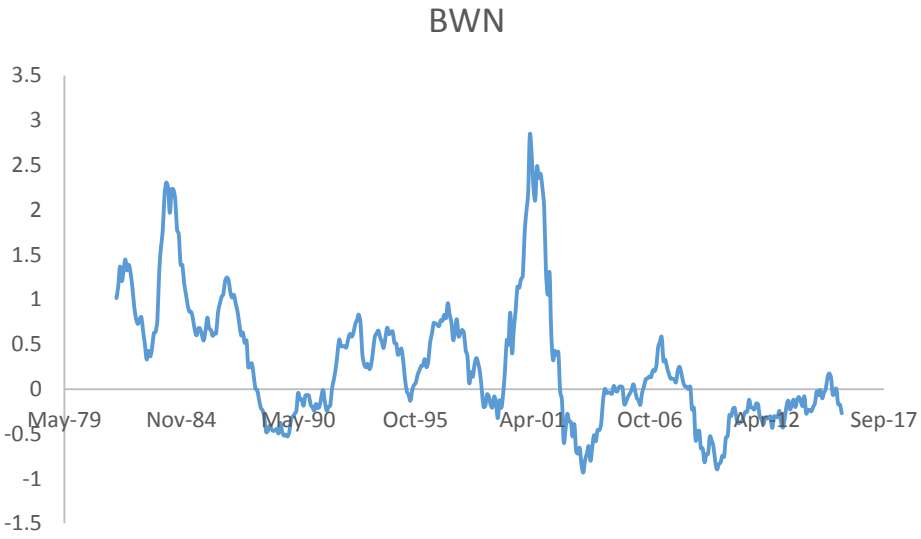
Deal-Type	All Deals		Non-Cash-Only		Cash-Only	
	1	2	3	4	5	6
Constant	0.32429***	1.07468***	0.30514***	0.91053***	0.37242***	1.24401***
(p-value)	(<.0001)	(<.0001)	(<.0001)	(<.0001)	(<.0001)	(<.0001)
Target Runup	1.13627***	1.11547***	1.17601***	1.18534***	1.03446***	0.99975***
(p-value)	(<.0001)	(<.0001)	(<.0001)	(<.0001)	(<.0001)	(<.0001)
Q2 x Target Runup	-0.01844	-0.03228	0.0039	-0.0221	-0.05409	-0.0837
(p-value)	(0.8638)	(0.7467)	(0.9779)	(0.8688)	(0.7383)	(0.6165)
Q3 x Target Runup	-0.18049*	-0.21948**	-0.20445*	-0.24508**	-0.16188	-0.189
(p-value)	(0.0508)	(0.013)	(0.072)	(0.0158)	(0.2895)	(0.2497)
Q4 x Target Runup	-0.10234	-0.10301	-0.13008	-0.1776*	-0.03766	-0.05386
(p-value)	(0.2498)	(0.2165)	(0.2287)	(0.0636)	(0.8121)	(0.708)
Target Size		-0.02003*		-0.01269		-0.03526*
(p-value)		(0.0657)		(0.2554)		(0.0965)
Target Turnover		0.00116		0.00078754		0.00302**
(p-value)		(0.1726)		(0.4081)		(0.0389)
Target NYSE/Amex		0.05454*		0.0381		0.09399
(p-value)		(0.0599)		(0.183)		(0.1505)
Target B/M		0.07039***		0.09403***		0.04645
(p-value)		(0.0057)		(0.0002)		(0.3199)
Relative Size		-0.44567***		-0.54462***		-0.22182
(p-value)		(0.0001)		(<.0001)		(0.3764)
Toehold Exist		-0.08712***		-0.07729**		-0.09262**
(p-value)		(0.0002)		(0.0114)		(0.0249)
Horizontal		-0.00834		-0.00255		-0.02962
(p-value)		(0.6803)		(0.9062)		(0.5133)
Tender Offer		0.07277***		0.08206*		0.06521**
(p-value)		(0.0037)		(0.0562)		(0.0142)
Cash Bid		-0.00925				
(p-value)		(0.5133)				
Hostile		0.10162***		0.08536		0.10564**
(p-value)		(0.0078)		(0.1009)		(0.0293)
Multiple Bidders		0.06274*		0.06837		0.03432
(p-value)		(0.0808)		(0.1816)		(0.4045)
Rumor		-0.06568**		-0.0429		-0.10492***
(p-value)		(0.0346)		(0.3339)		(0.0001)
Complete		-0.01138		-0.01871		0.00956
(p-value)		(0.6602)		(0.5734)		(0.7798)
Adj-R^2	0.1986	0.2395	0.2196	0.2656	0.1483	0.1646
Industry Dummies	No	Yes	No	Yes	No	Yes
Number of Cases	3705	3705	2591	2591	1114	1114

4.8 Appendix A

Figure 4-6 Baker and Wurgler Sentiment Index non-orthogonalized to Macro Factors (BWN) for our sample period

Panel A shows the Baker and Wurgler Sentiment Index that is not orthogonalized to Macro variables (BWN) brought from professor Wurgler Website for our sample period. Panel B reports the sentiment quartiles that are associated with our sample. For every deal, we estimate a sentiment measure that is equal to the weighted average sentiment index levels that are available during the deal's runup period. This latter spans 42 days before the announcement to 2 days before the announcement. We check where this sentiment measures ranks relative to the BWN values and associate it with a sentiment quartile. The quartile cutoffs are estimated as per the sentiment original index spanning the period of our analysis: November 1981 till October 2015.

Panel A: The Sentiment Index Spanning our Sample



Panel B: The quartiles distribution over our sample period

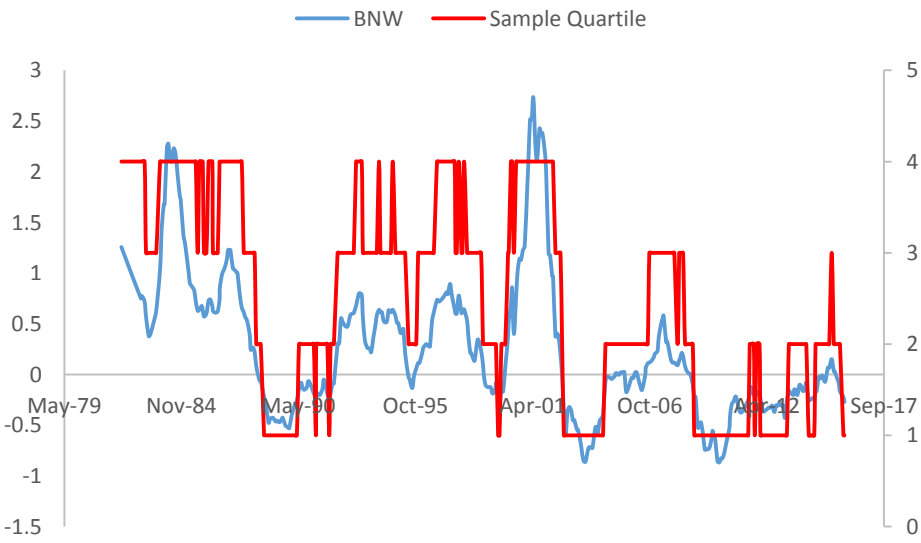
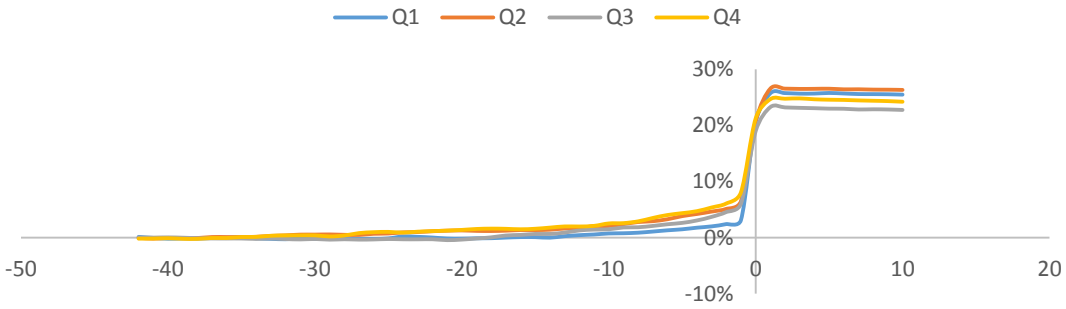


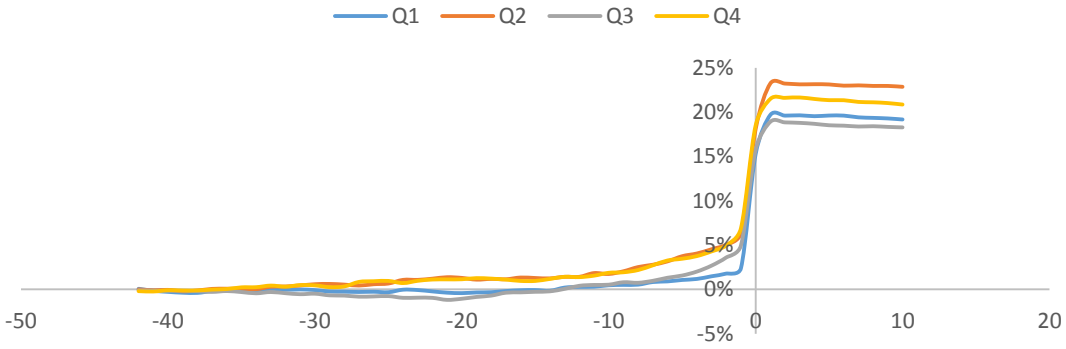
Figure 4-7 Target CAR as we progress in time through the runup period till after the announcement

The below figure show the average Cumulative Abnormal Return (CAR) of the Target firms as we progress in time 42 days before the deal announcement till 10 days after the deal announcement. The Cumulative Abnormal Return (CAR) is estimated as sum of the Abnormal Returns (AR) over the specified period. The AR is calculated as the difference between the realized return of the firm's stock and the expected return. The expected return is obtained using the market model ($r_{i,t} = \alpha + \beta\, r_{m,t}$). This latter was estimated using daily date spanning 253 trading days before the announcement day to 43 days before the announcement day. CRSP Value weighted index was used as a proxy for the market. Once the CAR is estimated for every firm in our sample for a particular day, an equal weighted average is calculated. The CAR estimation period starts from day -42 (42 trading days before the announcement day). The process is repeated progressively as we advance in time. The deals within our sample are classified into four sentiment quartile based on the Baker and Wurgler Sentiment Index that is not orthogonalized to Macro Factors (BWN) that is associated with the deal. BWN levels are brought from Wurgler Website. The quartile cutoffs are estimated as per the sentiment original index spanning the period of our analysis: November 1981 till October 2015. For every deal, we estimated a sentiment measure that is equal to the weighted average sentiment index levels that are available during the deal's runup period. This latter spans 42 days before the announcement to 2 days before the announcement. Q1 (Q4) is the quartile with lowest (highest) sentiment index level. Mergers and Acquisitions deals are downloaded from SDC. We limited our sample to Mergers, Acquisitions of Majority Interest and Acquisitions of Remaining Interest. We also required that the deal process a reported final offer price on SDC and filtered out the top and bottom deals' percentile when sorted as per their offer price in order to avoid outliers. We removed any offer that is not the first offer within a multibid contest. Deals fall into a multibid contest if bids on the same target are separated by less than 6 months from each other. We also require that both target and acquirer firms are public US listed firms with CRSP and Compustat data on both. We divided our sample in All, Non-Cash-Only (Mixed or Stock-Only) and Cash-Only based on the medium of exchange as reported by SDC. Similar approach is followed to estimate both target and bidder CAR. We limited our sample to those deal with a deal value greater than $10 Million and target share price greater than $5. Price and Return data is brought from CRSP.

All Deals



Non-Cash-Only Deals



Cash-Only Deals

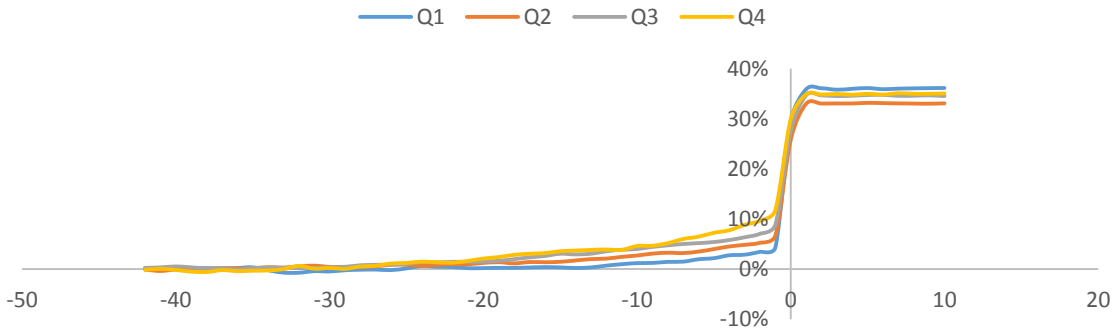
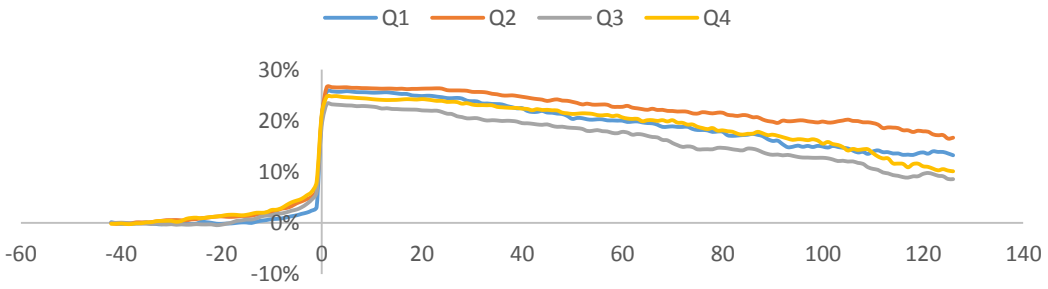


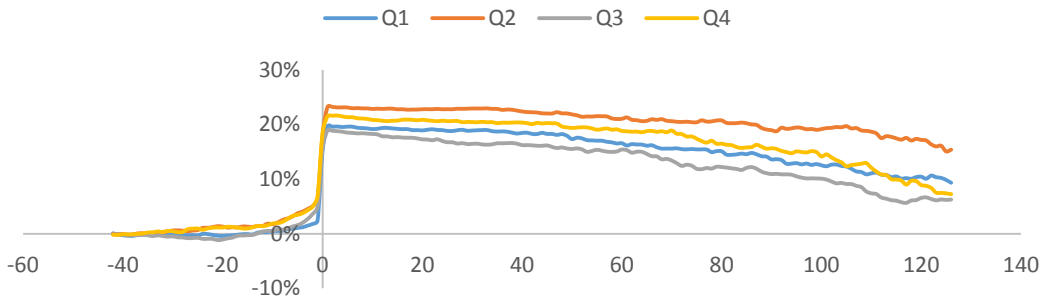
Figure 4-8 Target CAR as we progress in time through the runup period till after the announcement

The below figure show the average Cumulative Abnormal Return (CAR) of the Target firms as we progress in time 42 days before the deal announcement till 126 days after the deal announcement. The Cumulative Abnormal Return (CAR) is estimated as sum of the Abnormal Returns (AR) over the specified period. The AR is calculated as the difference between the realized return of the firm's stock and the expected return. The expected return is obtained using the market model ($r_{i,t} = \alpha + \beta\, r_{m,t}$). This latter was estimated using daily date spanning 253 trading days before the announcement day to 43 days before the announcement day. CRSP Value weighted index was used as a proxy for the market. Once the CAR is estimated for every firm in our sample for a particular day, an equal weighted average is calculated. The CAR estimation period starts from day -42 (42 trading days before the announcement day). The process is repeated progressively as we advance in time. The deals within our sample are classified into four sentiment quartile based on the Baker and Wurgler Sentiment Index that is not orthogonalized to Macro Factors (BWN) that is associated with the deal. BWN levels are brought from Professor Wurgler Website. The quartile cutoffs are estimated as per the sentiment original index spanning the period of our analysis: November 1981 till October 2015. For every deal, we estimated a sentiment measure that is equal to the weighted average sentiment index levels that are available during the deal's runup period. This latter spans 42 days before the announcement to 2 days before the announcement. Q1 (Q4) is the quartile with lowest (highest) sentiment index level. Mergers and Acquisitions deals are downloaded from SDC. We limited our sample to Mergers, Acquisitions of Majority Interest and Acquisitions of Remaining Interest. We also required that the deal process a reported final offer price on SDC and filtered out the top and bottom deals' percentile when sorted as per their offer price in order to avoid outliers. We removed any offer that is not the first offer within a multibid contest. Deals fall into a multibid contest if bids on the same target are separated by less than 6 months from each other. We also require that both target and acquirer firms are public US listed firms with CRSP and Compustat data on both. We divided our sample in All, Non-Cash-Only (Mixed or Stock-Only) and Cash-Only based on the medium of exchange as reported by SDC. Similar approach is followed to estimate both target and bidder CAR. We limited our sample to those deal with a deal value greater than $10 Million and target share price greater than $5. Price and Return data is brought from CRSP.

All Deals



Non-Cash-Only Deals



Cash-Only Deals

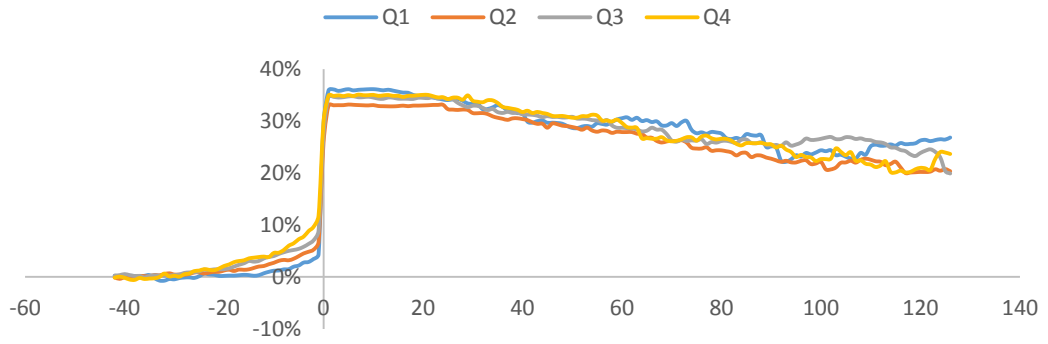
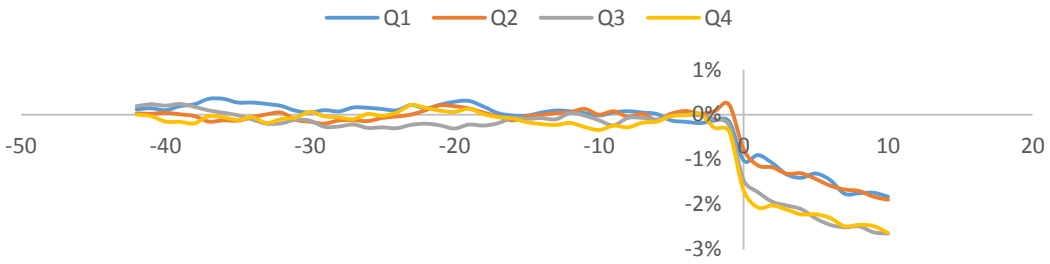


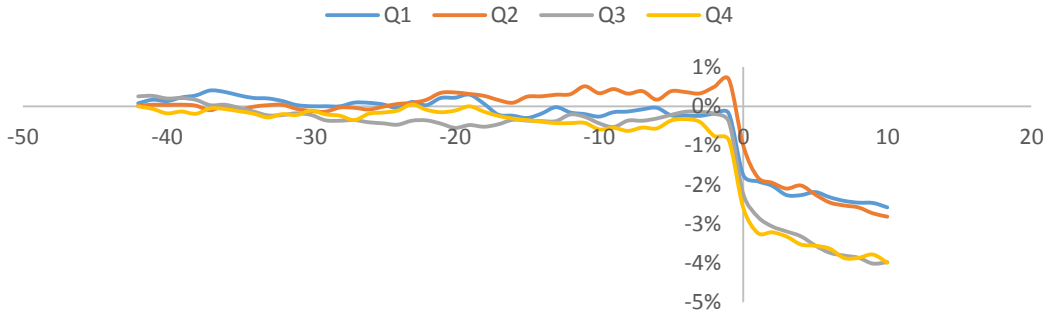
Figure 4-9 Bidder CAR as we progress in time through the runup period till after the announcement

The below figure show the average Cumulative Abnormal Return (CAR) of the Bidder firms as we progress in time 42 days before the deal announcement till 10 days after the deal announcement. The Cumulative Abnormal Return (CAR) is estimated as sum of the Abnormal Returns (AR) over the specified period. The AR is calculated as the difference between the realized return of the firm's stock and the expected return. The expected return is obtained using the market model ($r_{i,t} = \alpha + \beta\, r_{m,t}$). This latter was estimated using daily date spanning 253 trading days before the announcement day to 43 days before the announcement day. CRSP Value weighted index was used as a proxy for the market. Once the CAR is estimated for every firm in our sample for a particular day, an equal weighted average is calculated. The CAR estimation period starts from day -42 (42 trading days before the announcement day). The process is repeated progressively as we advance in time. The deals within our sample are classified into four sentiment quartile based on the Baker and Wurgler Sentiment Index that is not orthogonalized to Macro Factors (BWN) that is associated with the deal. BWN levels are brought from Wurgler Website. The quartile cutoffs are estimated as per the sentiment original index spanning the period of our analysis: November 1981 till October 2015. For every deal, we estimated a sentiment measure that is equal to the weighted average sentiment index levels that are available during the deal's runup period. This latter spans 42 days before the announcement to 2 days before the announcement. Q1 (Q4) is the quartile with lowest (highest) sentiment index level. Mergers and Acquisitions deals are downloaded from SDC. We limited our sample to Mergers, Acquisitions of Majority Interest and Acquisitions of Remaining Interest. We also required that the deal process a reported final offer price on SDC and filtered out the top and bottom deals' percentile when sorted as per their offer price in order to avoid outliers. We removed any offer that is not the first offer within a multibid contest. Deals fall into a multibid contest if bids on the same target are separated by less than 6 months from each other. We also require that both target and acquirer firms are public US listed firms with CRSP and Compustat data on both. We divided our sample in All, Non-Cash-Only (Mixed or Stock-Only) and Cash-Only based on the medium of exchange as reported by SDC. Similar approach is followed to estimate both target and bidder CAR. We limited our sample to those deal with a deal value greater than $10 Million and target share price greater than $5. Price and Return data is brought from CRSP.

All Deals



Non-Cash-Only Deals



Cash-Only Deals

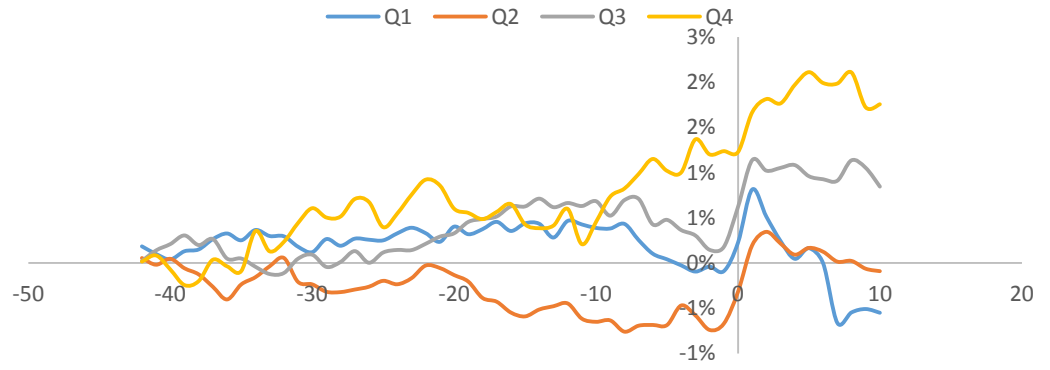
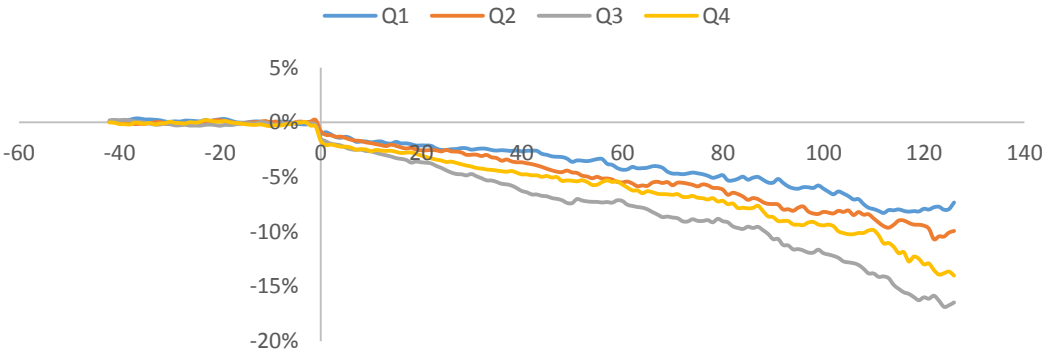


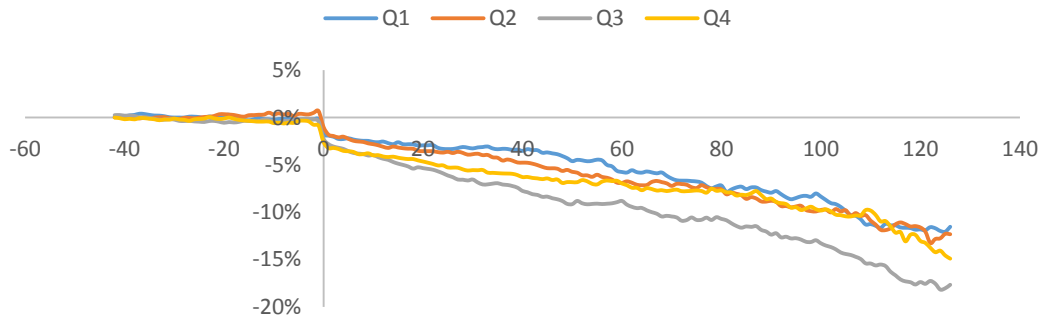
Figure 4-10 Bidder CAR as we progress in time through the runup period till after the announcement

The below figure show the average Cumulative Abnormal Return (CAR) of the Bidder firms as we progress in time 42 days before the deal announcement till 126 days after the deal announcement. The Cumulative Abnormal Return (CAR) is estimated as sum of the Abnormal Returns (AR) over the specified period. The AR is calculated as the difference between the realized return of the firm's stock and the expected return. The expected return is obtained using the market model ($r_{i,t} = \alpha + \beta\, r_{m,t}$). This latter was estimated using daily date spanning 253 trading days before the announcement day to 43 days before the announcement day. CRSP Value weighted index was used as a proxy for the market. Once the CAR is estimated for every firm in our sample for a particular day, an equal weighted average is calculated. The CAR estimation period starts from day -42 (42 trading days before the announcement day). The process is repeated progressively as we advance in time. The deals within our sample are classified into four sentiment quartile based on the Baker and Wurgler Sentiment Index that is not orthogonalized to Macro Factors (BWN) that is associated with the deal. BWN levels are brought from Wurgler Website. The quartile cutoffs are estimated as per the sentiment original index spanning the period of our analysis: November 1981 till October 2015. For every deal, we estimated a sentiment measure that is equal to the weighted average sentiment index levels that are available during the deal's runup period. This latter spans 42 days before the announcement to 2 days before the announcement. Q1 (Q4) is the quartile with lowest (highest) sentiment index level. Mergers and Acquisitions deals are downloaded from SDC. We limited our sample to Mergers, Acquisitions of Majority Interest and Acquisitions of Remaining Interest. We also required that the deal process a reported final offer price on SDC and filtered out the top and bottom deals' percentile when sorted as per their offer price in order to avoid outliers. We removed any offer that is not the first offer within a multibid contest. Deals fall into a multibid contest if bids on the same target are separated by less than 6 months from each other. We also require that both target and acquirer firms are public US listed firms with CRSP and Compustat data on both. We divided our sample in All, Non-Cash-Only (Mixed or Stock-Only) and Cash-Only based on the medium of exchange as reported by SDC. Similar approach is followed to estimate both target and bidder CAR. We limited our sample to those deal with a deal value greater than $10 Million and target share price greater than $5. Price and Return data is brought from CRSP.

All Deals



Non-Cash-Only Deals



Cash-Only Deals

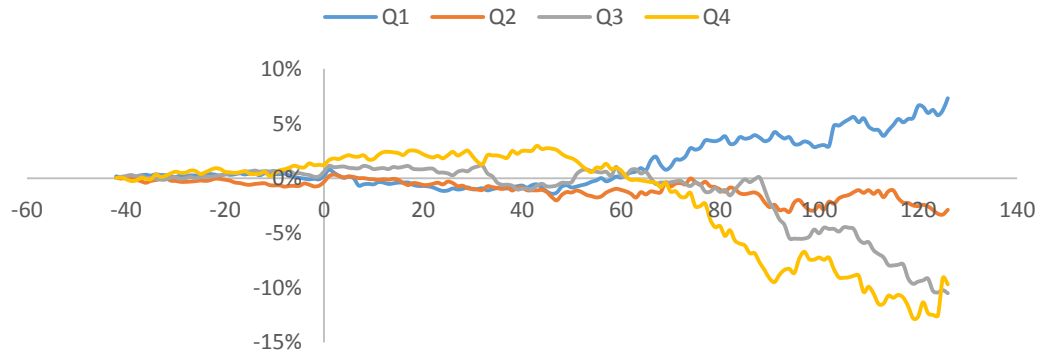


Table 4-31 Descriptive Statistics - by Baker and Wurgler Sentiment Index non-orthogonalized to Macro Factors (BWN) – ALL

The below table shows a general descriptive statistics (mean) for the main variables used in our tests. The Cumulative Abnormal Return (CAR) is estimated as sum of the Abnormal Returns (AR) over the specified period. The AR is calculated as the difference between the realized return of the firm's stock and the expected return. The expected return is obtained using the market model ($r_{i,t} = \alpha + \beta\, r_{m,t}$). This latter is estimated using daily returns spanning 253 trading days before the announcement day to 43 days before the announcement day. CRSP Value weighted index was used as a proxy for the market. The deals within our sample are classified into four sentiment quartile based on the Baker and Wurgler Sentiment Index that is not orthogonalized to Macro Factors (BWN) associated with the deal. BWN levels are brought from professor Wurgler Website. For every deal, we estimated a sentiment measure that is equal to the weighted average sentiment index levels that are available during the deal's runup period. This latter spans 42 days before the announcement to 2 days before the announcement. The quartile cutoffs are estimated as per the sentiment original index spanning the period of our analysis: November 1981 till October 2015. Mergers and Acquisitions deals are downloaded from SDC. We limited our sample to Mergers, Acquisitions of Majority Interest and Acquisitions of Remaining Interest. We required that the deal have a reported final offer price on SDC and filtered out the top and bottom deals' percentile when sorted by per their offer premium in order to avoid outliers. The offer premium is estimated as the final offer price divided by the target stock price 42 trading days before the announcement day. We removed any offer that is not the first offer within a multibid contest. Deals fall into a multibid contest if bids on the same target are separated by less than 6 months from each other. We also filtered out any deal whose value is less than $10 Million dollar and whose target stock price on day -42 is less than $5. Deal value is brought from SDC. We have also used Target Cumulative Abnomral Return from the beginning of the Runup period till completion day or 126 days after the deal is completed (whichever is shorter) – we termed this variable as CAR-Base d-Premium. We require that both target and acquirer firms are public US listed firms with CRSP and Compustat data on both. We divided our sample into All, Non-Cash-Only (Mixed or Stock-Only) and Cash-Only based on the medium of exchange as reported by SDC. Price and Return data is brought from CRSP. For price based runup and markup, we followed Betton et al (2008) by dividing the target stock price 2 days before the announcement day by the target stock price 42 days before the announcement date and the Final Offer Price by the target stock price 2 days before the announcement respectively. For the CAR based runup and markup we estimated them as the CAR over [-42, -2] and [-1, +126] respectively. Size is the logarithm of the firm market cap 42 days before the announcement day. The firm market cap is obtained by multiplying the stock price by the number of shares outstanding (in $Millions). B/M is the ratio of the Book Value of the Firm`s equity divided by the Market Value of the Firm 42 days before the announcement. The Book value of the firm's equity is obtained following the approach of Fama and French (1993) by adding the book value of stockholders equity to the balance sheet deferred taxes and investment tax credit and subtracting the book value of preferred share – all data are brought from Compustat. Target (Acquirer) Turnover is estimated as the average of the Volume to Share Outstanding Ratio calculated over the interval spanning 166 days before the announcement to 42 days before the announcement (before the beginning of the runup period). Relying on SDC deals' data we created the following dummy variables: complete – whether the the deal was completed successfully or not, Hostile – whether the bidder attitude was hostile or not, Rumor – whether the deal followed a rumor or not, Tender – whether the deal was a tender offer or not, Toehold – whether the bidder had more than 5% ownership of the target at the deal's announcement, and NYSE/AMEX whether the deal is listed on NYSE, AMEX or not. If the target and acquirer share the same four-digit SIC code, the deal is considered a Horizontal deal. Firms' SIC codes are obtained from CRSP.

	All Sample	Q1	Q2	Q3	Q4
Target Size	19.4415	19.8275	19.7245	19.2295	19.1187
Target Turnover	6.5291	7.4092	7.2171	6.3779	5.3162
Target B/M	0.5794	0.6146	0.5655	0.5663	0.5861
Acquirer Size	21.4060	21.7452	21.6823	21.1826	21.1396
Acquirer Turnover	6.9172	7.3741	6.9439	6.6339	6.9198
Acquirer B/M	0.5067	0.5541	0.4706	0.4989	0.5224
Acquirer CAR [-42,-2]	-0.0012	-0.0014	0.0005	-0.0011	-0.0031
Acquirer CAR [-1,+1]	-0.0140	-0.0077	-0.0122	-0.0162	-0.0177
Acquirer CAR [+2,+126]	-0.0844	-0.0573	-0.0835	-0.1061	-0.0772
Target CAR [-42,-2]	0.0474	0.0249	0.0521	0.0456	0.0608
Target CAR [-1,+1]	0.2023	0.2332	0.2145	0.1870	0.1860
Target CAR [+2,+126]	-0.0175	-0.0430	0.0043	-0.0309	-0.0058
Target CAR [-1,+126] – Target Markup – CAR-based	0.1848	0.1902	0.2188	0.1561	0.1802
Target CAR [-42,+126] – Target Premium – CAR-based	0.2322	0.2151	0.2708	0.2017	0.2410
Target Runup [(P_{-2}/P_{-42}) - 1]	0.0763	0.0711	0.0712	0.0718	0.0916
Target Markup [(Final Offer Price/P_{-2}) - 1]	0.3141	0.3548	0.3134	0.3069	0.2944
Premium [(Final Offer Price/P_{-42}) - 1]	0.4031	0.4370	0.3978	0.3872	0.4050
Target Listed on NYSE/AMEX	0.3565	0.3908	0.3695	0.3463	0.3304
Acquirer Listed on NYSE/AMEX	0.6507	0.6244	0.6285	0.6580	0.6853
Toehold Exists	0.0413	0.0351	0.0382	0.0449	0.0446
Horizontal Deal	0.2318	0.2763	0.2400	0.2073	0.2221
Tender Offer	0.1579	0.1893	0.1376	0.1459	0.1730
Cash Only Deal	0.3007	0.3725	0.3394	0.2755	0.2377
Hostile Deal	0.0348	0.0275	0.0311	0.0406	0.0368
First Bid in a Multibid Contest	0.0904	0.0626	0.0743	0.1123	0.1004
Rumored Deal	0.0448	0.0702	0.0673	0.0268	0.0246
Complete Deal	0.8618	0.8595	0.8685	0.8713	0.8438
BWN	0.2955	-0.4518	-0.0676	0.3793	1.1370
Number of Deals	3705	655	996	1158	896

Table 4-32 Descriptive Statistics - by Baker and Wurgler Sentiment Index non-orthogonalized to Macro Factors (BWN) – Non-Cash-Only

The below table shows a general descriptive statistics (mean) for the main variables used in our tests for the Non-Cash-Only (Stock and Mixed Deal) sample. The Cumulative Abnormal Return (CAR) is estimated as sum of the Abnormal Returns (AR) over the specified period. The AR is calculated as the difference between the realized return of the firm's stock and the expected return. The expected return is obtained using the market model ($r_{i,t} = \alpha + \beta\, r_{m,t}$). This latter is estimated using daily returns spanning 253 trading days before the announcement day to 43 days before the announcement day. CRSP Value weighted index was used as a proxy for the market. The deals within our sample are classified into four sentiment quartile based on the Baker and Wurgler Sentiment Index that is not orthogonalized to Macro Factors (BWN) associated with the deal. BWN levels are brought from professor Wurgler Website. For every deal, we estimated a sentiment measure that is equal to the weighted average sentiment index levels that are available during the deal's runup period. This latter spans 42 days before the announcement to 2 days before the announcement. The quartile cutoffs are estimated as per the sentiment original index spanning the period of our analysis: November 1981 till October 2015. Mergers and Acquisitions deals are downloaded from SDC. We limited our sample to Mergers, Acquisitions of Majority Interest and Acquisitions of Remaining Interest. We required that the deal have a reported final offer price on SDC and filtered out the top and bottom deals' percentile when sorted by per their offer premium in order to avoid outliers. The offer premium is estimated as the final offer price divided by the target stock price 42 trading days before the announcement day. We removed any offer that is not the first offer within a multibid contest. Deals fall into a multibid contest if bids on the same target are separated by less than 6 months from each other. We also filtered out any deal whose value is less than $10 Million dollar and whose target stock price on day -42 is less than $5. Deal value is brought from SDC. We have also used Target Cumulative Abnormal Return from the beginning of the Runup period till completion day or 126 days after the deal is completed (whichever is shorter) – we termed this variable as CAR-Base d-Premium. We require that both target and acquirer firms are public US listed firms with CRSP and Compustat data on both. We divided our sample into All, Non-Cash-Only (Mixed or Stock-Only) and Cash-Only based on the medium of exchange as reported by SDC. Price and Return data is brought from CRSP. For price based runup and markup, we followed Betton et al (2008) by dividing the target stock price 2 days before the announcement day by the target stock price 42 days before the announcement date and the Final Offer Price by the target stock price 2 days before the announcement respectively. For the CAR based runup and markup we estimated them as the CAR over [-42, -2] and [-1, +126] respectively. Size is the logarithm of the firm market cap 42 days before the announcement day. The firm market cap is obtained by multiplying the stock price by the number of shares outstanding (in $Millions). B/M is the ratio of the Book Value of the Firm's equity divided by the Market Value of the Firm 42 days before the announcement. The Book value of the firm's equity is obtained following the approach of Fama and French (1993) by adding the book value of stockholders equity to the balance sheet deferred taxes and investment tax credit and subtracting the book value of preferred share – all data are brought from Compustat. Target (Acquirer) Turnover is estimated as the average of the Volume to Share Outstanding Ratio calculated over the interval spanning 166 days before the announcement to 42 days before the announcement (before the beginning of the runup period). Relying on SDC deals' data we created the following dummy variables: complete – whether the the deal was completed successfully or not, Hostile – whether the bidder attitude was hostile or not, Rumor – whether the deal followed a rumor or not, Tender – whether the deal was a tender offer or not, Toehold – whether the bidder had more than 5% ownership of the target at the deal's announcement, and NYSE/AMEX whether the deal is listed on NYSE, AMEX or not. If the target and acquirer share the same four-digit SIC code, the deal is considered a Horizontal deal. Firms' SIC codes are obtained from CRSP.

	All Sample	Q1	Q2	Q3	Q4
Target Size	19.5059	19.9107	19.8197	19.2653	19.2554
Target Turnover	6.4603	7.1828	7.3021	6.1877	5.5493
Target B/M	0.5849	0.6429	0.5755	0.5656	0.5827
Acquirer Size	21.2293	21.3658	21.5236	21.0124	21.1301
Acquirer Turnover	7.1493	7.3998	7.1702	6.6923	7.5397
Acquirer B/M	0.4821	0.5713	0.4531	0.4666	0.4753
Acquirer CAR [-42,-2]	-0.0017	-0.0018	0.0050	-0.0020	-0.0078
Acquirer CAR [-1,+1]	-0.0236	-0.0173	-0.0232	-0.0262	-0.0247
Acquirer CAR [+2,+126]	-0.1074	-0.0806	-0.1004	-0.1325	-0.0995
Target CAR [-42,-2]	0.0408	0.0182	0.0517	0.0360	0.0496
Target CAR [-1,+1]	0.1677	0.1790	0.1820	0.1530	0.1653
Target CAR [+2,+126]	-0.0193	-0.0462	0.0084	-0.0382	-0.0066
Target CAR [-1,+126] – Target Markup – CAR-based	0.1484	0.1328	0.1905	0.1147	0.1586
Target CAR [-42,+126] – Target Premium – CAR-based	0.1892	0.1510	0.2422	0.1507	0.2082
Target Runup [(P_{-2}/P_{-42}) - 1]	0.0700	0.0625	0.0695	0.0646	0.0818
Target Markup [(Final Offer Price/P_{-2}) - 1]	0.2977	0.3110	0.3037	0.2935	0.2890
Premium [(Final Offer Price/P_{-42}) - 1]	0.3787	0.3804	0.3888	0.3633	0.3869
Target Listed on NYSE/AMEX	0.3701	0.4112	0.3997	0.3516	0.3397
Acquirer Listed on NYSE/AMEX	0.6229	0.5718	0.6003	0.6317	0.6647
Toehold Exists	0.0343	0.0438	0.0334	0.0369	0.0264
Horizontal Deal	0.2493	0.3187	0.2675	0.2169	0.2299
Tender Offer	0.0459	0.0560	0.0471	0.0322	0.0556
Cash Only Deal	0.0000	0.0000	0.0000	0.0000	0.0000
Hostile Deal	0.0247	0.0170	0.0167	0.0346	0.0249
First Bid in a Multibid Contest	0.0853	0.0584	0.0699	0.1049	0.0922
Rumored Deal	0.0440	0.0730	0.0699	0.0274	0.0220
Complete Deal	0.8584	0.8516	0.8723	0.8594	0.8477
BWN	0.3357	-0.4594	-0.0695	0.3877	1.1406
Number of Deals	2591	411	658	839	683

Table 4-33 Descriptive Statistics - by Baker and Wurgler Sentiment Index non-orthogonalized to Macro Factors (BWN) – Cash-Only

The below table shows a general descriptive statistics (mean) for the main variables used in our tests for the Cash-Only sample. The Cumulative Abnormal Return (CAR) is estimated as sum of the Abnormal Returns (AR) over the specified period. The AR is calculated as the difference between the realized return of the firm's stock and the expected return. The expected return is obtained using the market model ($r_{i,t} = \alpha + \beta\, r_{m,t}$). This latter is estimated using daily returns spanning 253 trading days before the announcement day to 43 days before the announcement day. CRSP Value weighted index was used as a proxy for the market. The deals within our sample are classified into four sentiment quartile based on the Baker and Wurgler Sentiment Index that is not orthogonalized to Macro Factors (BWN) associated with the deal. BWN levels are brought from professor Wurgler Website. For every deal, we estimated a sentiment measure that is equal to the weighted average sentiment index levels that are available during the deal's runup period. This latter spans 42 days before the announcement to 2 days before the announcement. The quartile cutoffs are estimated as per the sentiment original index spanning the period of our analysis: November 1981 till October 2015. Mergers and Acquisitions deals are downloaded from SDC. We limited our sample to Mergers, Acquisitions of Majority Interest and Acquisitions of Remaining Interest. We required that the deal have a reported final offer price on SDC and filtered out the top and bottom deals' percentile when sorted by per their offer premium in order to avoid outliers. The offer premium is estimated as the final offer price divided by the target stock price 42 trading days before the announcement day. We removed any offer that is not the first offer within a multibid contest. Deals fall into a multibid contest if bids on the same target are separated by less than 6 months from each other. We also filtered out any deal whose value is less than $10 Million dollar and whose target stock price on day -42 is less than $5. Deal value is brought from SDC. We have also used Target Cumulative Abnomral Return from the beginning of the Runup period till completion day or 126 days after the deal is completed (whichever is shorter) – we termed this variable as CAR-Base d-Premium. We require that both target and acquirer firms are public US listed firms with CRSP and Compustat data on both. We divided our sample into All, Non-Cash-Only (Mixed or Stock-Only) and Cash-Only based on the medium of exchange as reported by SDC. Price and Return data is brought from CRSP. For price based runup and markup, we followed **Betton et al (2008)** by dividing the target stock price 2 days before the announcement day by the target stock price 42 days before the announcement date and the Final Offer Price by the target stock price 2 days before the announcement respectively. For the CAR based runup and markup we estimated them as the CAR over [-42, -2] and [-1, +126] respectively. Size is the logarithm of the firm market cap 42 days before the announcement day. The firm market cap is obtained by multiplying the stock price by the number of shares outstanding (in $Millions). B/M is the ratio of the Book Value of the Firm`s equity divided by the Market Value of the Firm 42 days before the announcement. The Book value of the firm's equity is obtained following the approach of Fama and French (1993) by adding the book value of stockholders equity to the balance sheet deferred taxes and investment tax credit and subtracting the book value of preferred share – all data are brought from Compustat. Target (Acquirer) Turnover is estimated as the average of the Volume to Share Outstanding Ratio calculated over the interval spanning 166 days before the announcement to 42 days before the announcement (before the beginning of the runup period). Relying on SDC deals' data we created the following dummy variables: complete – whether the the deal was completed successfully or not, Hostile – whether the bidder attitude was hostile or not, Rumor – whether the deal followed a rumor or not, Tender – whether the deal was a tender offer or not, Toehold – whether the bidder had more than 5% ownership of the target at the deal's announcement, and NYSE/AMEX whether the deal is listed on NYSE, AMEX or not. If the target and acquirer share the same four-digit SIC code, the deal is considered a Horizontal deal. Firms' SIC codes are obtained from CRSP.

	All Sample	Q1	Q2	Q3	Q4
Target Size	19.2917	19.6872	19.5393	19.1352	18.6803
Target Turnover	6.6891	7.7906	7.0517	6.8781	4.5687
Target B/M	0.5667	0.5670	0.5462	0.5680	0.5968
Acquirer Size	21.8169	22.3843	21.9914	21.6300	21.1699
Acquirer Turnover	6.3776	7.3310	6.5034	6.4802	4.9322
Acquirer B/M	0.5641	0.5251	0.5046	0.5839	0.6732
Acquirer CAR [-42,-2]	0.0000	-0.0006	-0.0082	0.0012	0.0120
Acquirer CAR [-1,+1]	0.0083	0.0086	0.0090	0.0099	0.0046
Acquirer CAR [+2,+126]	-0.0309	-0.0179	-0.0506	-0.0367	-0.0058
Target CAR [-42,-2]	0.0627	0.0361	0.0527	0.0709	0.0968
Target CAR [-1,+1]	0.2827	0.3244	0.2776	0.2765	0.2524
Target CAR [+2,+126]	-0.0132	-0.0376	-0.0037	-0.0115	-0.0030
Target CAR [-1,+126] – Target Markup – CAR-based	0.2695	0.2868	0.2739	0.2650	0.2494
Target CAR [-42,+126] – Target Premium – CAR-based	0.3322	0.3230	0.3266	0.3359	0.3462
Target Runup [(P_{-2}/P_{-42}) - 1]	0.0909	0.0854	0.0747	0.0907	0.1231
Target Markup [(Final Offer Price/P_{-2}) - 1]	0.3523	0.4286	0.3323	0.3422	0.3119
Premium [(Final Offer Price/P_{-42}) - 1]	0.4600	0.5321	0.4153	0.4502	0.4628
Target Listed on NYSE/AMEX	0.3250	0.3566	0.3107	0.3323	0.3005
Acquirer Listed on NYSE/AMEX	0.7154	0.7131	0.6834	0.7273	0.7512
Toehold Exists	0.0575	0.0205	0.0473	0.0658	0.1033
Horizontal Deal	0.1912	0.2049	0.1864	0.1818	0.1972
Tender Offer	0.4183	0.4139	0.3136	0.4451	0.5493
Cash Only Deal	1.0000	1.0000	1.0000	1.0000	1.0000
Hostile Deal	0.0584	0.0451	0.0592	0.0564	0.0751
First Bid in a Multibid Contest	0.1023	0.0697	0.0828	0.1317	0.1268
Rumored Deal	0.0467	0.0656	0.0621	0.0251	0.0329
Complete Deal	0.8698	0.8730	0.8609	0.9028	0.8310
BWN	0.2019	-0.4392	-0.0638	0.3574	1.1254
Number of Deals	1114	244	338	319	213

Table 4-34 Bidder CAR during the Announcement Period – by Baker and Wurgler Sentiment Index non-orthogonalized to Macro Factors (BWN)

The below table shows the Bidder CAR estimated over the announcement period [-1, +1] sorted across the four sentiment quartiles. The Cumulative Abnormal Return (CAR) is estimated as sum of the Abnormal Returns (AR) over the specified period. The AR is calculated as the difference between the realized return of the firm's stock and the expected return. The expected return is obtained using the market model ($r_{i,t} = \alpha + \beta\, r_{m,t}$). This latter is estimated using daily returns spanning 253 trading days before the announcement day to 43 days before the announcement day. CRSP Value weighted index was used as a proxy for the market. The deals within our sample are classified into four sentiment quartile based on the Baker and Wurgler Sentiment Index that is not orthogonalized to Macro Factors (BWN) associated with the deal. BWN levels are brought from professor Wurgler Website. For every deal, we estimated a sentiment measure that is equal to the weighted average sentiment index levels that are available during the deal's runup period. This latter spans 42 days before the announcement to 2 days before the announcement. The quartile cutoffs are estimated as per the sentiment original index spanning the period of our analysis: November 1981 till October 2015. Mergers and Acquisitions deals are downloaded from SDC. We limited our sample to Mergers, Acquisitions of Majority Interest and Acquisitions of Remaining Interest. We required that the deal have a reported final offer price on SDC and filtered out the top and bottom deals' percentile when sorted by per their offer premium in order to avoid outliers. The offer premium is estimated as the final offer price divided by the target stock price 42 trading days before the announcement day. We removed any offer that is not the first offer within a multibid contest. Deals fall into a multibid contest if bids on the same target are separated by less than 6 months from each other. We also filtered out any deal whose value is less than $10 Million dollar and whose target stock price on day -42 is less than $5. Deal value is brought from SDC. We have also used Target Cumulative Abnomral Return from the beginning of the Runup period till completion day or 126 days after the deal is completed (whichever is shorter) – we termed this variable as CAR-Base d-Premium. We require that both target and acquirer firms are public US listed firms with CRSP and Compustat data on both. We divided our sample into All, Non-Cash-Only (Mixed or Stock-Only) and Cash-Only based on the medium of exchange as reported by SDC. Price and Return data is brought from CRSP. For price based runup and markup, we followed Betton et al (2008) by dividing the target stock price 2 days before the announcement day by the target stock price 42 days before the announcement date and the Final Offer Price by the target stock price 2 days before the announcement respectively. For the CAR based runup and markup we estimated them as the CAR over [-42, -2] and [-1, +126] respectively. Size is the logarithm of the firm market cap 42 days before the announcement day. The firm market cap is obtained by multiplying the stock price by the number of shares outstanding (in $Millions). B/M is the ratio of the Book Value of the Firm`s equity divided by the Market Value of the Firm 42 days before the announcement. The Book value of the firm's equity is obtained following the approach of Fama and French (1993) by adding the book value of stockholders equity to the balance sheet deferred taxes and investment tax credit and subtracting the book value of preferred share – all data are brought from Compustat. Target (Acquirer) Turnover is estimated as the average of the Volume to Share Outstanding Ratio calculated over the interval spanning 166 days before the announcement to 42 days before the announcement (before the beginning of the runup period). Relying on SDC deals' data we created the following dummy variables: complete – whether the the deal was completed successfully or not, Hostile – whether the bidder attitude was hostile or not, Rumor – whether the deal followed a rumor or not, Tender – whether the deal was a tender offer or not, Toehold – whether the bidder had more than 5% ownership of the target at the deal's announcement, and NYSE/AMEX whether the deal is listed on NYSE, AMEX or not. If the target and acquirer share the same four-digit SIC code, the deal is considered a Horizontal deal. Firms' SIC codes are obtained from CRSP. Q1 – Q4 represents the mean difference between the quintile with lowest index level (Q1) and the quintile with highest index level (Q4). t-stat are reported underneath. The *,**,*** indicates significance at 10%, 5%, and 1% respectively.

All Deals				
Q1	Q2	Q3	Q4	Q1 – Q4
-0.77%**	-1.22%***	-1.62%***	-1.77%***	1.01%**
(-2.38)	(-5.08)	(-7.44)	(-6.81)	(2.45)
Non-Cash-Only Deals (Mixed and Stock-Only Deals)				
-1.73%***	-2.32%***	-2.62%***	-2.47%***	0.74%
(-4.19)	(-7.98)	(-9.68)	(-7.91)	(1.43)
Cash-Only Deals				
0.86%*	0.90%**	0.99%***	0.46%	0.40%
(1.73)	(2.22)	(3.25)	(1.1)	(0.61)

Table 4-35 Target Bargaining Power – by Baker and Wurgler Sentiment Index non-orthogonalized to Macro Factors (BWN)

The below table presents the deal estimated bargaining power over the different MCPI quartile. Bargaining power is estimated following Ahern et. Al (2013) as the ratio of the difference of Target and Acquirer Dollar Cumulative Abnormal Return (CAR) divided by the sum of Target and Acquirer market cap obtained 42 days before the announcement. The Dollar CARs are obtained as the sum of the dollar Abnormal Returns (AR). The dollar AR are estimated by multiplying the daily AR by the lagged daily market cap for the corresponding firm. The AR is calculated as the difference between the realized return of the firm's stock and the expected return. The expected return is obtained using the market model ($r_{i,t} = \alpha + \beta\, r_{m,t}$). This latter is estimated using daily returns spanning 253 trading days before the announcement day to 43 days before the announcement day. CRSP Value weighted index was used as a proxy for the market. The deals within our sample are classified into four sentiment quartile based on the Baker and Wurgler Sentiment Index that is not orthogonalized to Macro Factors (BWN) associated with the deal. BWN levels are brought from professor Wurgler Website. For every deal, we estimated a sentiment measure that is equal to the weighted average sentiment index levels that are available during the deal's runup period. This latter spans 42 days before the announcement to 2 days before the announcement. The quartile cutoffs are estimated as per the sentiment original index spanning the period of our analysis: November 1981 till October 2015. Mergers and Acquisitions deals are downloaded from SDC. We limited our sample to Mergers, Acquisitions of Majority Interest and Acquisitions of Remaining Interest. We required that the deal have a reported final offer price on SDC and filtered out the top and bottom deals' percentile when sorted by per their offer premium in order to avoid outliers. The offer premium is estimated as the final offer price divided by the target stock price 42 trading days before the announcement day. We removed any offer that is not the first offer within a multibid contest. Deals fall into a multibid contest if bids on the same target are separated by less than 6 months from each other. We also filtered out any deal whose value is less than $10 Million dollar and whose target stock price on day -42 is less than $5. Deal value is brought from SDC. We have also used Target Cumulative Abnormal Return from the beginning of the Runup period till completion day or 126 days after the deal is completed (whichever is shorter) – we termed this variable as CAR-Based-Premium. We require that both target and acquirer firms are public US listed firms with CRSP and Compustat data on both. We divided our sample into All, Non-Cash-Only (Mixed or Stock-Only) and Cash-Only based on the medium of exchange as reported by SDC. Price and Return data is brought from CRSP. For price based runup and markup, we followed Betton et al (2008) by dividing the target stock price 2 days before the announcement day by the target stock price 42 days before the announcement date and the Final Offer Price by the target stock price 2 days before the announcement respectively. For the CAR based runup and markup we estimated them as the CAR over [-42, -2] and [-1, +126] respectively. Size is the logarithm of the firm market cap 42 days before the announcement day. The firm market cap is obtained by multiplying the stock price by the number of shares outstanding (in $Millions). B/M is the ratio of the Book Value of the Firm's equity divided by the Market Value of the Firm 42 days before the announcement. The Book value of the firm's equity is obtained following the approach of Fama and French (1993) by adding the book value of stockholders equity to the balance sheet deferred taxes and investment tax credit and subtracting the book value of preferred share – all data are brought from Compustat. Target (Acquirer) Turnover is estimated as the average of the Volume to Share Outstanding Ratio calculated over the interval spanning 166 days before the announcement to 42 days before the announcement (before the beginning of the runup period). Relying on SDC deals' data we created the following dummy variables: complete – whether the the deal was completed successfully or not, Hostile – whether the bidder attitude was hostile or not, Rumor – whether the deal followed a rumor or not, Tender – whether the deal was a tender offer or not, Toehold – whether the bidder had more than 5% ownership of the target at the deal's announcement, and NYSE/AMEX whether the deal is listed on NYSE, AMEX or not. If the target and acquirer share the same four-digit SIC code, the deal is considered a Horizontal deal. Firms' SIC codes are obtained from CRSP. Firms' SIC codes are obtained from CRSP.

Panel A: Target Bargaining Power is estimated as the sum of Target and Acquirer CAR over [-1,+1] period				
All Deals				
Q1	Q2	Q3	Q4	Q1 – Q4
4.57%***	4.34%***	4.18%***	4.47%***	0.10%
(14.78)	(17.94)	(20.26)	(17.72)	(0.25)
Non-Cash-Only Deals (Mixed and Stock-Only Deals)				
5.21%***	5.14%***	4.62%***	4.67%***	0.54%
(14.99)	(17.45)	(19.07)	(16.63)	(1.19)
Cash-Only Deals				
3.49%***	2.79%***	3.02%***	3.83%***	-0.34%
(5.99)	(6.78)	(7.82)	(6.83)	(-0.42)
Panel B: Target Bargaining Power is estimated as the sum of Target and Acquirer CAR over [-42,+1] period				
All Deals				
Q1	Q2	Q3	Q4	Q1 – Q4
5.10%***	5.38%***	4.82%***	5.72%***	-0.62%
(10.55)	(11.52)	(10.96)	(11.7)	(-0.88)
Non-Cash-Only Deals (Mixed and Stock-Only Deals)				
5.56%***	5.65%***	5.37%***	5.96%***	-0.39%
(9.66)	(9.71)	(10.38)	(11.27)	(-0.48)
Cash-Only Deals				
4.32%***	4.88%***	3.37%***	4.98%***	-0.66%
(5.01)	(6.22)	(4.05)	(4.26)	(-0.46)
Panel C: Target Bargaining Power is estimated as the sum of Target and Acquirer CAR over [-42,+126] period				
All Deals				
Q1	Q2	Q3	Q4	Q1 – Q4
7.35%***	10.82%***	10.96%***	9.48%***	-2.13%
(7.58)	(11.69)	(12.96)	(9.31)	(-1.47)
Non-Cash-Only Deals (Mixed and Stock-Only Deals)				
8.36%***	12.54%***	13.24%***	10.24%***	-1.88%
(6.48)	(10.05)	(12.96)	(8.74)	(-1.04)
Cash-Only Deals				
5.66%***	7.46%***	4.97%***	7.04%***	-1.38%
(3.96)	(6.13)	(3.46)	(3.43)	(-0.56)

Table 4-36 Synergy Related Univariate Tests – by Baker and Wurgler Sentiment Index non-orthogonalized to Macro Factors (BWN)

The below table presents the deal estimated synergy over the different MCPI quartile. Synergy is estimated as the ratio of the sum of Target and Acquirer Dollar Cumulative Abnormal Return (CAR) divided by the sum of Target and Acquirer market cap obtained 42 days before the announcement. The Dollar CARs are obtained as the sum of the dollar Abnormal Returns (AR). The dollar AR are estimated by multiplying the daily AR by the lagged daily market cap for the corresponding firm. The AR is calculated as the difference between the realized return of the firm's stock and the expected return. The expected return is obtained using the market model ($r_{i,t} = \alpha + \beta r_{m,t}$). This latter is estimated using daily returns spanning 253 trading days before the announcement day to 43 days before the announcement day. CRSP Value weighted index was used as a proxy for the market. The deals within our sample are classified into four sentiment quartile based on the Baker and Wurgler Sentiment Index that is not orthogonalized to Macro Factors (BWN) associated with the deal. BWN levels are brought from professor Wurgler Website. For every deal, we estimated a sentiment measure that is equal to the weighted average sentiment index levels that are available during the deal's runup period. This latter spans 42 days before the announcement to 2 days before the announcement. The quartile cutoffs are estimated as per the sentiment original index spanning the period of our analysis: November 1981 till October 2015. Mergers and Acquisitions deals are downloaded from SDC. We limited our sample to Mergers, Acquisitions of Majority Interest and Acquisitions of Remaining Interest. We required that the deal have a reported final offer price on SDC and filtered out the top and bottom deals' percentile when sorted by per their offer premium in order to avoid outliers. The offer premium is estimated as the final offer price divided by the target stock price 42 trading days before the announcement day. We removed any offer that is not the first offer within a multibid contest. Deals fall into a multibid contest if bids on the same target are separated by less than 6 months from each other. We also filtered out any deal whose value is less than $10 Million dollar and whose target stock price on day -42 is less than $5. Deal value is brought from SDC. We have also used Target Cumulative Abnormal Return from the beginning of the Runup period till completion day or 126 days after the deal is completed (whichever is shorter) – we termed this variable as CAR-Based-Premium. We require that both target and acquirer firms are public US listed firms with CRSP and Compustat data on both. We divided our sample into All, Non-Cash-Only (Mixed or Stock-Only) and Cash-Only based on the medium of exchange as reported by SDC. Price and Return data is brought from CRSP. For price based runup and markup, we followed Betton et al (2008) by dividing the target stock price 2 days before the announcement day by the target stock price 42 days before the announcement date and the Final Offer Price by the target stock price 2 days before the announcement respectively. For the CAR based runup and markup we estimated them as the CAR over [-42, -2] and [-1, +126] respectively. Size is the logarithm of the firm market cap 42 days before the announcement day. The firm market cap is obtained by multiplying the stock price by the number of shares outstanding (in $Millions). B/M is the ratio of the Book Value of the Firm`s equity divided by the Market Value of the Firm 42 days before the announcement. The Book value of the firm's equity is obtained following the approach of Fama and French (1993) by adding the book value of stockholders equity to the balance sheet deferred taxes and investment tax credit and subtracting the book value of preferred share – all data are brought from Compustat. Target (Acquirer) Turnover is estimated as the average of the Volume to Share Outstanding Ratio calculated over the interval spanning 166 days before the announcement to 42 days before the announcement (before the beginning of the runup period). Relying on SDC deals' data we created the following dummy variables: complete – whether the the deal was completed successfully or not, Hostile – whether the bidder attitude was hostile or not, Rumor – whether the deal followed a rumor or not, Tender – whether the deal was a tender offer or not, Toehold – whether the bidder had more than 5% ownership of the target at the deal's announcement, and NYSE/AMEX whether the deal is listed on NYSE, AMEX or not. If the target and acquirer share the same four-digit SIC code, the deal is considered a Horizontal deal. Firms' SIC codes are obtained from CRSP. Firms' SIC codes are obtained from CRSP. Q1 – Q4 represents the mean difference between the quintile with lowest index level (Q1) and the quintile with highest index level (Q4). t-stat are reported underneath. The *,**,*** indicates significance at 10%, 5%, and 1% respectively.

Panel A: Synergy is estimated as the sum of Target and Acquirer CAR over [-1,+1] period				
All Deals				
Q1	Q2	Q3	Q4	Q1 – Q4
2.90%***	2.42%***	1.71%***	1.66%***	1.24%***
(8.37)	(9.68)	(7.68)	(5.92)	(2.82)
Non-Cash-Only Deals (Mixed and Stock-Only Deals)				
1.98%***	1.35%***	0.68%***	0.79%**	1.20%**
(4.73)	(4.35)	(2.62)	(2.54)	(2.33)
Cash-Only Deals				
4.45%***	4.51%***	4.41%***	4.45%***	0.00%
(7.5)	(11.32)	(11.36)	(7.47)	(0)
Panel B: Synergy is estimated as the sum of Target and Acquirer CAR over [-42,+1] period				
All Deals				
Q1	Q2	Q3	Q4	Q1 – Q4
2.63%***	2.99%***	1.69%***	1.54%***	1.08%
(4.58)	(5.5)	(3.3)	(2.59)	(1.27)
Non-Cash-Only Deals (Mixed and Stock-Only Deals)				
1.64%**	2.12%***	0.28%	-0.01%	1.65%
(2.24)	(3.06)	(0.45)	(-0.01)	(1.57)
Cash-Only Deals				
4.29%***	4.67%***	5.42%***	6.51%***	-2.22%
(4.68)	(5.46)	(6.29)	(5.66)	(-1.53)
Panel C: Synergy is estimated as the sum of Target and Acquirer CAR over [-42,+126] period				
All Deals				
Q1	Q2	Q3	Q4	Q1 – Q4
-1.12%	-2.21%*	-6.06%***	-3.20%***	2.08%
(-0.94)	(-1.9)	(-5.79)	(-2.59)	(1.18)
Non-Cash-Only Deals (Mixed and Stock-Only Deals)				
-3.39%**	-4.53%***	-9.81%***	-5.78%***	2.38%
(-2.02)	(-2.86)	(-7.58)	(-3.89)	(1.03)
Cash-Only Deals				
2.70%*	2.31%	3.82%**	5.05%**	-2.35%
(1.82)	(1.57)	(2.45)	(2.54)	(-0.96)

Table 4-37 Target Runup - by Baker and Wurgler Sentiment Index non-orthogonalized to Macro Factors (BWN)

The below table shows the Target Runup sorted across the four sentiment quartiles. The Cumulative Abnormal Return (CAR) is estimated as sum of the Abnormal Returns (AR) over the specified period. The AR is calculated as the difference between the realized return of the firm's stock and the expected return. The expected return is obtained using the market model ($r_{i,t} = \alpha + \beta\, r_{m,t}$). This latter is estimated using daily returns spanning 253 trading days before the announcement day to 43 days before the announcement day. CRSP Value weighted index was used as a proxy for the market. The deals within our sample are classified into four sentiment quartile based on the Baker and Wurgler Sentiment Index that is not orthogonalized to Macro Factors (BWN) associated with the deal. BWN levels are brought from professor Wurgler Website. For every deal, we estimated a sentiment measure that is equal to the weighted average sentiment index levels that are available during the deal's runup period. This latter spans 42 days before the announcement to 2 days before the announcement. The quartile cutoffs are estimated as per the sentiment original index spanning the period of our analysis: November 1981 till October 2015. Mergers and Acquisitions deals are downloaded from SDC. We limited our sample to Mergers, Acquisitions of Majority Interest and Acquisitions of Remaining Interest. We required that the deal have a reported final offer price on SDC and filtered out the top and bottom deals' percentile when sorted by per their offer premium in order to avoid outliers. The offer premium is estimated as the final offer price divided by the target stock price 42 trading days before the announcement day. We removed any offer that is not the first offer within a multibid contest. Deals fall into a multibid contest if bids on the same target are separated by less than 6 months from each other. We also filtered out any deal whose value is less than $10 Million dollar and whose target stock price on day -42 is less than $5. Deal value is brought from SDC. We have also used Target Cumulative Abnomral Return from the beginning of the Runup period till completion day or 126 days after the deal is completed (whichever is shorter) – we termed this variable as CAR-Base d-Premium. We require that both target and acquirer firms are public US listed firms with CRSP and Compustat data on both. We divided our sample into All, Non-Cash-Only (Mixed or Stock-Only) and Cash-Only based on the medium of exchange as reported by SDC. Price and Return data is brought from CRSP. For price based runup and markup, we followed Betton et al (2008) by dividing the target stock price 2 days before the announcement day by the target stock price 42 days before the announcement date and the Final Offer Price by the target stock price 2 days before the announcement respectively. For the CAR based runup and markup we estimated them as the CAR over [-42, -2] and [-1, +126] respectively. Size is the logarithm of the firm market cap 42 days before the announcement day. The firm market cap is obtained by multiplying the stock price by the number of shares outstanding (in $Millions). B/M is the ratio of the Book Value of the Firm`s equity divided by the Market Value of the Firm 42 days before the announcement. The Book value of the firm's equity is obtained following the approach of Fama and French (1993) by adding the book value of stockholders equity to the balance sheet deferred taxes and investment tax credit and subtracting the book value of preferred share – all data are brought from Compustat. Target (Acquirer) Turnover is estimated as the average of the Volume to Share Outstanding Ratio calculated over the interval spanning 166 days before the announcement to 42 days before the announcement (before the beginning of the runup period). Relying on SDC deals' data we created the following dummy variables: complete – whether the the deal was completed successfully or not, Hostile – whether the bidder attitude was hostile or not, Rumor – whether the deal followed a rumor or not, Tender – whether the deal was a tender offer or not, Toehold – whether the bidder had more than 5% ownership of the target at the deal's announcement, and NYSE/AMEX whether the deal is listed on NYSE, AMEX or not. If the target and acquirer share the same four-digit SIC code, the deal is considered a Horizontal deal. Firms' SIC codes are obtained from CRSP. Q1 – Q4 represents the mean difference between the quintile with lowest index level (Q1) and the quintile with highest index level (Q4). t-stat are reported underneath. The *,**,*** indicates significance at 10%, 5%, and 1% respectively.

Panel A: Runup is estimated as the CAR of the target firm over [-42,-2] period				
All Deals				
Q1	Q2	Q3	Q4	Q1 – Q4
2.49%***	5.21%***	4.56%***	6.08%***	-3.60%***
(3.74)	(8.16)	(7.57)	(8.6)	(-3.58)
Non-Cash-Only Deals (Mixed and Stock-Only Deals)				
1.82%**	5.17%***	3.60%***	4.96%***	-3.14%***
(2.22)	(6.63)	(4.89)	(6.08)	(-2.56)
Cash-Only Deals				
3.61%***	5.27%***	7.09%***	9.68%***	-6.07%***
(3.2)	(4.75)	(7.05)	(6.99)	(-3.42)
Panel B: Priced Based Target Runup - Target Runup is estimated as [(P-2 / P-42) – 1]				
All Deals				
Q1	Q2	Q3	Q4	Q1 – Q4
7.11%***	7.12%***	7.18%***	9.16%***	-2.05%**
(10.61)	(10.86)	(11.06)	(12.69)	(-2.01)
Non-Cash-Only Deals (Mixed and Stock-Only Deals)				
6.25%***	6.95%***	6.46%***	8.18%***	-1.92%
(7.91)	(8.74)	(7.98)	(9.98)	(-1.57)
Cash-Only Deals				
8.54%***	7.47%***	9.07%***	12.31%***	-3.77%*
(7.1)	(6.43)	(9.01)	(8.19)	(-1.98)

Table 4-38 Bidder CAR during the Runup Period - by Baker and Wurgler Sentiment Index non-orthogonalized to Macro Factors (BWN)

The below table shows the Bidder CAR estimated over the runup period sorted across the four sentiment quartiles. The Cumulative Abnormal Return (CAR) is estimated as sum of the Abnormal Returns (AR) over the specified period. The AR is calculated as the difference between the realized return of the firm's stock and the expected return. The expected return is obtained using the market model ($r_{i,t} = \alpha + \beta\, r_{m,t}$). This latter is estimated using daily returns spanning 253 trading days before the announcement day to 43 days before the announcement day. CRSP Value weighted index was used as a proxy for the market. The deals within our sample are classified into four sentiment quartile based on the Baker and Wurgler Sentiment Index that is not orthogonalized to Macro Factors (BWN) associated with the deal. BWN levels are brought from professor Wurgler Website. For every deal, we estimated a sentiment measure that is equal to the weighted average sentiment index levels that are available during the deal's runup period. This latter spans 42 days before the announcement to 2 days before the announcement. The quartile cutoffs are estimated as per the sentiment original index spanning the period of our analysis: November 1981 till October 2015. Mergers and Acquisitions deals are downloaded from SDC. We limited our sample to Mergers, Acquisitions of Majority Interest and Acquisitions of Remaining Interest. We required that the deal have a reported final offer price on SDC and filtered out the top and bottom deals' percentile when sorted by per their offer premium in order to avoid outliers. The offer premium is estimated as the final offer price divided by the target stock price 42 trading days before the announcement day. We removed any offer that is not the first offer within a multibid contest. Deals fall into a multibid contest if bids on the same target are separated by less than 6 months from each other. We also filtered out any deal whose value is less than $10 Million dollar and whose target stock price on day -42 is less than $5. Deal value is brought from SDC. We have also used Target Cumulative Abnormal Return from the beginning of the Runup period till completion day or 126 days after the deal is completed (whichever is shorter) – we termed this variable as CAR-Base d-Premium. We require that both target and acquirer firms are public US listed firms with CRSP and Compustat data on both. We divided our sample into All, Non-Cash-Only (Mixed or Stock-Only) and Cash-Only based on the medium of exchange as reported by SDC. Price and Return data is brought from CRSP. For price based runup and markup, we followed Betton et al (2008) by dividing the target stock price 2 days before the announcement day by the target stock price 42 days before the announcement date and the Final Offer Price by the target stock price 2 days before the announcement respectively. For the CAR based runup and markup we estimated them as the CAR over [-42, -2] and [-1, +126] respectively. Size is the logarithm of the firm market cap 42 days before the announcement day. The firm market cap is obtained by multiplying the stock price by the number of shares outstanding (in $Millions). B/M is the ratio of the Book Value of the Firm`s equity divided by the Market Value of the Firm 42 days before the announcement. The Book value of the firm's equity is obtained following the approach of Fama and French (1993) by adding the book value of stockholders equity to the balance sheet deferred taxes and investment tax credit and subtracting the book value of preferred share – all data are brought from Compustat. Target (Acquirer) Turnover is estimated as the average of the Volume to Share Outstanding Ratio calculated over the interval spanning 166 days before the announcement to 42 days before the announcement (before the beginning of the runup period). Relying on SDC deals' data we created the following dummy variables: complete – whether the the deal was completed successfully or not, Hostile – whether the bidder attitude was hostile or not, Rumor – whether the deal followed a rumor or not, Tender – whether the deal was a tender offer or not, Toehold – whether the bidder had more than 5% ownership of the target at the deal's announcement, and NYSE/AMEX whether the deal is listed on NYSE, AMEX or not. If the target and acquirer share the same four-digit SIC code, the deal is considered a Horizontal deal. Firms' SIC codes are obtained from CRSP. Q1 – Q4 represents the mean difference between the quintile with lowest index level (Q1) and the quintile with highest index level (Q4). t-stat are reported underneath. The *,**,*** indicates significance at 10%, 5%, and 1% respectively.

All Deals				
Q1	Q2	Q3	Q4	Q1 – Q4
-0.14%	0.05%	-0.11%	-0.31%	0.17%
(-0.27)	(0.11)	(-0.24)	(-0.56)	(0.22)
Non-Cash-Only Deals (Mixed and Stock-Only Deals)				
-0.18%	0.50%	-0.20%	-0.78%	0.59%
(-0.27)	(0.79)	(-0.34)	(-1.2)	(0.6)
Cash-Only Deals				
-0.06%	-0.82%	0.12%	1.20%	-1.26%
(-0.08)	(-1.19)	(0.15)	(1.23)	(-1.04)

Table 4-39 Target Markup - by Baker and Wurgler Sentiment Index non-orthogonalized to Macro Factors (BWN)

The below table shows the Target Markup sorted across the four sentiment quartiles. The Cumulative Abnormal Return (CAR) is estimated as sum of the Abnormal Returns (AR) over the specified period. The AR is calculated as the difference between the realized return of the firm's stock and the expected return. The expected return is obtained using the market model ($r_{i,t} = \alpha + \beta\, r_{m,t}$). This latter is estimated using daily returns spanning 253 trading days before the announcement day to 43 days before the announcement day. CRSP Value weighted index was used as a proxy for the market. The deals within our sample are classified into four sentiment quartile based on the Baker and Wurgler Sentiment Index that is not orthogonalized to Macro Factors (BWN) associated with the deal. BWN levels are brought from professor Wurgler Website. For every deal, we estimated a sentiment measure that is equal to the weighted average sentiment index levels that are available during the deal's runup period. This latter spans 42 days before the announcement to 2 days before the announcement. The quartile cutoffs are estimated as per the sentiment original index spanning the period of our analysis: November 1981 till October 2015. Mergers and Acquisitions deals are downloaded from SDC. We limited our sample to Mergers, Acquisitions of Majority Interest and Acquisitions of Remaining Interest. We required that the deal have a reported final offer price on SDC and filtered out the top and bottom deals' percentile when sorted by per their offer premium in order to avoid outliers. The offer premium is estimated as the final offer price divided by the target stock price 42 trading days before the announcement day. We removed any offer that is not the first offer within a multibid contest. Deals fall into a multibid contest if bids on the same target are separated by less than 6 months from each other. We also filtered out any deal whose value is less than $10 Million dollar and whose target stock price on day -42 is less than $5. Deal value is brought from SDC. We have also used Target Cumulative Abnomral Return from the beginning of the Runup period till completion day or 126 days after the deal is completed (whichever is shorter) – we termed this variable as CAR-Base d-Premium. We require that both target and acquirer firms are public US listed firms with CRSP and Compustat data on both. We divided our sample into All, Non-Cash-Only (Mixed or Stock-Only) and Cash-Only based on the medium of exchange as reported by SDC. Price and Return data is brought from CRSP. For price based runup and markup, we followed Betton et al (2008) by dividing the target stock price 2 days before the announcement day by the target stock price 42 days before the announcement date and the Final Offer Price by the target stock price 2 days before the announcement respectively. For the CAR based runup and markup we estimated them as the CAR over [-42, -2] and [-1, +126] respectively. Size is the logarithm of the firm market cap 42 days before the announcement day. The firm market cap is obtained by multiplying the stock price by the number of shares outstanding (in $Millions). B/M is the ratio of the Book Value of the Firm`s equity divided by the Market Value of the Firm 42 days before the announcement. The Book value of the firm's equity is obtained following the approach of Fama and French (1993) by adding the book value of stockholders equity to the balance sheet deferred taxes and investment tax credit and subtracting the book value of preferred share – all data are brought from Compustat. Target (Acquirer) Turnover is estimated as the average of the Volume to Share Outstanding Ratio calculated over the interval spanning 166 days before the announcement to 42 days before the announcement (before the beginning of the runup period). Relying on SDC deals' data we created the following dummy variables: complete – whether the the deal was completed successfully or not, Hostile – whether the bidder attitude was hostile or not, Rumor – whether the deal followed a rumor or not, Tender – whether the deal was a tender offer or not, Toehold – whether the bidder had more than 5% ownership of the target at the deal's announcement, and NYSE/AMEX whether the deal is listed on NYSE, AMEX or not. If the target and acquirer share the same four-digit SIC code, the deal is considered a Horizontal deal. Firms' SIC codes are obtained from CRSP. Q1 – Q4 represents the mean difference between the quintile with lowest index level (Q1) and the quintile with highest index level (Q4). t-stat are reported underneath. The *,**,*** indicates significance at 10%, 5%, and 1% respectively.

Panel A: Markup is estimated as the CAR of the target firm over [-1,+126] period				
All Deals				
Q1	Q2	Q3	Q4	Q1 – Q4
19.02%***	21.88%***	15.61%***	18.02%***	1.00%
(13.18)	(20.07)	(14.93)	(15.9)	(0.55)
Non-Cash-Only Deals (Mixed and Stock-Only Deals)				
13.28%***	19.05%***	11.47%***	15.86%***	-2.58%
(7.64)	(13.93)	(9.36)	(11.77)	(-1.17)
Cash-Only Deals				
28.68%***	27.39%***	26.50%***	24.94%***	3.74%
(11.85)	(15.54)	(14.17)	(12.82)	(1.18)
Panel B: Priced Based Markup - Target Markup is estimated as [(Final Offer Price / P-2) – 1]				
All Deals				
Q1	Q2	Q3	Q4	Q1 – Q4
35.48%***	31.34%***	30.69%***	29.44%***	6.04%**
(12.87)	(30.96)	(26.77)	(33.14)	(2.34)
Non-Cash-Only Deals (Mixed and Stock-Only Deals)				
31.10%***	30.37%***	29.35%***	28.90%***	2.20%
(9.48)	(22.71)	(19.87)	(27.85)	(0.77)
Cash-Only Deals				
42.86%***	33.23%***	34.22%***	31.19%***	11.67%**
(8.76)	(22.88)	(23.21)	(18.35)	(2.13)

Table 4-40 Target CAR during the Announcement Period - by Baker and Wurgler Sentiment Index non-orthogonalized to Macro Factors (BWN)

The below table shows the Target CAR estimated over the announcement period [-1, +1] sorted across the four sentiment quartiles. The Cumulative Abnormal Return (CAR) is estimated as sum of the Abnormal Returns (AR) over the specified period. The AR is calculated as the difference between the realized return of the firm's stock and the expected return. The expected return is obtained using the market model ($r_{i,t} = \alpha + \beta\, r_{m,t}$). This latter is estimated using daily returns spanning 253 trading days before the announcement day to 43 days before the announcement day. CRSP Value weighted index was used as a proxy for the market. The deals within our sample are classified into four sentiment quartile based on the Baker and Wurgler Sentiment Index that is not orthogonalized to Macro Factors (BWN) associated with the deal. BWN levels are brought from professor Wurgler Website. For every deal, we estimated a sentiment measure that is equal to the weighted average sentiment index levels that are available during the deal's runup period. This latter spans 42 days before the announcement to 2 days before the announcement. The quartile cutoffs are estimated as per the sentiment original index spanning the period of our analysis: November 1981 till October 2015. Mergers and Acquisitions deals are downloaded from SDC. We limited our sample to Mergers, Acquisitions of Majority Interest and Acquisitions of Remaining Interest. We required that the deal have a reported final offer price on SDC and filtered out the top and bottom deals' percentile when sorted by per their offer premium in order to avoid outliers. The offer premium is estimated as the final offer price divided by the target stock price 42 trading days before the announcement day. We removed any offer that is not the first offer within a multibid contest. Deals fall into a multibid contest if bids on the same target are separated by less than 6 months from each other. We also filtered out any deal whose value is less than $10 Million dollar and whose target stock price on day -42 is less than $5. Deal value is brought from SDC. We have also used Target Cumulative Abnomral Return from the beginning of the Runup period till completion day or 126 days after the deal is completed (whichever is shorter) – we termed this variable as CAR-Base d-Premium. We require that both target and acquirer firms are public US listed firms with CRSP and Compustat data on both. We divided our sample into All, Non-Cash-Only (Mixed or Stock-Only) and Cash-Only based on the medium of exchange as reported by SDC. Price and Return data is brought from CRSP. For price based runup and markup, we followed Betton et al (2008) by dividing the target stock price 2 days before the announcement day by the target stock price 42 days before the announcement date and the Final Offer Price by the target stock price 2 days before the announcement respectively. For the CAR based runup and markup we estimated them as the CAR over [-42, -2] and [-1, +126] respectively. Size is the logarithm of the firm market cap 42 days before the announcement day. The firm market cap is obtained by multiplying the stock price by the number of shares outstanding (in $Millions). B/M is the ratio of the Book Value of the Firm`s equity divided by the Market Value of the Firm 42 days before the announcement. The Book value of the firm's equity is obtained following the approach of Fama and French (1993) by adding the book value of stockholders equity to the balance sheet deferred taxes and investment tax credit and subtracting the book value of preferred share – all data are brought from Compustat. Target (Acquirer) Turnover is estimated as the average of the Volume to Share Outstanding Ratio calculated over the interval spanning 166 days before the announcement to 42 days before the announcement (before the beginning of the runup period). Relying on SDC deals' data we created the following dummy variables: complete – whether the the deal was completed successfully or not, Hostile – whether the bidder attitude was hostile or not, Rumor – whether the deal followed a rumor or not, Tender – whether the deal was a tender offer or not, Toehold – whether the bidder had more than 5% ownership of the target at the deal's announcement, and NYSE/AMEX whether the deal is listed on NYSE, AMEX or not. If the target and acquirer share the same four-digit SIC code, the deal is considered a Horizontal deal. Firms' SIC codes are obtained from CRSP. Q1 – Q4 represents the mean difference between the quintile with lowest index level (Q1) and the quintile with highest index level (Q4). t-stat are reported underneath. The *,**,*** indicates significance at 10%, 5%, and 1% respectively.

All Deals				
Q1	Q2	Q3	Q4	Q1 – Q4
23.32%***	21.45%***	18.70%***	18.60%***	4.72%***
(25.34)	(32.1)	(31.07)	(28.61)	(4.31)
Non-Cash-Only Deals (Mixed and Stock-Only Deals)				
17.90%***	18.20%***	15.30%***	16.53%***	1.38%
(20.26)	(24.45)	(24.1)	(23.03)	(1.19)
Cash-Only Deals				
32.44%***	27.76%***	27.65%***	25.24%***	7.20%***
(17.72)	(21.94)	(21.55)	(18.22)	(3.07)

Table 4-41 Premium - by Baker and Wurgler Sentiment Index non-orthogonalized to Macro Factors (BWN)

The below table shows the Premium sorted across the four sentiment quartiles. The Cumulative Abnormal Return (CAR) is estimated as sum of the Abnormal Returns (AR) over the specified period. The AR is calculated as the difference between the realized return of the firm's stock and the expected return. The expected return is obtained using the market model ($r_{i,t} = \alpha + \beta\, r_{m,t}$). This latter is estimated using daily returns spanning 253 trading days before the announcement day to 43 days before the announcement day. CRSP Value weighted index was used as a proxy for the market. The deals within our sample are classified into four sentiment quartile based on the Baker and Wurgler Sentiment Index that is not orthogonalized to Macro Factors (BWN) associated with the deal. BWN levels are brought from professor Wurgler Website. For every deal, we estimated a sentiment measure that is equal to the weighted average sentiment index levels that are available during the deal's runup period. This latter spans 42 days before the announcement to 2 days before the announcement. The quartile cutoffs are estimated as per the sentiment original index spanning the period of our analysis: November 1981 till October 2015. Mergers and Acquisitions deals are downloaded from SDC. We limited our sample to Mergers, Acquisitions of Majority Interest and Acquisitions of Remaining Interest. We required that the deal have a reported final offer price on SDC and filtered out the top and bottom deals' percentile when sorted by per their offer premium in order to avoid outliers. The offer premium is estimated as the final offer price divided by the target stock price 42 trading days before the announcement day. We removed any offer that is not the first offer within a multibid contest. Deals fall into a multibid contest if bids on the same target are separated by less than 6 months from each other. We also filtered out any deal whose value is less than $10 Million dollar and whose target stock price on day -42 is less than $5. Deal value is brought from SDC. We have also used Target Cumulative Abnomral Return from the beginning of the Runup period till completion day or 126 days after the deal is completed (whichever is shorter) – we termed this variable as CAR-Base d-Premium. We require that both target and acquirer firms are public US listed firms with CRSP and Compustat data on both. We divided our sample into All, Non-Cash-Only (Mixed or Stock-Only) and Cash-Only based on the medium of exchange as reported by SDC. Price and Return data is brought from CRSP. For price based runup and markup, we followed Betton et al (2008) by dividing the target stock price 2 days before the announcement day by the target stock price 42 days before the announcement date and the Final Offer Price by the target stock price 2 days before the announcement respectively. For the CAR based runup and markup we estimated them as the CAR over [-42, -2] and [-1, +126] respectively. Size is the logarithm of the firm market cap 42 days before the announcement day. The firm market cap is obtained by multiplying the stock price by the number of shares outstanding (in $Millions). B/M is the ratio of the Book Value of the Firm`s equity divided by the Market Value of the Firm 42 days before the announcement. The Book value of the firm's equity is obtained following the approach of Fama and French (1993) by adding the book value of stockholders equity to the balance sheet deferred taxes and investment tax credit and subtracting the book value of preferred share – all data are brought from Compustat. Target (Acquirer) Turnover is estimated as the average of the Volume to Share Outstanding Ratio calculated over the interval spanning 166 days before the announcement to 42 days before the announcement (before the beginning of the runup period). Relying on SDC deals' data we created the following dummy variables: complete – whether the the deal was completed successfully or not, Hostile – whether the bidder attitude was hostile or not, Rumor – whether the deal followed a rumor or not, Tender – whether the deal was a tender offer or not, Toehold – whether the bidder had more than 5% ownership of the target at the deal's announcement, and NYSE/AMEX whether the deal is listed on NYSE, AMEX or not. If the target and acquirer share the same four-digit SIC code, the deal is considered a Horizontal deal. Firms' SIC codes are obtained from CRSP. Q1 – Q4 represents the mean difference between the quintile with lowest index level (Q1) and the quintile with highest index level (Q4). t-stat are reported underneath. The *,**,*** indicates significance at 10%, 5%, and 1% respectively.

Panel A: Premium is estimated as the CAR of the target firm over [-42,+126] period				
All Deals				
Q1	Q2	Q3	Q4	Q1 – Q4
21.51%***	27.08%***	20.17%***	24.10%***	-2.60%
(12.77)	(20.68)	(15.95)	(16.69)	(-1.17)
Non-Cash-Only Deals (Mixed and Stock-Only Deals)				
15.10%***	24.22%***	15.07%***	20.82%***	-5.72%**
(7.18)	(14.27)	(10.01)	(12.14)	(-2.08)
Cash-Only Deals				
32.30%***	32.66%***	33.59%***	34.62%***	-2.32%
(12.07)	(16.67)	(15.61)	(14.13)	(-0.63)
Panel B: Priced Based Premium - Target Markup is estimated as [(Final Offer Price / P-42) – 1]				
All Deals				
Q1	Q2	Q3	Q4	Q1 – Q4
43.70%***	39.78%***	38.72%***	40.50%***	3.20%
(14.87)	(30.9)	(30.03)	(33.57)	(1.11)
Non-Cash-Only Deals (Mixed and Stock-Only Deals)				
38.04%***	38.88%***	36.33%***	38.69%***	-0.65%
(11.76)	(22.37)	(22.12)	(27.72)	(-0.21)
Cash-Only Deals				
53.21%***	41.53%***	45.02%***	46.28%***	6.93%
(9.4)	(24.21)	(25.63)	(19.66)	(1.08)

Table 4-42 Logistic Model Estimation of the Probability that the deal will be a cash-only offer versus a deal being a non-cash-only offer

The Baker and Wurgler Sentiment Index that is not orthogonalized to Macro variables (BWN) associated with the deal are brought from professor Wurgler Website. For every deal, we estimated a sentiment measure that is equal to the weighted average sentiment index levels that are available during the deal's runup period. This latter spans 42 days before the announcement to 2 days before the announcement. The quartile cutoffs are estimated as per the sentiment original index spanning the period of our analysis: November 1981 till October 2015. Mergers and Acquisitions deals are downloaded from SDC. We limited our sample to Mergers, Acquisitions of Majority Interest and Acquisitions of Remaining Interest. We required that the deal have a reported final offer price on SDC and filtered out the top and bottom deals' percentile when sorted by per their offer premium in order to avoid outliers. The offer premium is estimated as the final offer price divided by the target stock price 42 trading days before the announcement day. We removed any offer that is not the first offer within a multibid contest. Deals fall into a multibid contest if bids on the same target are separated by less than 6 months from each other. We also filtered out any deal whose value is less than $10 Million dollar and whose target stock price on day -42 is less than $5. Deal value is brought from SDC. We require that both target and acquirer firms are public US listed firms with CRSP and Compustat data on both. We divided our sample into All, Non-Cash-Only (Mixed or Stock-Only) and Cash-Only based on the medium of exchange as reported by SDC. Size is the logarithm of the firm market cap 42 days before the announcement day. The firm market cap is obtained by multiplying the stock price by the number of shares outstanding (in $Millions). B/M is the ratio of the Book Value of the Firm's equity divided by the Market Value of the Firm 42 days before the announcement. The Book value of the firm's equity is obtained following the approach of Fama and French (1993) by adding the book value of stockholders equity to the balance sheet deferred taxes and investment tax credit and subtracting the book value of preferred share – all data are brought from Compustat. Target (Acquirer) Turnover is estimated as the average of the Volume to Share Outstanding Ratio calculated over the interval spanning 166 days before the announcement to 42 days before the announcement (before the beginning of the runup period). Relying on SDC deals' data we created the following dummy variables: complete – whether the the deal was completed successfully or not, Hostile – whether the bidder attitude was hostile or not, Rumor – whether the deal followed a rumor or not, Tender – whether the deal was a tender offer or not, Toehold – whether the bidder had more than 5% ownership of the target at the deal's announcement, and NYSE/AMEX whether the deal is listed on NYSE, AMEX or not. If the target and acquirer share the same four-digit SIC code, the deal is considered a Horizontal deal. Firms' SIC codes are obtained from CRSP. The p-values are given underneath and are the MLE p-values. The *, **, *** indicate significance at 1%, 5%, and 10% respectively.

	1	2	3
Constant	-0.7523***	4.5584***	5.8968***
(p-value)	(<.0001)	(<.0001)	(<.0001)
BWN-Sentiment-Proxy	-0.345***	-0.509***	-0.5209***
(p-value)	(<.0001)	(<.0001)	(<.0001)
Target Size		-0.0214	-0.0235
(p-value)		(0.5385)	(0.5369)
Target Turnover		-0.00141	-0.0167**
(p-value)		(0.8107)	(0.0196)
Target NYSE/Amex		-0.051	-0.0586
(p-value)		(0.6255)	(0.6097)
Target B/M		-0.1113	0.1396
(p-value)		(0.2891)	(0.2583)
Bidder Turnover		0.000061	-0.0137*
(p-value)		(0.9911)	(0.0718)
Bidder NYSE/Amex		0.2363**	0.1701
(p-value)		(0.0201)	(0.1289)
Bidder B/M		0.124***	0.146**
(p-value)		(0.0079)	(0.0134)
Relative Size		-6.0369***	-6.4712***
(p-value)		(<.0001)	(<.0001)
Toehold Exist		0.5223*	0.3793*
(p-value)		(0.01)	(0.0788)
Horizontal		-0.2657*	-0.2335**
(p-value)		(0.0143)	(0.0444)
Tender Offer		2.7411***	2.4707***
(p-value)		(<.0001)	(<.0001)
Hostile		0.1093	0.2139
(p-value)		(0.6572)	(0.3941)
Multiple Bidders		0.0538	-0.0742
(p-value)		(0.725)	(0.6424)
Rumor		0.1845	0.1984
(p-value)		(0.3851)	(0.3752)
Pseudo-R^2	0.0094	0.2274	0.2810
Industry Dummies	No	No	Yes
Number of Cases	3705	3705	3705

Table 4-43 Cross-sectional Regression of Bidder CAR [-1,+1] on Baker and Wurgler Sentiment Index non-orthogonalized to Macro Factors (BWN)

The below table shows the results of the cross-sectional regressions of Bidder CAR estimated over the announcement period [-1,+1] on Baker and Wurgler Sentiment Index that is not orthogonalized to macro factors (BWN). The Cumulative Abnormal Return (CAR) is estimated as sum of the Abnormal Returns (AR) over the specified period. The AR is calculated as the difference between the realized return of the firm's stock and the expected return. The expected return is obtained using the market model ($r_{i,t} = \alpha + \beta\, r_{m,t}$). This latter is estimated using daily returns spanning 253 trading days before the announcement day to 43 days before the announcement day. CRSP Value weighted index was used as a proxy for the market. The Baker and Wurgler Sentiment Index that is not orthogonalized to Macro variables (BWN) associated with the deal are brought from professor Wurgler Website. For every deal, we estimated a sentiment measure that is equal to the weighted average sentiment index levels that are available during the deal's runup period. This latter spans 42 days before the announcement to 2 days before the announcement. The quartile cutoffs are estimated as per the sentiment original index spanning the period of our analysis: November 1981 till October 2015. Mergers and Acquisitions deals are downloaded from SDC. We limited our sample to Mergers, Acquisitions of Majority Interest and Acquisitions of Remaining Interest. We required that the deal have a reported final offer price on SDC and filtered out the top and bottom deals' percentile when sorted by their offer premium in order to avoid outliers. The offer premium is estimated as the final offer price divided by the target stock price 42 trading days before the announcement day. We removed any offer that is not the first offer within a multibid contest. Deals fall into a multibid contest if bids on the same target are separated by less than 6 months from each other. We also filtered out any deal whose value is less than $10 Million dollar and whose target stock price on day -42 is less than $5. Deal value is brought from SDC. We have also used Target Cumulative Abnomral Return from the beginning of the Runup period till completion day or 126 days after the deal is completed (whichever is shorter) – we termed this variable as CAR-Base d-Premium. We require that both target and acquirer firms are public US listed firms with CRSP and Compustat data on both. We divided our sample into All, Non-Cash-Only (Mixed or Stock-Only) and Cash-Only based on the medium of exchange as reported by SDC. Price and Return data is brought from CRSP. For price based runup and markup, we followed Betton et al (2008) by dividing the target stock price 2 days before the announcement day by the target stock price 42 days before the announcement date and the Final Offer Price by the target stock price 2 days before the announcement respectively. For the CAR based runup and markup we estimated them as the CAR over [-42, -2] and [-1, +126] respectively. Size is the logarithm of the firm market cap 42 days before the announcement day. The firm market cap is obtained by multiplying the stock price by the number of shares outstanding (in $Millions). B/M is the ratio of the Book Value of the Firm`s equity divided by the Market Value of the Firm 42 days before the announcement. The Book value of the firm's equity is obtained following the approach of Fama and French (1993) by adding the book value of stockholders equity to the balance sheet deferred taxes and investment tax credit and subtracting the book value of preferred share – all data are brought from Compustat. Target (Acquirer) Turnover is estimated as the average of the Volume to Share Outstanding Ratio calculated over the interval spanning 166 days before the announcement to 42 days before the announcement (before the beginning of the runup period). Relying on SDC deals' data we created the following dummy variables: complete – whether the deal was completed successfully or not, Hostile – whether the bidder attitude was hostile or not, Rumor – whether the deal followed a rumor or not, Tender – whether the deal was a tender offer or not, Toehold – whether the bidder had more than 5% ownership of the target at the deal's announcement, and NYSE/AMEX whether the deal is listed on NYSE, AMEX or not. If the target and acquirer share the same four-digit SIC code, the deal is considered a Horizontal deal. Relative size is the ratio of Target to Acquirer size. Firms' SIC codes are obtained from CRSP. Heteroscedasticity consistent white p-value are reported underneath. The *,**,*** indicates significance at 10%, 5%, and 1% respectively.

Deal-Type	All Deals		Non-Cash-Only		Cash-Only	
	1	2	3	4	5	6
Constant	-0.01226***	0.11334***	-0.02205***	0.17648***	0.00861***	0.08208
(p-value)	(<.0001)	(0.0054)	(<.0001)	(0.001)	(<.0001)	(0.1925)
BWN-Sentiment-Proxy	-0.00594***	-0.00562***	-0.00469*	-0.00674**	-0.00141	-0.00084153
(p-value)	(0.0068)	(0.0098)	(0.0863)	(0.0147)	(0.6365)	(0.7736)
Bidder Size		-0.00359***		-0.00454***		-0.00351**
(p-value)		(<.0001)		(<.0001)		(0.0133)
Bidder Turnover		0.00001356		0.00003604		0.00012412
(p-value)		(0.8358)		(0.59)		(0.7589)
Bidder NYSE/Amex		0.00769**		0.01048***		0.00224
(p-value)		(0.0142)		(0.0061)		(0.6735)
Bidder B/M		0.0001651		0.00439**		-0.00043892
(p-value)		(0.8567)		(0.0478)		(0.655)
Target Turnover		-0.00054513***		-0.00065405***		0.00018183
(p-value)		(0.0063)		(0.0047)		(0.6161)
Target NYSE/Amex		-0.00018986		0.00254		-0.00287
(p-value)		(0.9516)		(0.5105)		(0.5856)
Target B/M		0.00268		-0.00613		0.01165**
(p-value)		(0.4292)		(0.1901)		(0.0406)
CAR [-42,-2] Target		0.0114		0.01499		-0.00548
(p-value)		(0.1515)		(0.1249)		(0.5881)
CAR [-1,+1] Target		0.02365***		0.04579***		-0.01738**
(p-value)		(0.0004)		(<.0001)		(0.0196)
Relative Size		-0.06614**		-0.13598***		0.01789
(p-value)		(0.0159)		(<.0001)		(0.7039)
Toehold Exist		0.00297		0.00475		0.00102
(p-value)		(0.6756)		(0.6361)		(0.915)
Horizontal		0.00094774		0.0007071		0.00155
(p-value)		(0.7748)		(0.8606)		(0.7794)
Tender Offer		0.0065		0.01319*		0.00348
(p-value)		(0.1268)		(0.0929)		(0.5367)
Cash Bid		0.02364***				
(p-value)		(<.0001)				
Hostile		-0.00366		0.0089		-0.01698
(p-value)		(0.5946)		(0.3004)		(0.1392)
Multiple Bidders		0.00523		0.00766		-0.00128
(p-value)		(0.3029)		(0.2504)		(0.8546)
Rumor		0.018***		0.02521***		0.00202
(p-value)		(0.0047)		(0.0036)		(0.8082)
Complete		0.00752		0.00567		0.00991
(p-value)		(0.1403)		(0.3207)		(0.3278)
Adj-R^2	0.0022	0.0827	0.0011	0.0753	-0.0007	0.1065
Industry Dummies	No	Yes	No	Yes	No	Yes
Number of Cases	3705	3705	2591	2591	1114	1114

Table 4-44 Cross-sectional Regression of Target Bargaining Power estimated over [-1, +1] interval on Baker and Wurgler Sentiment Index non-orthogonalized to Macro Factors (BWN)

The below table shows the results of the cross-sectional regressions of target bargaining power estimated over the interval [-1, +1] Baker and Wurgler Sentiment Index that is not orthogonalized to macro factors (BWN). The Bargaining power is estimated following Ahern et. Al (2013) as the ratio of the difference of Target and Acquirer Dollar Cumulative Abnormal Return (CAR) divided by the sum of Target and Acquirer market cap obtained 42 days before the announcement. The Dollar CARs are obtained as the sum of the dollar Abnormal Returns (AR). The dollar AR are estimated by multiplying the daily AR by the lagged daily market cap for the corresponding firm. The AR is calculated as the difference between the realized return of the firm's stock and the expected return. The expected return is obtained using the market model ($r_{i,t} = \alpha + \beta\, r_{m,t}$). This latter is estimated using daily returns spanning 253 trading days before the announcement day to 43 days before the announcement day. CRSP Value weighted index was used as a proxy for the market. The Baker and Wurgler Sentiment Index that is not orthogonalized to Macro variables (BWN) associated with the deal are brought from professor Wurgler Website. For every deal, we estimated a sentiment measure that is equal to the weighted average sentiment index levels that are available during the deal's runup period. This latter spans 42 days before the announcement to 2 days before the announcement. The quartile cutoffs are estimated as per the sentiment original index spanning the period of our analysis: November 1981 till October 2015. Mergers and Acquisitions deals are downloaded from SDC. We limited our sample to Mergers, Acquisitions of Majority Interest and Acquisitions of Remaining Interest. We required that the deal have a reported final offer price on SDC and filtered out the top and bottom deals' percentile when sorted by their offer premium in order to avoid outliers. The offer premium is estimated as the final offer price divided by the target stock price 42 trading days before the announcement day. We removed any offer that is not the first offer within a multibid contest. Deals fall into a multibid contest if bids on the same target are separated by less than 6 months from each other. We also filtered out any deal whose value is less than $10 Million dollar and whose target stock price on day -42 is less than $5. Deal value is brought from SDC. We have also used Target Cumulative Abnomral Return from the beginning of the Runup period till completion day or 126 days after the deal is completed (whichever is shorter) – we termed this variable as CAR-Base d-Premium. We require that both target and acquirer firms are public US listed firms with CRSP and Compustat data on both. We divided our sample into All, Non-Cash-Only (Mixed or Stock-Only) and Cash-Only based on the medium of exchange as reported by SDC. Price and Return data is brought from CRSP. For price based runup and markup, we followed Betton et al (2008) by dividing the target stock price 2 days before the announcement day by the target stock price 42 days before the announcement date and the Final Offer Price by the target stock price 2 days before the announcement respectively. For the CAR based runup and markup we estimated them as the CAR over [-42, -2] and [-1, +126] respectively. Size is the logarithm of the firm market cap 42 days before the announcement day. The firm market cap is obtained by multiplying the stock price by the number of shares outstanding (in $Millions). B/M is the ratio of the Book Value of the Firm`s equity divided by the Market Value of the Firm 42 days before the announcement. The Book value of the firm's equity is obtained following the approach of Fama and French (1993) by adding the book value of stockholders equity to the balance sheet deferred taxes and investment tax credit and subtracting the book value of preferred share – all data are brought from Compustat. Target (Acquirer) Turnover is estimated as the average of the Volume to Share Outstanding Ratio calculated over the interval spanning 166 days before the announcement to 42 days before the announcement (before the beginning of the runup period). Relying on SDC deals' data we created the following dummy variables: complete – whether the deal was completed successfully or not, Hostile – whether the bidder attitude was hostile or not, Rumor – whether the deal followed a rumor or not, Tender – whether the deal was a tender offer or not, Toehold – whether the bidder had more than 5% ownership of the target at the deal's announcement, and NYSE/AMEX whether the deal is listed on NYSE, AMEX or not. If the target and acquirer share the same four-digit SIC code, the deal is considered a Horizontal deal. Relative size is the ratio of Target to Acquirer size. Firms' SIC codes are obtained from CRSP. Heteroscedasticity consistent white p-value are reported underneath. The *,**,*** indicates significance at 10%, 5%, and 1% respectively.

Deal-Type	All Deals		Non-Cash-Only		Cash-Only	
	1	2	3	4	5	6
Constant	0.04353***	-0.27812***	0.0492***	-0.23764***	0.03168***	-0.3623***
(p-value)	(<.0001)	(<.0001)	(<.0001)	(<.0001)	(<.0001)	(<.0001)
BWN-Sentiment-Proxy	0.00031408	0.00173	-0.00183	0.00081371	0.00197	0.00119
(p-value)	(0.8685)	(0.3409)	(0.4045)	(0.7011)	(0.5949)	(0.7388)
Target Size		0.00135		0.00422***		-0.00308
(p-value)		(0.2044)		(0.0006)		(0.1382)
Target Turnover		0.00053599***		0.00050015***		0.00057904
(p-value)		(0.002)		(0.0046)		(0.2583)
Target NYSE/Amex		0.00133		-0.00335		0.0089*
(p-value)		(0.635)		(0.3181)		(0.0782)
Target B/M		0.00869**		0.01737***		0.0009107
(p-value)		(0.0222)		(<.0001)		(0.8496)
Bidder Turnover		-0.00006479		-0.00004498		-0.00005153
(p-value)		(0.397)		(0.4828)		(0.8963)
Bidder NYSE/Amex		-0.00597*		-0.00932**		0.00415
(p-value)		(0.0611)		(0.0117)		(0.4818)
Bidder B/M		0.00014498		-0.00141		0.00111
(p-value)		(0.8573)		(0.5045)		(0.3389)
Relative Size		0.30101***		0.21055***		0.46991***
(p-value)		(<.0001)		(<.0001)		(<.0001)
Toehold Exist		-0.01391**		-0.012		-0.02139**
(p-value)		(0.022)		(0.15)		(0.0173)
Horizontal		0.00459		0.00697**		0.00030286
(p-value)		(0.1508)		(0.0482)		(0.9673)
Tender Offer		0.00377		0.00099938		0.00634
(p-value)		(0.3332)		(0.8973)		(0.1818)
Cash Bid		-0.00971***				
(p-value)		(0.0022)				
Hostile		0.0285***		0.02574***		0.0208**
(p-value)		(<.0001)		(0.0048)		(0.0192)
Multiple Bidders		-0.00464		-0.0061		0.00304
(p-value)		(0.3031)		(0.2972)		(0.6361)
Rumor		-0.02386***		-0.0271***		-0.01692**
(p-value)		(<.0001)		(0.0002)		(0.0416)
Complete		0.00453		0.00478		0.00248
(p-value)		(0.2631)		(0.3137)		(0.7447)
Adj-R^2	-0.0003	0.1349	-0.0001	0.1043	-0.0007	0.2183
Industry Dummies	No	Yes	No	Yes	No	Yes
Number of Cases	3705	3705	2591	2591	1114	1114

Table 4-45 Cross-sectional Regression of Target Bargaining Power estimated over [-42, +1] interval on Baker and Wurgler Sentiment Index non-orthogonalized to Macro Factors (BWN)

The below table shows the results of the cross-sectional regressions of target bargaining power estimated over the interval [-42, +1] Baker and Wurgler Sentiment Index that is not orthogonalized to macro factors (BWN). The Bargaining power is estimated following Ahern et. Al (2013) as the ratio of the difference of Target and Acquirer Dollar Cumulative Abnormal Return (CAR) divided by the sum of Target and Acquirer market cap obtained 42 days before the announcement. The Dollar CARs are obtained as the sum of the dollar Abnormal Returns (AR). The dollar AR are estimated by multiplying the daily AR by the lagged daily market cap for the corresponding firm. The AR is calculated as the difference between the realized return of the firm's stock and the expected return. The expected return is obtained using the market model ($r_{i,t} = \alpha + \beta\, r_{m,t}$). This latter is estimated using daily returns spanning 253 trading days before the announcement day to 43 days before the announcement day. CRSP Value weighted index was used as a proxy for the market. The Baker and Wurgler Sentiment Index that is not orthogonalized to Macro variables (BWN) associated with the deal are brought from professor Wurgler Website. For every deal, we estimated a sentiment measure that is equal to the weighted average sentiment index levels that are available during the deal's runup period. This latter spans 42 days before the announcement to 2 days before the announcement. The quartile cutoffs are estimated as per the sentiment original index spanning the period of our analysis: November 1981 till October 2015. Mergers and Acquisitions deals are downloaded from SDC. We limited our sample to Mergers, Acquisitions of Majority Interest and Acquisitions of Remaining Interest. We required that the deal have a reported final offer price on SDC and filtered out the top and bottom deals' percentile when sorted by their offer premium in order to avoid outliers. The offer premium is estimated as the final offer price divided by the target stock price 42 trading days before the announcement day. We removed any offer that is not the first offer within a multibid contest. Deals fall into a multibid contest if bids on the same target are separated by less than 6 months from each other. We also filtered out any deal whose value is less than $10 Million dollar and whose target stock price on day -42 is less than $5. Deal value is brought from SDC. We have also used Target Cumulative Abnomral Return from the beginning of the Runup period till completion day or 126 days after the deal is completed (whichever is shorter) – we termed this variable as CAR-Base d-Premium. We require that both target and acquirer firms are public US listed firms with CRSP and Compustat data on both. We divided our sample into All, Non-Cash-Only (Mixed or Stock-Only) and Cash-Only based on the medium of exchange as reported by SDC. Price and Return data is brought from CRSP. For price based runup and markup, we followed Betton et al (2008) by dividing the target stock price 2 days before the announcement day by the target stock price 42 days before the announcement date and the Final Offer Price by the target stock price 2 days before the announcement respectively. For the CAR based runup and markup we estimated them as the CAR over [-42, -2] and [-1, +126] respectively. Size is the logarithm of the firm market cap 42 days before the announcement day. The firm market cap is obtained by multiplying the stock price by the number of shares outstanding (in $Millions). B/M is the ratio of the Book Value of the Firm`s equity divided by the Market Value of the Firm 42 days before the announcement. The Book value of the firm's equity is obtained following the approach of Fama and French (1993) by adding the book value of stockholders equity to the balance sheet deferred taxes and investment tax credit and subtracting the book value of preferred share – all data are brought from Compustat. Target (Acquirer) Turnover is estimated as the average of the Volume to Share Outstanding Ratio calculated over the interval spanning 166 days before the announcement to 42 days before the announcement (before the beginning of the runup period). Relying on SDC deals' data we created the following dummy variables: complete – whether the deal was completed successfully or not, Hostile – whether the bidder attitude was hostile or not, Rumor – whether the deal followed a rumor or not, Tender – whether the deal was a tender offer or not, Toehold – whether the bidder had more than 5% ownership of the target at the deal's announcement, and NYSE/AMEX whether the deal is listed on NYSE, AMEX or not. If the target and acquirer share the same four-digit SIC code, the deal is considered a Horizontal deal. Relative size is the ratio of Target to Acquirer size. Firms' SIC codes are obtained from CRSP. Heteroscedasticity consistent white p-value are reported underneath. The *,**,*** indicates significance at 10%, 5%, and 1% respectively.

Deal-Type	All Deals		Non-Cash-Only		Cash-Only	
	1	2	3	4	5	6
Constant	0.05161***	-0.26903***	0.05535***	-0.09186	0.04355***	-0.56452***
(p-value)	(<.0001)	(<.0001)	(<.0001)	(0.1489)	(<.0001)	(<.0001)
BWN-Sentiment-Proxy	0.00269	0.00455	0.00271	0.00552	-0.00055852	-0.00398
(p-value)	(0.446)	(0.2074)	(0.5057)	(0.1827)	(0.9381)	(0.5808)
Target Size		0.00192		0.00541**		-0.00437
(p-value)		(0.3523)		(0.0254)		(0.252)
Target Turnover		0.00034123		0.00024813		0.00131
(p-value)		(0.5031)		(0.6701)		(0.1133)
Target NYSE/Amex		-0.00047414		0.00229		-0.00788
(p-value)		(0.9364)		(0.7486)		(0.4482)
Target B/M		0.01003		0.02376**		0.00050651
(p-value)		(0.1439)		(0.0144)		(0.9556)
Bidder Turnover		0.0002518		0.00031691		-0.00026118
(p-value)		(0.4353)		(0.3127)		(0.7774)
Bidder NYSE/Amex		-0.01869***		-0.02431***		-0.0017
(p-value)		(0.0016)		(0.0003)		(0.8824)
Bidder B/M		-0.00343**		-0.00894		0.00018257
(p-value)		(0.0407)		(0.1244)		(0.9447)
Relative Size		0.2796***		0.05368		0.70324***
(p-value)		(<.0001)		(0.2687)		(<.0001)
Toehold Exist		-0.02964**		-0.02319		-0.05818***
(p-value)		(0.0245)		(0.1661)		(0.0075)
Horizontal		0.00299		0.00896		-0.0093
(p-value)		(0.6263)		(0.1941)		(0.4679)
Tender Offer		0.00983		0.01082		0.00848
(p-value)		(0.2214)		(0.4842)		(0.3783)
Cash Bid		-0.0076				
(p-value)		(0.2262)				
Hostile		0.03571***		0.00598		0.03979**
(p-value)		(0.0097)		(0.7623)		(0.0416)
Multiple Bidders		-0.02569***		-0.04212***		0.00763
(p-value)		(0.0089)		(0.0007)		(0.5965)
Rumor		0.01002		0.00668		0.01049
(p-value)		(0.2914)		(0.5613)		(0.5046)
Complete		-0.00064304		-0.00498		0.00226
(p-value)		(0.9373)		(0.5926)		(0.8891)
Adj-R^2	-0.0001	0.0465	-0.0002	0.0441	-0.0009	0.1278
Industry Dummies	No	Yes	No	Yes	No	Yes
Number of Cases	3705	3705	2591	2591	1114	1114

Table 4-46 Cross-sectional Regression of Target Bargaining Power estimated over [-42, +126] interval on Baker and Wurgler Sentiment Index non-orthogonalized to Macro Factors (BWN)

The below table shows the results of the cross-sectional regressions of target bargaining power estimated over the interval [-42, +126] Baker and Wurgler Sentiment Index that is not orthogonalized to macro factors (BWN). The Bargaining power is estimated following Ahern et. Al (2013) as the ratio of the difference of Target and Acquirer Dollar Cumulative Abnormal Return (CAR) divided by the sum of Target and Acquirer market cap obtained 42 days before the announcement. The Dollar CARs are obtained as the sum of the dollar Abnormal Returns (AR). The dollar AR are estimated by multiplying the daily AR by the lagged daily market cap for the corresponding firm. The AR is calculated as the difference between the realized return of the firm's stock and the expected return. The expected return is obtained using the market model ($r_{i,t} = \alpha + \beta\, r_{m,t}$). This latter is estimated using daily returns spanning 253 trading days before the announcement day to 43 days before the announcement day. CRSP Value weighted index was used as a proxy for the market. The Baker and Wurgler Sentiment Index that is not orthogonalized to Macro variables (BWN) associated with the deal are brought from professor Wurgler Website. For every deal, we estimated a sentiment measure that is equal to the weighted average sentiment index levels that are available during the deal's runup period. This latter spans 42 days before the announcement to 2 days before the announcement. The quartile cutoffs are estimated as per the sentiment original index spanning the period of our analysis: November 1981 till October 2015. Mergers and Acquisitions deals are downloaded from SDC. We limited our sample to Mergers, Acquisitions of Majority Interest and Acquisitions of Remaining Interest. We required that the deal have a reported final offer price on SDC and filtered out the top and bottom deals' percentile when sorted by their offer premium in order to avoid outliers. The offer premium is estimated as the final offer price divided by the target stock price 42 trading days before the announcement day. We removed any offer that is not the first offer within a multibid contest. Deals fall into a multibid contest if bids on the same target are separated by less than 6 months from each other. We also filtered out any deal whose value is less than $10 Million dollar and whose target stock price on day -42 is less than $5. Deal value is brought from SDC. We have also used Target Cumulative Abnomral Return from the beginning of the Runup period till completion day or 126 days after the deal is completed (whichever is shorter) – we termed this variable as CAR-Base d-Premium. We require that both target and acquirer firms are public US listed firms with CRSP and Compustat data on both. We divided our sample into All, Non-Cash-Only (Mixed or Stock-Only) and Cash-Only based on the medium of exchange as reported by SDC. Price and Return data is brought from CRSP. For price based runup and markup, we followed Betton et al (2008) by dividing the target stock price 2 days before the announcement day by the target stock price 42 days before the announcement date and the Final Offer Price by the target stock price 2 days before the announcement respectively. For the CAR based runup and markup we estimated them as the CAR over [-42, -2] and [-1, +126] respectively. Size is the logarithm of the firm market cap 42 days before the announcement day. The firm market cap is obtained by multiplying the stock price by the number of shares outstanding (in $Millions). B/M is the ratio of the Book Value of the Firm`s equity divided by the Market Value of the Firm 42 days before the announcement. The Book value of the firm's equity is obtained following the approach of Fama and French (1993) by adding the book value of stockholders equity to the balance sheet deferred taxes and investment tax credit and subtracting the book value of preferred share – all data are brought from Compustat. Target (Acquirer) Turnover is estimated as the average of the Volume to Share Outstanding Ratio calculated over the interval spanning 166 days before the announcement to 42 days before the announcement (before the beginning of the runup period). Relying on SDC deals' data we created the following dummy variables: complete – whether the deal was completed successfully or not, Hostile – whether the bidder attitude was hostile or not, Rumor – whether the deal followed a rumor or not, Tender – whether the deal was a tender offer or not, Toehold – whether the bidder had more than 5% ownership of the target at the deal's announcement, and NYSE/AMEX whether the deal is listed on NYSE, AMEX or not. If the target and acquirer share the same four-digit SIC code, the deal is considered a Horizontal deal. Relative size is the ratio of Target to Acquirer size. Firms' SIC codes are obtained from CRSP. Heteroscedasticity consistent white p-value are reported underneath. The *,**,*** indicates significance at 10%, 5%, and 1% respectively.

Deal-Type	All Deals		Non-Cash-Only		Cash-Only	
	1	2	3	4	5	6
Constant	0.09713***	0.03516	0.11356***	0.34405***	0.06224***	-0.55176***
(p-value)	(<.0001)	(0.7291)	(<.0001)	(0.004)	(<.0001)	(0.0008)
BWN-Sentiment-Proxy	0.00722	0.00472	0.00424	0.00295	0.0023	0.00366
(p-value)	(0.2899)	(0.5014)	(0.603)	(0.7222)	(0.8591)	(0.7895)
Target Size		-0.0047		-0.0024		-0.00774
(p-value)		(0.2079)		(0.5996)		(0.2094)
Target Turnover		0.00123		0.0013		0.00118
(p-value)		(0.174)		(0.2162)		(0.3508)
Target NYSE/Amex		0.00552		0.00693		0.01276
(p-value)		(0.6299)		(0.6312)		(0.4686)
Target B/M		-0.01798		-0.01566		-0.00917
(p-value)		(0.1778)		(0.4123)		(0.6166)
Bidder Turnover		0.00125		0.0013		0.00217
(p-value)		(0.2045)		(0.1647)		(0.1669)
Bidder NYSE/Amex		-0.04351***		-0.05483***		-0.00118
(p-value)		(0.0003)		(0.0002)		(0.9508)
Bidder B/M		-0.01637***		-0.03438**		-0.00672
(p-value)		(0.0001)		(0.0269)		(0.1954)
Relative Size		0.14823*		-0.17597*		0.74804***
(p-value)		(0.0943)		(0.093)		(<.0001)
Toehold Exist		-0.00555		-0.01301		-0.01786
(p-value)		(0.8116)		(0.6354)		(0.6652)
Horizontal		0.00193		0.01415		-0.02623
(p-value)		(0.8679)		(0.3088)		(0.1961)
Tender Offer		-0.01505		-0.02798		-0.00549
(p-value)		(0.2951)		(0.3478)		(0.7336)
Cash Bid		-0.0458***				
(p-value)		(0.0001)				
Hostile		0.07728***		0.03169		0.08607**
(p-value)		(0.004)		(0.3553)		(0.039)
Multiple Bidders		-0.02632		-0.04069		-0.00238
(p-value)		(0.1954)		(0.116)		(0.9294)
Rumor		0.00127		-0.00342		0.00263
(p-value)		(0.9437)		(0.8853)		(0.9128)
Complete		-0.03319*		-0.04129*		-0.02469
(p-value)		(0.0772)		(0.0682)		(0.4158)
Adj-R^2	0	0.0444	-0.0003	0.0537	-0.0009	0.0573
Industry Dummies	No	Yes	No	Yes	No	Yes
Number of Cases	3705	3705	2591	2591	1114	1114

Table 4-47 Cross-sectional Regression of Synergy estimated over [-1, +1] interval on Baker and Wurgler Sentiment Index non-orthogonalized to Macro Factors (BWN)

The below table shows the results of the cross-sectional regressions of synergy power estimated over the interval [-1, +1] on Baker and Wurgler Sentiment Index that is not orthogonalized to macro factors (BWN). Synergy is estimated as the ratio of the sum of Target and Acquirer Dollar Cumulative Abnormal Return (CAR) divided by the sum of Target and Acquirer market cap obtained 42 days before the announcement. The Dollar CARs are obtained as the sum of the dollar Abnormal Returns (AR). The dollar AR are estimated by multiplying the daily AR by the lagged daily market cap for the corresponding firm. The AR is calculated as the difference between the realized return of the firm's stock and the expected return. The expected return is obtained using the market model ($r_{i,t} = \alpha + \beta\, r_{m,t}$). This latter is estimated using daily returns spanning 253 trading days before the announcement day to 43 days before the announcement day. CRSP Value weighted index was used as a proxy for the market. The Baker and Wurgler Sentiment Index that is not orthogonalized to Macro variables (BWN) associated with the deal are brought from professor Wurgler Website. For every deal, we estimated a sentiment measure that is equal to the weighted average sentiment index levels that are available during the deal's runup period. This latter spans 42 days before the announcement to 2 days before the announcement. The quartile cutoffs are estimated as per the sentiment original index spanning the period of our analysis: November 1981 till October 2015. Mergers and Acquisitions deals are downloaded from SDC. We limited our sample to Mergers, Acquisitions of Majority Interest and Acquisitions of Remaining Interest. We required that the deal have a reported final offer price on SDC and filtered out the top and bottom deals' percentile when sorted by their offer premium in order to avoid outliers. The offer premium is estimated as the final offer price divided by the target stock price 42 trading days before the announcement day. We removed any offer that is not the first offer within a multibid contest. Deals fall into a multibid contest if bids on the same target are separated by less than 6 months from each other. We also filtered out any deal whose value is less than $10 Million dollar and whose target stock price on day -42 is less than $5. Deal value is brought from SDC. We have also used Target Cumulative Abnormal Return from the beginning of the Runup period till completion day or 126 days after the deal is completed (whichever is shorter) – we termed this variable as CAR-Base d-Premium. We require that both target and acquirer firms are public US listed firms with CRSP and Compustat data on both. We divided our sample into All, Non-Cash-Only (Mixed or Stock-Only) and Cash-Only based on the medium of exchange as reported by SDC. Price and Return data is brought from CRSP. For price based runup and markup, we followed **Betton et al (2008)** by dividing the target stock price 2 days before the announcement day by the target stock price 42 days before the announcement date and the Final Offer Price by the target stock price 2 days before the announcement respectively. For the CAR based runup and markup we estimated them as the CAR over [-42, -2] and [-1, +126] respectively. Size is the logarithm of the firm market cap 42 days before the announcement day. The firm market cap is obtained by multiplying the stock price by the number of shares outstanding (in $Millions). B/M is the ratio of the Book Value of the Firm's equity divided by the Market Value of the Firm 42 days before the announcement. The Book value of the firm's equity is obtained following the approach of Fama and French (1993) by adding the book value of stockholders equity to the balance sheet deferred taxes and investment tax credit and subtracting the book value of preferred share – all data are brought from Compustat. Target (Acquirer) Turnover is estimated as the average of the Volume to Share Outstanding Ratio calculated over the interval spanning 166 days before the announcement to 42 days before the announcement (before the beginning of the runup period). Relying on SDC deals' data we created the following dummy variables: complete – whether the deal was completed successfully or not, Hostile – whether the bidder attitude was hostile or not, Rumor – whether the deal followed a rumor or not, Tender – whether the deal was a tender offer or not, Toehold – whether the bidder had more than 5% ownership of the target at the deal's announcement, and NYSE/AMEX whether the deal is listed on NYSE, AMEX or not. If the target and acquirer share the same four-digit SIC code, the deal is considered a Horizontal deal. Relative size is the ratio of Target to Acquirer size. Firms' SIC codes are obtained from CRSP. Heteroscedasticity consistent white p-value are reported underneath. The *,**,*** indicates significance at 10%, 5%, and 1% respectively.

Deal-Type	All Deals		Non-Cash-Only		Cash-Only	
	1	2	3	4	5	6
Constant	0.02293***	-0.20086***	0.01277***	-0.10858***	0.04467***	-0.32396***
(p-value)	(<.0001)	(<.0001)	(<.0001)	(0.0047)	(<.0001)	(<.0001)
BWN-Sentiment-Proxy	-0.00655***	-0.00455**	-0.00569**	-0.00611***	-0.00054717	-0.00036337
(p-value)	(0.0012)	(0.0202)	(0.0156)	(0.0089)	(0.8878)	(0.9166)
Target Size		-0.00471***		-0.00399***		-0.00835***
(p-value)		(<.0001)		(0.0027)		(<.0001)
Target Turnover		-0.00037133*		-0.00063033**		0.00091801**
(p-value)		(0.0891)		(0.0143)		(0.0353)
Target NYSE/Amex		0.00407		0.00514		0.0054
(p-value)		(0.1977)		(0.1959)		(0.2463)
Target B/M		0.01291***		0.00913*		0.01673***
(p-value)		(0.0005)		(0.059)		(0.0084)
Bidder Turnover		-0.000065		-0.00001766		0.00008389
(p-value)		(0.288)		(0.755)		(0.825)
Bidder NYSE/Amex		0.00562*		0.00568		0.00777
(p-value)		(0.0964)		(0.1483)		(0.1543)
Bidder B/M		0.00021387		0.00513**		-0.00000313
(p-value)		(0.8482)		(0.0323)		(0.9978)
Relative Size		0.3286***		0.19073***		0.58133***
(p-value)		(<.0001)		(<.0001)		(<.0001)
Toehold Exist		-0.00898		0.00115		-0.02323**
(p-value)		(0.1745)		(0.895)		(0.022)
Horizontal		0.00351		0.00337		0.00605
(p-value)		(0.2993)		(0.3916)		(0.3466)
Tender Offer		0.01185***		0.02626***		0.00117
(p-value)		(0.0025)		(0.002)		(0.7838)
Cash Bid		0.03261***				
(p-value)		(<.0001)				
Hostile		0.02259***		0.04318***		-0.00006838
(p-value)		(0.001)		(<.0001)		(0.9939)
Multiple Bidders		0.00128		0.0025		-0.00081747
(p-value)		(0.7887)		(0.6817)		(0.9015)
Rumor		0.00058175		0.00747		-0.01194
(p-value)		(0.9213)		(0.3524)		(0.106)
Complete		0.01244***		0.00885*		0.0223***
(p-value)		(0.0035)		(0.0786)		(0.0012)
Adj-R^2	0.0024	0.1575	0.0018	0.0847	-0.0009	0.3555
Industry Dummies	No	Yes	No	Yes	No	Yes
Number of Cases	3705	3705	2591	2591	1114	1114

Table 4-48 Cross-sectional Regression of Synergy estimated over [-42, +1] interval on Baker and Wurgler Sentiment Index non-orthogonalized to Macro Factors (BWN)

The below table shows the results of the cross-sectional regressions of synergy power estimated over the interval [-42, +1] on Baker and Wurgler Sentiment Index that is not orthogonalized to macro factors (BWN). Synergy is estimated as the ratio of the sum of Target and Acquirer Dollar Cumulative Abnormal Return (CAR) divided by the sum of Target and Acquirer market cap obtained 42 days before the announcement. The Dollar CARs are obtained as the sum of the dollar Abnormal Returns (AR). The dollar AR are estimated by multiplying the daily AR by the lagged daily market cap for the corresponding firm. The AR is calculated as the difference between the realized return of the firm's stock and the expected return. The expected return is obtained using the market model ($r_{i,t} = \alpha + \beta\, r_{m,t}$). This latter is estimated using daily returns spanning 253 trading days before the announcement day to 43 days before the announcement day. CRSP Value weighted index was used as a proxy for the market. The Baker and Wurgler Sentiment Index that is not orthogonalized to Macro variables (BWN) associated with the deal are brought from professor Wurgler Website. For every deal, we estimated a sentiment measure that is equal to the weighted average sentiment index levels that are available during the deal's runup period. This latter spans 42 days before the announcement to 2 days before the announcement. The quartile cutoffs are estimated as per the sentiment original index spanning the period of our analysis: November 1981 till October 2015. Mergers and Acquisitions deals are downloaded from SDC. We limited our sample to Mergers, Acquisitions of Majority Interest and Acquisitions of Remaining Interest. We required that the deal have a reported final offer price on SDC and filtered out the top and bottom deals' percentile when sorted by their offer premium in order to avoid outliers. The offer premium is estimated as the final offer price divided by the target stock price 42 trading days before the announcement day. We removed any offer that is not the first offer within a multibid contest. Deals fall into a multibid contest if bids on the same target are separated by less than 6 months from each other. We also filtered out any deal whose value is less than $10 Million dollar and whose target stock price on day -42 is less than $5. Deal value is brought from SDC. We have also used Target Cumulative Abnomral Return from the beginning of the Runup period till completion day or 126 days after the deal is completed (whichever is shorter) – we termed this variable as CAR-Base d-Premium. We require that both target and acquirer firms are public US listed firms with CRSP and Compustat data on both. We divided our sample into All, Non-Cash-Only (Mixed or Stock-Only) and Cash-Only based on the medium of exchange as reported by SDC. Price and Return data is brought from CRSP. For price based runup and markup, we followed Betton et al (2008) by dividing the target stock price 2 days before the announcement day by the target stock price 42 days before the announcement date and the Final Offer Price by the target stock price 2 days before the announcement respectively. For the CAR based runup and markup we estimated them as the CAR over [-42, -2] and [-1, +126] respectively. Size is the logarithm of the firm market cap 42 days before the announcement day. The firm market cap is obtained by multiplying the stock price by the number of shares outstanding (in $Millions). B/M is the ratio of the Book Value of the Firm's equity divided by the Market Value of the Firm 42 days before the announcement. The Book value of the firm's equity is obtained following the approach of Fama and French (1993) by adding the book value of stockholders equity to the balance sheet deferred taxes and investment tax credit and subtracting the book value of preferred share – all data are brought from Compustat. Target (Acquirer) Turnover is estimated as the average of the Volume to Share Outstanding Ratio calculated over the interval spanning 166 days before the announcement to 42 days before the announcement (before the beginning of the runup period). Relying on SDC deals' data we created the following dummy variables: complete – whether the deal was completed successfully or not, Hostile – whether the bidder attitude was hostile or not, Rumor – whether the deal followed a rumor or not, Tender – whether the deal was a tender offer or not, Toehold – whether the bidder had more than 5% ownership of the target at the deal's announcement, and NYSE/AMEX whether the deal is listed on NYSE, AMEX or not. If the target and acquirer share the same four-digit SIC code, the deal is considered a Horizontal deal. Relative size is the ratio of Target to Acquirer size. Firms' SIC codes are obtained from CRSP. Heteroscedasticity consistent white p-value are reported underneath. The *,**,*** indicates significance at 10%, 5%, and 1% respectively.

Deal-Type	All Deals		Non-Cash-Only		Cash-Only	
	1	2	3	4	5	6
Constant	0.02437***	-0.23263***	0.0128***	-0.16594**	0.04976***	-0.34105***
(p-value)	(<.0001)	(0.0002)	(0.0005)	(0.026)	(<.0001)	(0.0003)
BWN-Sentiment-Proxy	-0.00909**	-0.00699*	-0.01174**	-0.01387***	0.00873	0.01113
(p-value)	(0.025)	(0.0842)	(0.0154)	(0.0043)	(0.2417)	(0.1305)
Target Size		-0.00847***		-0.00709**		-0.0126***
(p-value)		(0.0005)		(0.0176)		(0.0008)
Target Turnover		-0.00080783		-0.00134		0.00139*
(p-value)		(0.2256)		(0.1097)		(0.0752)
Target NYSE/Amex		0.00742		-0.00007447		0.02817***
(p-value)		(0.2892)		(0.9933)		(0.0078)
Target B/M		0.03016***		0.02532**		0.03154**
(p-value)		(0.0007)		(0.0314)		(0.0145)
Bidder Turnover		-0.00042988		-0.00037065		-0.0001078
(p-value)		(0.1355)		(0.2317)		(0.9052)
Bidder NYSE/Amex		0.02***		0.01941**		0.02439**
(p-value)		(0.0036)		(0.0195)		(0.0349)
Bidder B/M		0.00221		0.01427**		0.00014458
(p-value)		(0.2964)		(0.0108)		(0.947)
Relative Size		0.4319***		0.27475***		0.70867***
(p-value)		(<.0001)		(<.0001)		(<.0001)
Toehold Exist		-0.01521		-0.01056		-0.01847
(p-value)		(0.2953)		(0.5861)		(0.3981)
Horizontal		0.00696		0.00475		0.01581
(p-value)		(0.343)		(0.5881)		(0.2191)
Tender Offer		0.00884		0.0177		0.00165
(p-value)		(0.3012)		(0.3478)		(0.8631)
Cash Bid		0.04108***				
(p-value)		(<.0001)				
Hostile		0.0389**		0.083***		-0.0057
(p-value)		(0.0129)		(0.0002)		(0.7994)
Multiple Bidders		0.008		0.01618		-0.0107
(p-value)		(0.4588)		(0.2443)		(0.4505)
Rumor		0.00605		0.01485		-0.00927
(p-value)		(0.5985)		(0.3303)		(0.5757)
Complete		0.03416***		0.03641***		0.03365**
(p-value)		(0.0004)		(0.0018)		(0.0386)
Adj-R^2	0.0009	0.0757	0.0016	0.0572	0.0003	0.1426
Industry Dummies	No	Yes	No	Yes	No	Yes
Number of Cases	3705	3705	2591	2591	1114	1114

Table 4-49 Cross-sectional Regression of Synergy estimated over [-42, +126] interval on Baker and Wurgler Sentiment Index non-orthogonalized to Macro Factors (BWN)

The below table shows the results of the cross-sectional regressions of synergy power estimated over the interval [-42, +126] on Baker and Wurgler Sentiment Index that is not orthogonalized to macro factors (BWN). Synergy is estimated as the ratio of the sum of Target and Acquirer Dollar Cumulative Abnormal Return (CAR) divided by the sum of Target and Acquirer market cap obtained 42 days before the announcement. The Dollar CARs are obtained as the sum of the dollar Abnormal Returns (AR). The dollar AR are estimated by multiplying the daily AR by the lagged daily market cap for the corresponding firm. The AR is calculated as the difference between the realized return of the firm's stock and the expected return. The expected return is obtained using the market model ($r_{i,t} = \alpha + \beta\, r_{m,t}$). This latter is estimated using daily returns spanning 253 trading days before the announcement day to 43 days before the announcement day. CRSP Value weighted index was used as a proxy for the market. The Baker and Wurgler Sentiment Index that is not orthogonalized to Macro variables (BWN) associated with the deal are brought from professor Wurgler Website. For every deal, we estimated a sentiment measure that is equal to the weighted average sentiment index levels that are available during the deal's runup period. This latter spans 42 days before the announcement to 2 days before the announcement. The quartile cutoffs are estimated as per the sentiment original index spanning the period of our analysis: November 1981 till October 2015. Mergers and Acquisitions deals are downloaded from SDC. We limited our sample to Mergers, Acquisitions of Majority Interest and Acquisitions of Remaining Interest. We required that the deal have a reported final offer price on SDC and filtered out the top and bottom deals' percentile when sorted by their offer premium in order to avoid outliers. The offer premium is estimated as the final offer price divided by the target stock price 42 trading days before the announcement day. We removed any offer that is not the first offer within a multibid contest. Deals fall into a multibid contest if bids on the same target are separated by less than 6 months from each other. We also filtered out any deal whose value is less than $10 Million dollar and whose target stock price on day -42 is less than $5. Deal value is brought from SDC. We have also used Target Cumulative Abnomral Return from the beginning of the Runup period till completion day or 126 days after the deal is completed (whichever is shorter) – we termed this variable as CAR-Base d-Premium. We require that both target and acquirer firms are public US listed firms with CRSP and Compustat data on both. We divided our sample into All, Non-Cash-Only (Mixed or Stock-Only) and Cash-Only based on the medium of exchange as reported by SDC. Price and Return data is brought from CRSP. For price based runup and markup, we followed Betton et al (2008) by dividing the target stock price 2 days before the announcement day by the target stock price 42 days before the announcement date and the Final Offer Price by the target stock price 2 days before the announcement respectively. For the CAR based runup and markup we estimated them as the CAR over [-42, -2] and [-1, +126] respectively. Size is the logarithm of the firm market cap 42 days before the announcement day. The firm market cap is obtained by multiplying the stock price by the number of shares outstanding (in $Millions). B/M is the ratio of the Book Value of the Firm's equity divided by the Market Value of the Firm 42 days before the announcement. The Book value of the firm's equity is obtained following the approach of Fama and French (1993) by adding the book value of stockholders equity to the balance sheet deferred taxes and investment tax credit and subtracting the book value of preferred share – all data are brought from Compustat. Target (Acquirer) Turnover is estimated as the average of the Volume to Share Outstanding Ratio calculated over the interval spanning 166 days before the announcement to 42 days before the announcement (before the beginning of the runup period). Relying on SDC deals' data we created the following dummy variables: complete – whether the deal was completed successfully or not, Hostile – whether the bidder attitude was hostile or not, Rumor – whether the deal followed a rumor or not, Tender – whether the deal was a tender offer or not, Toehold – whether the bidder had more than 5% ownership of the target at the deal's announcement, and NYSE/AMEX whether the deal is listed on NYSE, AMEX or not. If the target and acquirer share the same four-digit SIC code, the deal is considered a Horizontal deal. Relative size is the ratio of Target to Acquirer size. Firms' SIC codes are obtained from CRSP. Heteroscedasticity consistent white p-value are reported underneath. The *,**,*** indicates significance at 10%, 5%, and 1% respectively.

Deal-Type	All Deals		Non-Cash-Only		Cash-Only	
	1	2	3	4	5	6
Constant	-0.02918***	-0.66229***	-0.0571***	-0.63191***	0.0313***	-0.62254***
(p-value)	(<.0001)	(<.0001)	(<.0001)	(<.0001)	(0.0001)	(0.0009)
BWN-Sentiment-Proxy	-0.01838**	-0.01203	-0.02023**	-0.02151**	0.01084	0.01387
(p-value)	(0.0257)	(0.1444)	(0.0492)	(0.0368)	(0.3964)	(0.2791)
Target Size		0.00236		0.00529		-0.0066
(p-value)		(0.6212)		(0.368)		(0.3323)
Target Turnover		-0.00328***		-0.00466***		0.00327**
(p-value)		(0.0029)		(0.0009)		(0.0128)
Target NYSE/Amex		0.0078		-0.0042		0.02582
(p-value)		(0.5737)		(0.8166)		(0.1697)
Target B/M		0.12218***		0.1429***		0.08614***
(p-value)		(<.0001)		(<.0001)		(0.0001)
Bidder Turnover		-0.00117		-0.00106		-0.0016
(p-value)		(0.2719)		(0.3136)		(0.3167)
Bidder NYSE/Amex		0.04864***		0.05608***		0.02864
(p-value)		(0.0006)		(0.0016)		(0.1536)
Bidder B/M		0.01849***		0.05111***		0.00826
(p-value)		(0.0015)		(0.0065)		(0.1132)
Relative Size		0.47695***		0.30339**		0.77641***
(p-value)		(<.0001)		(0.0129)		(<.0001)
Toehold Exist		-0.02066		0.0209		-0.09307**
(p-value)		(0.5042)		(0.6127)		(0.0257)
Horizontal		0.02482*		0.02596		0.02787
(p-value)		(0.0959)		(0.1599)		(0.2031)
Tender Offer		0.02788*		0.0418		0.01377
(p-value)		(0.0647)		(0.1965)		(0.3929)
Cash Bid		0.08388***				
(p-value)		(<.0001)				
Hostile		0.10012***		0.13648***		0.07367
(p-value)		(0.0021)		(0.0029)		(0.1428)
Multiple Bidders		0.06349***		0.06538**		0.05019*
(p-value)		(0.0065)		(0.025)		(0.0776)
Rumor		-0.00966		-0.00573		-0.01539
(p-value)		(0.6934)		(0.8679)		(0.5639)
Complete		0.16755***		0.18007***		0.12803***
(p-value)		(<.0001)		(<.0001)		(<.0001)
Adj-R^2	0.0008	0.1013	0.0008	0.1046	-0.0003	0.088
Industry Dummies	No	Yes	No	Yes	No	Yes
Number of Cases	3705	3705	2591	2591	1114	1114

Table 4-50 . Cross-sectional Regression of Target Runup 'CAR[-42, -2]' on Baker and Wurgler Sentiment Index non-orthogonalized to Macro Factors (BWN)

The below table shows the results of the cross-sectional regressions of Target CAR estimated over the runup period on Baker and Wurgler Sentiment Index that is not orthogonalized to macro factors (BWN). The Cumulative Abnormal Return (CAR) is estimated as sum of the Abnormal Returns (AR) over the specified period. The AR is calculated as the difference between the realized return of the firm's stock and the expected return. The expected return is obtained using the market model ($r_{i,t} = \alpha + \beta\, r_{m,t}$). This latter is estimated using daily returns spanning 253 trading days before the announcement day to 43 days before the announcement day. CRSP Value weighted index was used as a proxy for the market. The Baker and Wurgler Sentiment Index that is not orthogonalized to Macro variables (BWN) associated with the deal are brought from professor Wurgler Website. For every deal, we estimated a sentiment measure that is equal to the weighted average sentiment index levels that are available during the deal's runup period. This latter spans 42 days before the announcement to 2 days before the announcement. The quartile cutoffs are estimated as per the sentiment original index spanning the period of our analysis: November 1981 till October 2015. Mergers and Acquisitions deals are downloaded from SDC. We limited our sample to Mergers, Acquisitions of Majority Interest and Acquisitions of Remaining Interest. We required that the deal have a reported final offer price on SDC and filtered out the top and bottom deals' percentile when sorted by their offer premium in order to avoid outliers. The offer premium is estimated as the final offer price divided by the target stock price 42 trading days before the announcement day. We removed any offer that is not the first offer within a multibid contest. Deals fall into a multibid contest if bids on the same target are separated by less than 6 months from each other. We also filtered out any deal whose value is less than $10 Million dollar and whose target stock price on day -42 is less than $5. Deal value is brought from SDC. We have also used Target Cumulative Abnomral Return from the beginning of the Runup period till completion day or 126 days after the deal is completed (whichever is shorter) – we termed this variable as CAR-Base d-Premium. We require that both target and acquirer firms are public US listed firms with CRSP and Compustat data on both. We divided our sample into All, Non-Cash-Only (Mixed or Stock-Only) and Cash-Only based on the medium of exchange as reported by SDC. Price and Return data is brought from CRSP. For price based runup and markup, we followed Betton et al (2008) by dividing the target stock price 2 days before the announcement day by the target stock price 42 days before the announcement date and the Final Offer Price by the target stock price 2 days before the announcement respectively. For the CAR based runup and markup we estimated them as the CAR over [-42, -2] and [-1, +126] respectively. Size is the logarithm of the firm market cap 42 days before the announcement day. The firm market cap is obtained by multiplying the stock price by the number of shares outstanding (in $Millions). B/M is the ratio of the Book Value of the Firm`s equity divided by the Market Value of the Firm 42 days before the announcement. The Book value of the firm's equity is obtained following the approach of Fama and French (1993) by adding the book value of stockholders equity to the balance sheet deferred taxes and investment tax credit and subtracting the book value of preferred share – all data are brought from Compustat. Target (Acquirer) Turnover is estimated as the average of the Volume to Share Outstanding Ratio calculated over the interval spanning 166 days before the announcement to 42 days before the announcement (before the beginning of the runup period). Relying on SDC deals' data we created the following dummy variables: complete – whether the deal was completed successfully or not, Hostile – whether the bidder attitude was hostile or not, Rumor – whether the deal followed a rumor or not, Tender – whether the deal was a tender offer or not, Toehold – whether the bidder had more than 5% ownership of the target at the deal's announcement, and NYSE/AMEX whether the deal is listed on NYSE, AMEX or not. If the target and acquirer share the same four-digit SIC code, the deal is considered a Horizontal deal. Relative size is the ratio of Target to Acquirer size. Firms' SIC codes are obtained from CRSP. Heteroscedasticity consistent white p-value are reported underneath. The *,**,*** indicates significance at 10%, 5%, and 1% respectively.

Deal-Type	All Deals		Non-Cash-Only		Cash-Only	
	1	2	3	4	5	6
Constant	0.0444***	0.29022***	0.03917***	0.27469***	0.05657***	0.32209***
(p-value)	(<.0001)	(<.0001)	(<.0001)	(0.0047)	(<.0001)	(0.0068)
BWN-Sentiment-Proxy	0.00999*	0.0092*	0.00472	0.00162	0.03031***	0.02516**
(p-value)	(0.0644)	(0.0898)	(0.4524)	(0.7959)	(0.0043)	(0.0203)
Target Size		-0.00594**		-0.00215		-0.01568***
(p-value)		(0.032)		(0.5014)		(0.0031)
Target Turnover		-0.00063387		-0.00104		0.0023**
(p-value)		(0.2729)		(0.1213)		(0.0217)
Target NYSE/Amex		-0.00729		-0.01212		0.00508
(p-value)		(0.3771)		(0.2334)		(0.7218)
Target B/M		0.0594***		0.07637***		0.03856**
(p-value)		(<.0001)		(<.0001)		(0.0402)
Relative Size		-0.22949***		-0.34338***		-0.00668
(p-value)		(<.0001)		(<.0001)		(0.9332)
Toehold Exist		-0.03479**		-0.03574*		-0.04374*
(p-value)		(0.0235)		(0.0523)		(0.097)
Horizontal		0.00691		0.01116		-0.00665
(p-value)		(0.3969)		(0.2537)		(0.6458)
Tender Offer		0.01242		0.00018937		0.00982
(p-value)		(0.2417)		(0.9927)		(0.4243)
Cash Bid		0.0008834				
(p-value)		(0.915)				
Hostile		0.00418		0.01544		-0.01746
(p-value)		(0.8367)		(0.5611)		(0.5629)
Multiple Bidders		-0.01518		-0.02776*		-0.00311
(p-value)		(0.2407)		(0.0831)		(0.8788)
Rumor		0.08546***		0.05942***		0.12049***
(p-value)		(<.0001)		(0.0017)		(<.0001)
Complete		0.03535***		0.04476***		0.00901
(p-value)		(0.0018)		(0.001)		(0.6163)
Adj-R^2	0.0008	0.0361	-0.0002	0.0418	0.0083	0.0525
Industry Dummies	No	Yes	No	Yes	No	Yes
Number of Cases	3705	3705	2591	2591	1114	1114

Table 4-51 Cross-sectional Regression of Target Runup '[(P-2 / P-42) - 1]' on Baker and Wurgler Sentiment Index non-orthogonalized to Macro Factors (BWN)

The below table shows the results of the cross-sectional regressions of Target Runup on Baker and Wurgler Sentiment Index that is not orthogonalized to macro factors (BWN). The Cumulative Abnormal Return (CAR) is estimated as sum of the Abnormal Returns (AR) over the specified period. The AR is calculated as the difference between the realized return of the firm's stock and the expected return. The expected return is obtained using the market model ($r_{i,t} = \alpha + \beta\, r_{m,t}$). This latter is estimated using daily returns spanning 253 trading days before the announcement day to 43 days before the announcement day. CRSP Value weighted index was used as a proxy for the market. The Baker and Wurgler Sentiment Index that is not orthogonalized to Macro variables (BWN) associated with the deal are brought from professor Wurgler Website. For every deal, we estimated a sentiment measure that is equal to the weighted average sentiment index levels that are available during the deal's runup period. This latter spans 42 days before the announcement to 2 days before the announcement. The quartile cutoffs are estimated as per the sentiment original index spanning the period of our analysis: November 1981 till October 2015. Mergers and Acquisitions deals are downloaded from SDC. We limited our sample to Mergers, Acquisitions of Majority Interest and Acquisitions of Remaining Interest. We required that the deal have a reported final offer price on SDC and filtered out the top and bottom deals' percentile when sorted by their offer premium in order to avoid outliers. The offer premium is estimated as the final offer price divided by the target stock price 42 trading days before the announcement day. We removed any offer that is not the first offer within a multibid contest. Deals fall into a multibid contest if bids on the same target are separated by less than 6 months from each other. We also filtered out any deal whose value is less than $10 Million dollar and whose target stock price on day -42 is less than $5. Deal value is brought from SDC. We have also used Target Cumulative Abnomral Return from the beginning of the Runup period till completion day or 126 days after the deal is completed (whichever is shorter) – we termed this variable as CAR-Base d-Premium. We require that both target and acquirer firms are public US listed firms with CRSP and Compustat data on both. We divided our sample into All, Non-Cash-Only (Mixed or Stock-Only) and Cash-Only based on the medium of exchange as reported by SDC. Price and Return data is brought from CRSP. For price based runup and markup, we followed Betton et al (2008) by dividing the target stock price 2 days before the announcement day by the target stock price 42 days before the announcement date and the Final Offer Price by the target stock price 2 days before the announcement respectively. For the CAR based runup and markup we estimated them as the CAR over [-42, -2] and [-1, +126] respectively. Size is the logarithm of the firm market cap 42 days before the announcement day. The firm market cap is obtained by multiplying the stock price by the number of shares outstanding (in $Millions). B/M is the ratio of the Book Value of the Firm`s equity divided by the Market Value of the Firm 42 days before the announcement. The Book value of the firm's equity is obtained following the approach of Fama and French (1993) by adding the book value of stockholders equity to the balance sheet deferred taxes and investment tax credit and subtracting the book value of preferred share – all data are brought from Compustat. Target (Acquirer) Turnover is estimated as the average of the Volume to Share Outstanding Ratio calculated over the interval spanning 166 days before the announcement to 42 days before the announcement (before the beginning of the runup period). Relying on SDC deals' data we created the following dummy variables: complete – whether the deal was completed successfully or not, Hostile – whether the bidder attitude was hostile or not, Rumor – whether the deal followed a rumor or not, Tender – whether the deal was a tender offer or not, Toehold – whether the bidder had more than 5% ownership of the target at the deal's announcement, and NYSE/AMEX whether the deal is listed on NYSE, AMEX or not. If the target and acquirer share the same four-digit SIC code, the deal is considered a Horizontal deal. Relative size is the ratio of Target to Acquirer size. Firms' SIC codes are obtained from CRSP. Heteroscedasticity consistent white p-value are reported underneath. The *,**,*** indicates significance at 10%, 5%, and 1% respectively.

Deal-Type	All Deals		Non-Cash-Only		Cash-Only	
	1	2	3	4	5	6
Constant	0.07543***	0.47081***	0.06996***	0.45783***	0.08768***	0.51106***
(p-value)	(<.0001)	(<.0001)	(<.0001)	(<.0001)	(<.0001)	(0.0001)
BWN-Sentiment-Proxy	0.00297	0.00118	0.00025889	-0.00465	0.01578	0.00926
(p-value)	(0.5828)	(0.8253)	(0.9668)	(0.4539)	(0.1432)	(0.4174)
Target Size		-0.00825***		-0.00487		-0.01775***
(p-value)		(0.0036)		(0.1584)		(0.0015)
Target Turnover		-0.00022562		-0.00055721		0.00185*
(p-value)		(0.6775)		(0.3591)		(0.0779)
Target NYSE/Amex		-0.0153*		-0.01913*		-0.00304
(p-value)		(0.0665)		(0.0637)		(0.8356)
Target B/M		0.01687		0.00926		0.02912
(p-value)		(0.1191)		(0.4821)		(0.1051)
Relative Size		-0.30323***		-0.41896***		-0.09947
(p-value)		(<.0001)		(<.0001)		(0.2613)
Toehold Exist		-0.05908***		-0.07579***		-0.04347*
(p-value)		(0.0002)		(0.0001)		(0.091)
Horizontal		-0.0056		-0.005		-0.01149
(p-value)		(0.4906)		(0.6069)		(0.4434)
Tender Offer		0.00063496		-0.00927		-0.00056967
(p-value)		(0.9537)		(0.6524)		(0.9652)
Cash Bid		-0.00202				
(p-value)		(0.8118)				
Hostile		-0.00583		-0.00111		-0.02186
(p-value)		(0.7682)		(0.9676)		(0.4482)
Multiple Bidders		-0.0067		-0.01668		-0.00256
(p-value)		(0.6061)		(0.3038)		(0.9044)
Rumor		0.09528***		0.0824***		0.11438***
(p-value)		(<.0001)		(0.0001)		(<.0001)
Complete		0.04479***		0.05064***		0.02796
(p-value)		(<.0001)		(<.0001)		(0.1444)
Adj-R^2	-0.0002	0.0379	-0.0004	0.0405	0.0014	0.0448
Industry Dummies	No	Yes	No	Yes	No	Yes
Number of Cases	3705	3705	2591	2591	1114	1114

Table 4-52 Cross-sectional Regression of Bidder CAR [-42,-2] on Baker and Wurgler Sentiment Index non-orthogonalized to Macro Factors (BWN)

The below table shows the results of the cross-sectional regressions of Bidder CAR estimated over the runup period on Baker and Wurgler Sentiment Index that is not orthogonalized to macro factors (BWN). The Cumulative Abnormal Return (CAR) is estimated as sum of the Abnormal Returns (AR) over the specified period. The AR is calculated as the difference between the realized return of the firm's stock and the expected return. The expected return is obtained using the market model ($r_{i,t} = \alpha + \beta\, r_{m,t}$). This latter is estimated using daily returns spanning 253 trading days before the announcement day to 43 days before the announcement day. CRSP Value weighted index was used as a proxy for the market. The Baker and Wurgler Sentiment Index that is not orthogonalized to Macro variables (BWN) associated with the deal are brought from professor Wurgler Website. For every deal, we estimated a sentiment measure that is equal to the weighted average sentiment index levels that are available during the deal's runup period. This latter spans 42 days before the announcement to 2 days before the announcement. The quartile cutoffs are estimated as per the sentiment original index spanning the period of our analysis: November 1981 till October 2015. Mergers and Acquisitions deals are downloaded from SDC. We limited our sample to Mergers, Acquisitions of Majority Interest and Acquisitions of Remaining Interest. We required that the deal have a reported final offer price on SDC and filtered out the top and bottom deals' percentile when sorted by their offer premium in order to avoid outliers. The offer premium is estimated as the final offer price divided by the target stock price 42 trading days before the announcement day. We removed any offer that is not the first offer within a multibid contest. Deals fall into a multibid contest if bids on the same target are separated by less than 6 months from each other. We also filtered out any deal whose value is less than $10 Million dollar and whose target stock price on day -42 is less than $5. Deal value is brought from SDC. We have also used Target Cumulative Abnomral Return from the beginning of the Runup period till completion day or 126 days after the deal is completed (whichever is shorter) – we termed this variable as CAR-Base d-Premium. We require that both target and acquirer firms are public US listed firms with CRSP and Compustat data on both. We divided our sample into All, Non-Cash-Only (Mixed or Stock-Only) and Cash-Only based on the medium of exchange as reported by SDC. Price and Return data is brought from CRSP. For price based runup and markup, we followed Betton et al (2008) by dividing the target stock price 2 days before the announcement day by the target stock price 42 days before the announcement date and the Final Offer Price by the target stock price 2 days before the announcement respectively. For the CAR based runup and markup we estimated them as the CAR over [-42, -2] and [-1, +126] respectively. Size is the logarithm of the firm market cap 42 days before the announcement day. The firm market cap is obtained by multiplying the stock price by the number of shares outstanding (in $Millions). B/M is the ratio of the Book Value of the Firm`s equity divided by the Market Value of the Firm 42 days before the announcement. The Book value of the firm's equity is obtained following the approach of Fama and French (1993) by adding the book value of stockholders equity to the balance sheet deferred taxes and investment tax credit and subtracting the book value of preferred share – all data are brought from Compustat. Target (Acquirer) Turnover is estimated as the average of the Volume to Share Outstanding Ratio calculated over the interval spanning 166 days before the announcement to 42 days before the announcement (before the beginning of the runup period). Relying on SDC deals' data we created the following dummy variables: complete – whether the deal was completed successfully or not, Hostile – whether the bidder attitude was hostile or not, Rumor – whether the deal followed a rumor or not, Tender – whether the deal was a tender offer or not, Toehold – whether the bidder had more than 5% ownership of the target at the deal's announcement, and NYSE/AMEX whether the deal is listed on NYSE, AMEX or not. If the target and acquirer share the same four-digit SIC code, the deal is considered a Horizontal deal. Relative size is the ratio of Target to Acquirer size. Firms' SIC codes are obtained from CRSP. Heteroscedasticity consistent white p-value are reported underneath. The *,**,*** indicates significance at 10%, 5%, and 1% respectively.

Deal-Type	All Deals		Non-Cash-Only		Cash-Only	
	1	2	3	4	5	6
Constant	-0.00075479	-0.07584	-0.00002651	-0.15504	-0.00172	0.04499
(p-value)	(0.7748)	(0.3668)	(0.9938)	(0.1399)	(0.662)	(0.7424)
BWN-Sentiment-Proxy	-0.00148	-0.003	-0.00502	-0.00611	0.00861	0.00892
(p-value)	(0.7072)	(0.4534)	(0.3032)	(0.2086)	(0.1743)	(0.2057)
Bidder Size		-0.00183		-0.0032		0.00008138
(p-value)		(0.3572)		(0.2032)		(0.9787)
Bidder Turnover		-0.00029665		-0.0003262		0.0001028
(p-value)		(0.3053)		(0.2684)		(0.9177)
Bidder NYSE/Amex		0.01004*		0.00955		0.01388
(p-value)		(0.0996)		(0.2024)		(0.1752)
Bidder B/M		0.00645***		0.01419*		0.0026
(p-value)		(0.0004)		(0.0508)		(0.1918)
Target Turnover		0.0000039		-0.00003998		0.00003595
(p-value)		(0.9945)		(0.9519)		(0.9567)
Target NYSE/Amex		0.00043725		-0.00637		0.01724*
(p-value)		(0.9457)		(0.4387)		(0.0851)
Target B/M		-0.00084105		-0.01605		0.01242
(p-value)		(0.9054)		(0.1482)		(0.1827)
CAR [-42,-2] Target		0.18389***		0.2236***		0.0989***
(p-value)		(<.0001)		(<.0001)		(0.0003)
CAR [-1,+1] Target		0.05758***		0.09963***		-0.00407
(p-value)		(<.0001)		(<.0001)		(0.8347)
Relative Size		0.1144**		0.20558***		-0.02783
(p-value)		(0.0296)		(0.0015)		(0.762)
Toehold Exist		0.0078		0.01101		0.01416
(p-value)		(0.5607)		(0.5269)		(0.5011)
Horizontal		-0.00132		-0.0041		0.00371
(p-value)		(0.8438)		(0.6114)		(0.7428)
Tender Offer		-0.00599		-0.00803		0.00617
(p-value)		(0.4612)		(0.6321)		(0.5474)
Cash Bid		-0.00284				
(p-value)		(0.6332)				
Hostile		0.00334		0.02812		-0.01905
(p-value)		(0.8196)		(0.1978)		(0.3699)
Multiple Bidders		0.01843*		0.03529***		-0.00912
(p-value)		(0.0596)		(0.005)		(0.5152)
Rumor		-0.0248**		-0.01938		-0.02567*
(p-value)		(0.0121)		(0.1277)		(0.0724)
Complete		0.00821		0.0143		-0.00967
(p-value)		(0.3987)		(0.2078)		(0.6164)
Adj-R^2	-0.0002	0.058	0	0.0856	0.0007	0.0177
Industry Dummies	No	Yes	No	Yes	No	Yes
Number of Cases	3705	3705	2591	2591	1114	1114

Table 4-53 Cross-sectional Regression of Target Markup 'CAR[-1, +126]' on Baker and Wurgler Sentiment Index non-orthogonalized to Macro Factors (BWN)

The below table shows the results of the cross-sectional regressions of Target CAR estimated over the markup period [-1, +126] on Baker and Wurgler Sentiment Index that is not orthogonalized to macro factors (BWN). The Cumulative Abnormal Return (CAR) is estimated as sum of the Abnormal Returns (AR) over the specified period. The AR is calculated as the difference between the realized return of the firm's stock and the expected return. The expected return is obtained using the market model ($r_{i,t} = \alpha + \beta\, r_{m,t}$). This latter is estimated using daily returns spanning 253 trading days before the announcement day to 43 days before the announcement day. CRSP Value weighted index was used as a proxy for the market. The Baker and Wurgler Sentiment Index that is not orthogonalized to Macro variables (BWN) associated with the deal are brought from professor Wurgler Website. For every deal, we estimated a sentiment measure that is equal to the weighted average sentiment index levels that are available during the deal's runup period. This latter spans 42 days before the announcement to 2 days before the announcement. The quartile cutoffs are estimated as per the sentiment original index spanning the period of our analysis: November 1981 till October 2015. Mergers and Acquisitions deals are downloaded from SDC. We limited our sample to Mergers, Acquisitions of Majority Interest and Acquisitions of Remaining Interest. We required that the deal have a reported final offer price on SDC and filtered out the top and bottom deals' percentile when sorted by their offer premium in order to avoid outliers. The offer premium is estimated as the final offer price divided by the target stock price 42 trading days before the announcement day. We removed any offer that is not the first offer within a multibid contest. Deals fall into a multibid contest if bids on the same target are separated by less than 6 months from each other. We also filtered out any deal whose value is less than $10 Million dollar and whose target stock price on day -42 is less than $5. Deal value is brought from SDC. We have also used Target Cumulative Abnomral Return from the beginning of the Runup period till completion day or 126 days after the deal is completed (whichever is shorter) – we termed this variable as CAR-Base d-Premium. We require that both target and acquirer firms are public US listed firms with CRSP and Compustat data on both. We divided our sample into All, Non-Cash-Only (Mixed or Stock-Only) and Cash-Only based on the medium of exchange as reported by SDC. Price and Return data is brought from CRSP. For price based runup and markup, we followed Betton et al (2008) by dividing the target stock price 2 days before the announcement day by the target stock price 42 days before the announcement date and the Final Offer Price by the target stock price 2 days before the announcement respectively. For the CAR based runup and markup we estimated them as the CAR over [-42, -2] and [-1, +126] respectively. Size is the logarithm of the firm market cap 42 days before the announcement day. The firm market cap is obtained by multiplying the stock price by the number of shares outstanding (in $Millions). B/M is the ratio of the Book Value of the Firm`s equity divided by the Market Value of the Firm 42 days before the announcement. The Book value of the firm's equity is obtained following the approach of Fama and French (1993) by adding the book value of stockholders equity to the balance sheet deferred taxes and investment tax credit and subtracting the book value of preferred share – all data are brought from Compustat. Target (Acquirer) Turnover is estimated as the average of the Volume to Share Outstanding Ratio calculated over the interval spanning 166 days before the announcement to 42 days before the announcement (before the beginning of the runup period). Relying on SDC deals' data we created the following dummy variables: complete – whether the deal was completed successfully or not, Hostile – whether the bidder attitude was hostile or not, Rumor – whether the deal followed a rumor or not, Tender – whether the deal was a tender offer or not, Toehold – whether the bidder had more than 5% ownership of the target at the deal's announcement, and NYSE/AMEX whether the deal is listed on NYSE, AMEX or not. If the target and acquirer share the same four-digit SIC code, the deal is considered a Horizontal deal. Relative size is the ratio of Target to Acquirer size. Firms' SIC codes are obtained from CRSP. Heteroscedasticity consistent white p-value are reported underneath. The *,**,*** indicates significance at 10%, 5%, and 1% respectively.

Deal-Type	All Deals		Non-Cash-Only		Cash-Only	
	1	2	3	4	5	6
Constant	0.18919***	0.15107	0.1502***	0.11612	0.27159***	0.27886
(p-value)	(<.0001)	(0.1957)	(<.0001)	(0.4205)	(<.0001)	(0.1625)
BWN-Sentiment-Proxy	-0.01479*	-0.00699	-0.0053	-0.00706	-0.01039	0.00512
(p-value)	(0.0939)	(0.4002)	(0.6158)	(0.4793)	(0.4952)	(0.7396)
Target Size		0.01439***		0.01337**		0.01145
(p-value)		(0.0022)		(0.01)		(0.2014)
Target Turnover		-0.00155*		-0.00231**		0.00371**
(p-value)		(0.076)		(0.0236)		(0.04)
Target NYSE/Amex		0.01749		0.01201		0.04051*
(p-value)		(0.2084)		(0.4731)		(0.0928)
Target B/M		0.18848***		0.21886***		0.14706***
(p-value)		(<.0001)		(<.0001)		(0.0013)*
Target CAR [-42,-2]		0.14916***		0.2136***		-0.09045
(p-value)		(<.0001)		(<.0001)		(0.1697)
Relative Size		-0.55661***		-0.57994***		-0.4456***
(p-value)		(<.0001)		(<.0001)		(0.0014)
Toehold Exist		-0.02001		-0.01465		-0.04331
(p-value)		(0.4875)		(0.718)		(0.2699)
Horizontal		0.02098		0.02728*		0.00386
(p-value)		(0.1261)		(0.0918)		(0.8827)
Tender Offer		0.05374***		0.02173		0.07572***
(p-value)		(0.0078)		(0.6211)		(0.0003)
Cash Bid		0.04728***				
(p-value)		(0.0011)				
Hostile		0.19958***		0.19142***		0.15027***
(p-value)		(<.0001)		(<.0001)		(0.0035)
Multiple Bidders		0.12095***		0.10466***		0.13929***
(p-value)		(<.0001)		(0.0006)		(0.0003)
Rumor		-0.10973***		-0.09875***		-0.10233***
(p-value)		(<.0001)		(0.0018)		(0.0047)
Complete		0.2091***		0.244***		0.08096**
(p-value)		(<.0001)		(<.0001)		(0.0309)
Adj-R^2	0.0005	0.1446	-0.0003	0.145	-0.0005	0.1267
Industry Dummies	No	Yes	No	Yes	No	Yes
Number of Cases	3705	3705	2591	2591	1114	1114

Table 4-54 Cross-sectional Regression of Target Markup '[(Final Offer Price / P-1) - 1]' on Baker and Wurgler Sentiment Index non-orthogonalized to Macro Factors (BWN)

The below table shows the results of the cross-sectional regressions of Target Markup [(Final Offer Price / P-1) - 1] on Baker and Wurgler Sentiment Index that is not orthogonalized to macro factors (BWN). The Cumulative Abnormal Return (CAR) is estimated as sum of the Abnormal Returns (AR) over the specified period. The AR is calculated as the difference between the realized return of the firm's stock and the expected return. The expected return is obtained using the market model ($r_{i,t} = \alpha + \beta\, r_{m,t}$). This latter is estimated using daily returns spanning 253 trading days before the announcement day to 43 days before the announcement day. CRSP Value weighted index was used as a proxy for the market. The Baker and Wurgler Sentiment Index that is not orthogonalized to Macro variables (BWN) associated with the deal are brought from professor Wurgler Website. For every deal, we estimated a sentiment measure that is equal to the weighted average sentiment index levels that are available during the deal's runup period. This latter spans 42 days before the announcement to 2 days before the announcement. The quartile cutoffs are estimated as per the sentiment original index spanning the period of our analysis: November 1981 till October 2015. Mergers and Acquisitions deals are downloaded from SDC. We limited our sample to Mergers, Acquisitions of Majority Interest and Acquisitions of Remaining Interest. We required that the deal have a reported final offer price on SDC and filtered out the top and bottom deals' percentile when sorted by their offer premium in order to avoid outliers. The offer premium is estimated as the final offer price divided by the target stock price 42 trading days before the announcement day. We removed any offer that is not the first offer within a multibid contest. Deals fall into a multibid contest if bids on the same target are separated by less than 6 months from each other. We also filtered out any deal whose value is less than $10 Million dollar and whose target stock price on day -42 is less than $5. Deal value is brought from SDC. We have also used Target Cumulative Abnomral Return from the beginning of the Runup period till completion day or 126 days after the deal is completed (whichever is shorter) – we termed this variable as CAR-Base d-Premium. We require that both target and acquirer firms are public US listed firms with CRSP and Compustat data on both. We divided our sample into All, Non-Cash-Only (Mixed or Stock-Only) and Cash-Only based on the medium of exchange as reported by SDC. Price and Return data is brought from CRSP. For price based runup and markup, we followed Betton et al (2008) by dividing the target stock price 2 days before the announcement day by the target stock price 42 days before the announcement date and the Final Offer Price by the target stock price 2 days before the announcement respectively. For the CAR based runup and markup we estimated them as the CAR over [-42, -2] and [-1, +126] respectively. Size is the logarithm of the firm market cap 42 days before the announcement day. The firm market cap is obtained by multiplying the stock price by the number of shares outstanding (in $Millions). B/M is the ratio of the Book Value of the Firm`s equity divided by the Market Value of the Firm 42 days before the announcement. The Book value of the firm's equity is obtained following the approach of Fama and French (1993) by adding the book value of stockholders equity to the balance sheet deferred taxes and investment tax credit and subtracting the book value of preferred share – all data are brought from Compustat. Target (Acquirer) Turnover is estimated as the average of the Volume to Share Outstanding Ratio calculated over the interval spanning 166 days before the announcement to 42 days before the announcement (before the beginning of the runup period). Relying on SDC deals' data we created the following dummy variables: complete – whether the deal was completed successfully or not, Hostile – whether the bidder attitude was hostile or not, Rumor – whether the deal followed a rumor or not, Tender – whether the deal was a tender offer or not, Toehold – whether the bidder had more than 5% ownership of the target at the deal's announcement, and NYSE/AMEX whether the deal is listed on NYSE, AMEX or not. If the target and acquirer share the same four-digit SIC code, the deal is considered a Horizontal deal. Relative size is the ratio of Target to Acquirer size. Firms' SIC codes are obtained from CRSP. Heteroscedasticity consistent white p-value are reported underneath. The *,**,*** indicates significance at 10%, 5%, and 1% respectively.

Deal-Type	All Deals		Non-Cash-Only		Cash-Only	
	1	2	3	4	5	6
Constant	0.31771***	1.05472***	0.29754***	0.92155***	0.35901***	1.22294***
(p-value)	(<.0001)	(<.0001)	(<.0001)	(0.0003)	(<.0001)	(<.0001)
BWN-Sentiment-Proxy	-0.01224	-0.01174	0.00034941	-0.00582	-0.03315*	-0.03275
(p-value)	(0.215)	(0.2734)	(0.9762)	(0.6279)	(0.0679)	(0.1606)
Target Size		-0.01798*		-0.01233		-0.03382*
(p-value)		(0.0989)		(0.3047)		(0.0839)
Target Turnover		0.00103		0.00067251		0.00287*
(p-value)		(0.2037)		(0.4495)		(0.0603)
Target NYSE/Amex		0.05667**		0.04171		0.0941
(p-value)		(0.0292)		(0.1166)		(0.1002)
Target B/M		0.07834***		0.09438***		0.06314
(p-value)		(0.0024)		(0.0004)		(0.1581)
Target CAR [-42,-2]		-0.23709***		-0.2169***		-0.34425***
(p-value)		(<.0001)		(<.0001)		(<.0001)
Relative Size		-0.45572***		-0.52117***		-0.25944
(p-value)		(<.0001)		(<.0001)		(0.2417)
Toehold Exist		-0.07562***		-0.05396*		-0.09145**
(p-value)		(0.0016)		(0.0968)		(0.0141)
Horizontal		-0.00846		-0.00062364		-0.03632
(p-value)		(0.6625)		(0.9767)		(0.3767)
Tender Offer		0.07313***		0.09724**		0.06523**
(p-value)		(0.0021)		(0.0249)		(0.013)
Cash Bid		-0.00914				
(p-value)		(0.5118)				
Hostile		0.11808***		0.09748*		0.12491**
(p-value)		(0.0051)		(0.0616)		(0.0342)
Multiple Bidders		0.04797		0.05018		0.03689
(p-value)		(0.1567)		(0.289)		(0.3578)
Rumor		-0.0648**		-0.04345		-0.08606***
(p-value)		(0.0267)		(0.3027)		(0.0006)
Complete		-0.02846		-0.03662		-0.00163
(p-value)		(0.3298)		(0.3372)		(0.9609)
Adj-R^2	0.0001	0.0568	-0.0004	0.0542	0.0013	0.0446
Industry Dummies	No	Yes	No	Yes	No	Yes
Number of Cases	3705	3705	2591	2591	1114	1114

Table 4-55 Cross-sectional Regression of Target CAR [-1,+1] on Baker and Wurgler Sentiment Index non-orthogonalized to Macro Factors (BWN)

The below table shows the results of the cross-sectional regressions of Target CAR estimated over the announcement period [-1,+1] on Baker and Wurgler Sentiment Index that is not orthogonalized to macro factors (BWN). The Cumulative Abnormal Return (CAR) is estimated as sum of the Abnormal Returns (AR) over the specified period. The AR is calculated as the difference between the realized return of the firm's stock and the expected return. The expected return is obtained using the market model ($r_{i,t} = \alpha + \beta\, r_{m,t}$). This latter is estimated using daily returns spanning 253 trading days before the announcement day to 43 days before the announcement day. CRSP Value weighted index was used as a proxy for the market. The Baker and Wurgler Sentiment Index that is not orthogonalized to Macro variables (BWN) associated with the deal are brought from professor Wurgler Website. For every deal, we estimated a sentiment measure that is equal to the weighted average sentiment index levels that are available during the deal's runup period. This latter spans 42 days before the announcement to 2 days before the announcement. The quartile cutoffs are estimated as per the sentiment original index spanning the period of our analysis: November 1981 till October 2015. Mergers and Acquisitions deals are downloaded from SDC. We limited our sample to Mergers, Acquisitions of Majority Interest and Acquisitions of Remaining Interest. We required that the deal have a reported final offer price on SDC and filtered out the top and bottom deals' percentile when sorted by their offer premium in order to avoid outliers. The offer premium is estimated as the final offer price divided by the target stock price 42 trading days before the announcement day. We removed any offer that is not the first offer within a multibid contest. Deals fall into a multibid contest if bids on the same target are separated by less than 6 months from each other. We also filtered out any deal whose value is less than $10 Million dollar and whose target stock price on day -42 is less than $5. Deal value is brought from SDC. We have also used Target Cumulative Abnomral Return from the beginning of the Runup period till completion day or 126 days after the deal is completed (whichever is shorter) – we termed this variable as CAR-Base d-Premium. We require that both target and acquirer firms are public US listed firms with CRSP and Compustat data on both. We divided our sample into All, Non-Cash-Only (Mixed or Stock-Only) and Cash-Only based on the medium of exchange as reported by SDC. Price and Return data is brought from CRSP. For price based runup and markup, we followed Betton et al (2008) by dividing the target stock price 2 days before the announcement day by the target stock price 42 days before the announcement date and the Final Offer Price by the target stock price 2 days before the announcement respectively. For the CAR based runup and markup we estimated them as the CAR over [-42, -2] and [-1, +126] respectively. Size is the logarithm of the firm market cap 42 days before the announcement day. The firm market cap is obtained by multiplying the stock price by the number of shares outstanding (in $Millions). B/M is the ratio of the Book Value of the Firm`s equity divided by the Market Value of the Firm 42 days before the announcement. The Book value of the firm's equity is obtained following the approach of Fama and French (1993) by adding the book value of stockholders equity to the balance sheet deferred taxes and investment tax credit and subtracting the book value of preferred share – all data are brought from Compustat. Target (Acquirer) Turnover is estimated as the average of the Volume to Share Outstanding Ratio calculated over the interval spanning 166 days before the announcement to 42 days before the announcement (before the beginning of the runup period). Relying on SDC deals' data we created the following dummy variables: complete – whether the deal was completed successfully or not, Hostile – whether the bidder attitude was hostile or not, Rumor – whether the deal followed a rumor or not, Tender – whether the deal was a tender offer or not, Toehold – whether the bidder had more than 5% ownership of the target at the deal's announcement, and NYSE/AMEX whether the deal is listed on NYSE, AMEX or not. If the target and acquirer share the same four-digit SIC code, the deal is considered a Horizontal deal. Relative size is the ratio of Target to Acquirer size. Firms' SIC codes are obtained from CRSP. Heteroscedasticity consistent white p-value are reported underneath. The *,**,*** indicates significance at 10%, 5%, and 1% respectively.

Deal-Type	All Deals		Non-Cash-Only		Cash-Only	
	1	2	3	4	5	6
Constant	0.20675***	0.72204***	0.16812***	0.67223***	0.28759***	0.83197***
(p-value)	(<.0001)	(<.0001)	(<.0001)	(<.0001)	(<.0001)	(<.0001)
BWN-Sentiment-Proxy	-0.01506***	-0.00681	-0.00117	-0.00473	-0.02426**	-0.01191
(p-value)	(0.0049)	(0.1637)	(0.8394)	(0.3645)	(0.0314)	(0.3129)
Target Size		0.0026		0.00366		-0.00455
(p-value)		(0.3253)		(0.214)		(0.4205)
Target Turnover		-0.00028546		-0.00066022		0.00223*
(p-value)		(0.5308)		(0.1729)		(0.0829)
Target NYSE/Amex		0.00876		0.00376		0.02354
(p-value)		(0.2949)		(0.69)		(0.161)
Target B/M		0.07701***		0.0877***		0.06352***
(p-value)		(<.0001)		(<.0001)		(0.0096)
CAR [-42,-2] Target		-0.17378***		-0.15093***		-0.25769***
(p-value)		(<.0001)		(<.0001)		(<.0001)
Relative Size		-0.66702***		-0.71324***		-0.51903***
(p-value)		(<.0001)		(<.0001)		(<.0001)
Toehold Exist		-0.04437***		-0.03469*		-0.05556**
(p-value)		(0.0022)		(0.061)		(0.0281)
Horizontal		0.0103		0.00896		0.00993
(p-value)		(0.1984)		(0.2823)		(0.6216)
Tender Offer		0.05728***		0.05516**		0.05817***
(p-value)		(<.0001)		(0.0101)		(<.0001)
Cash Bid		0.05536***				
(p-value)		(<.0001)				
Hostile		0.06031***		0.07177***		0.03142
(p-value)		(0.0001)		(0.0002)		(0.2705)
Multiple Bidders		0.00448		-0.00885		0.03005
(p-value)		(0.7217)		(0.5415)		(0.2323)
Rumor		-0.05933***		-0.03763**		-0.08764***
(p-value)		(<.0001)		(0.0212)		(<.0001)
Complete		0.03484***		0.03596***		0.02909
(p-value)		(0.0003)		(0.0007)		(0.1779)
Adj-R^2	0.0019	0.182	-0.0004	0.1333	0.0029	0.1293
Industry Dummies	No	Yes	No	Yes	No	Yes
Number of Cases	3705	3705	2591	2591	1114	1114

Table 4-56 Cross-sectional Regression of Premium 'CAR[-42, +126]' on Baker and Wurgler Sentiment Index non-orthogonalized to Macro Factors (BWN)

The below table shows the results of the cross-sectional regressions of Premium 'CAR[-42, +126]' on Baker and Wurgler Sentiment Index that is not orthogonalized to macro factors (BWN). The Cumulative Abnormal Return (CAR) is estimated as sum of the Abnormal Returns (AR) over the specified period. The AR is calculated as the difference between the realized return of the firm's stock and the expected return. The expected return is obtained using the market model ($r_{i,t} = \alpha + \beta\, r_{m,t}$). This latter is estimated using daily returns spanning 253 trading days before the announcement day to 43 days before the announcement day. CRSP Value weighted index was used as a proxy for the market. The Baker and Wurgler Sentiment Index that is not orthogonalized to Macro variables (BWN) associated with the deal are brought from professor Wurgler Website. For every deal, we estimated a sentiment measure that is equal to the weighted average sentiment index levels that are available during the deal's runup period. This latter spans 42 days before the announcement to 2 days before the announcement. The quartile cutoffs are estimated as per the sentiment original index spanning the period of our analysis: November 1981 till October 2015. Mergers and Acquisitions deals are downloaded from SDC. We limited our sample to Mergers, Acquisitions of Majority Interest and Acquisitions of Remaining Interest. We required that the deal have a reported final offer price on SDC and filtered out the top and bottom deals' percentile when sorted by their offer premium in order to avoid outliers. The offer premium is estimated as the final offer price divided by the target stock price 42 trading days before the announcement day. We removed any offer that is not the first offer within a multibid contest. Deals fall into a multibid contest if bids on the same target are separated by less than 6 months from each other. We also filtered out any deal whose value is less than $10 Million dollar and whose target stock price on day -42 is less than $5. Deal value is brought from SDC. We have also used Target Cumulative Abnomral Return from the beginning of the Runup period till completion day or 126 days after the deal is completed (whichever is shorter) – we termed this variable as CAR-Base d-Premium. We require that both target and acquirer firms are public US listed firms with CRSP and Compustat data on both. We divided our sample into All, Non-Cash-Only (Mixed or Stock-Only) and Cash-Only based on the medium of exchange as reported by SDC. Price and Return data is brought from CRSP. For price based runup and markup, we followed Betton et al (2008) by dividing the target stock price 2 days before the announcement day by the target stock price 42 days before the announcement date and the Final Offer Price by the target stock price 2 days before the announcement respectively. For the CAR based runup and markup we estimated them as the CAR over [-42, -2] and [-1, +126] respectively. Size is the logarithm of the firm market cap 42 days before the announcement day. The firm market cap is obtained by multiplying the stock price by the number of shares outstanding (in $Millions). B/M is the ratio of the Book Value of the Firm`s equity divided by the Market Value of the Firm 42 days before the announcement. The Book value of the firm's equity is obtained following the approach of Fama and French (1993) by adding the book value of stockholders equity to the balance sheet deferred taxes and investment tax credit and subtracting the book value of preferred share – all data are brought from Compustat. Target (Acquirer) Turnover is estimated as the average of the Volume to Share Outstanding Ratio calculated over the interval spanning 166 days before the announcement to 42 days before the announcement (before the beginning of the runup period). Relying on SDC deals' data we created the following dummy variables: complete – whether the deal was completed successfully or not, Hostile – whether the bidder attitude was hostile or not, Rumor – whether the deal followed a rumor or not, Tender – whether the deal was a tender offer or not, Toehold – whether the bidder had more than 5% ownership of the target at the deal's announcement, and NYSE/AMEX whether the deal is listed on NYSE, AMEX or not. If the target and acquirer share the same four-digit SIC code, the deal is considered a Horizontal deal. Relative size is the ratio of Target to Acquirer size. Firms' SIC codes are obtained from CRSP. Heteroscedasticity consistent white p-value are reported underneath. The *,**,*** indicates significance at 10%, 5%, and 1% respectively.

Deal-Type	All Deals		Non-Cash-Only		Cash-Only	
	1	2	3	4	5	6
Constant	0.23359***	0.15107	0.18937***	0.11612	0.32816***	0.27886
(p-value)	(<.0001)	(0.1957)	(<.0001)	(0.4205)	(<.0001)	(0.1625)
BWN-Sentiment-Proxy	-0.0048	-0.00699	-0.00057389	-0.00706	0.01993	0.00512
(p-value)	(0.6697)	(0.4002)	(0.9658)	(0.4793)	(0.3209)	(0.7396)
Target Size		0.01439***		0.01337**		0.01145
(p-value)		(0.0022)		(0.01)		(0.2014)
Target Turnover		-0.00155*		-0.00231**		0.00371**
(p-value)		(0.076)		(0.0236)		(0.04)
Target NYSE/Amex		0.01749		0.01201		0.04051*
(p-value)		(0.2084)		(0.4731)		(0.0928)
Target B/M		0.18848***		0.21886***		0.14706***
(p-value)		(<.0001)		(<.0001)		(0.0013)
Target CAR [-42,-2]		1.14916***		1.2136***		0.90955***
(p-value)		(<.0001)		(<.0001)		(<.0001)
Relative Size		-0.55661***		-0.57994***		-0.4456***
(p-value)		(<.0001)		(<.0001)		(0.0014)
Toehold Exist		-0.02001		-0.01465		-0.04331
(p-value)		(0.4875)		(0.718)		(0.2699)
Horizontal		0.02098		0.02728*		0.00386
(p-value)		(0.1261)		(0.0918)		(0.8827)
Tender Offer		0.05374***		0.02173		0.07572***
(p-value)		(0.0078)		(0.6211)		(0.0003)
Cash Bid		0.04728***				
(p-value)		(0.0011)				
Hostile		0.19958***		0.19142***		0.15027***
(p-value)		(<.0001)		(<.0001)		(0.0035)
Multiple Bidders		0.12095***		0.10466***		0.13929***
(p-value)		(<.0001)		(0.0006)		(0.0003)
Rumor		-0.10973***		-0.09875***		-0.10233***
(p-value)		(<.0001)		(0.0018)		(0.0047)
Complete		0.2091***		0.244***		0.08096**
(p-value)		(<.0001)		(<.0001)		(0.0309)
Adj-R^2	-0.0002	0.4194	-0.0004	0.4447	0.0001	0.3309
Industry Dummies	No	Yes	No	Yes	No	Yes
Number of Cases	3705	3705	2591	2591	1114	1114

Table 4-57 Cross-sectional Regression of Premium '[(Final Offer Price / P-42) - 1]' on Baker and Wurgler Sentiment Index non-orthogonalized to Macro Factors (BWN)

The below table shows the results of the cross-sectional regressions of Premium [(Final Offer Price / P-42) - 1] on Baker and Wurgler Sentiment Index that is not orthogonalized to macro factors (BWN). The Cumulative Abnormal Return (CAR) is estimated as sum of the Abnormal Returns (AR) over the specified period. The AR is calculated as the difference between the realized return of the firm's stock and the expected return. The expected return is obtained using the market model ($r_{i,t} = \alpha + \beta\, r_{m,t}$). This latter is estimated using daily returns spanning 253 trading days before the announcement day to 43 days before the announcement day. CRSP Value weighted index was used as a proxy for the market. The Baker and Wurgler Sentiment Index that is not orthogonalized to Macro variables (BWN) associated with the deal are brought from professor Wurgler Website. For every deal, we estimated a sentiment measure that is equal to the weighted average sentiment index levels that are available during the deal's runup period. This latter spans 42 days before the announcement to 2 days before the announcement. The quartile cutoffs are estimated as per the sentiment original index spanning the period of our analysis: November 1981 till October 2015. Mergers and Acquisitions deals are downloaded from SDC. We limited our sample to Mergers, Acquisitions of Majority Interest and Acquisitions of Remaining Interest. We required that the deal have a reported final offer price on SDC and filtered out the top and bottom deals' percentile when sorted by their offer premium in order to avoid outliers. The offer premium is estimated as the final offer price divided by the target stock price 42 trading days before the announcement day. We removed any offer that is not the first offer within a multibid contest. Deals fall into a multibid contest if bids on the same target are separated by less than 6 months from each other. We also filtered out any deal whose value is less than $10 Million dollar and whose target stock price on day -42 is less than $5. Deal value is brought from SDC. We have also used Target Cumulative Abnomral Return from the beginning of the Runup period till completion day or 126 days after the deal is completed (whichever is shorter) – we termed this variable as CAR-Base d-Premium. We require that both target and acquirer firms are public US listed firms with CRSP and Compustat data on both. We divided our sample into All, Non-Cash-Only (Mixed or Stock-Only) and Cash-Only based on the medium of exchange as reported by SDC. Price and Return data is brought from CRSP. For price based runup and markup, we followed Betton et al (2008) by dividing the target stock price 2 days before the announcement day by the target stock price 42 days before the announcement date and the Final Offer Price by the target stock price 2 days before the announcement respectively. For the CAR based runup and markup we estimated them as the CAR over [-42, -2] and [-1, +126] respectively. Size is the logarithm of the firm market cap 42 days before the announcement day. The firm market cap is obtained by multiplying the stock price by the number of shares outstanding (in $Millions). B/M is the ratio of the Book Value of the Firm`s equity divided by the Market Value of the Firm 42 days before the announcement. The Book value of the firm's equity is obtained following the approach of Fama and French (1993) by adding the book value of stockholders equity to the balance sheet deferred taxes and investment tax credit and subtracting the book value of preferred share – all data are brought from Compustat. Target (Acquirer) Turnover is estimated as the average of the Volume to Share Outstanding Ratio calculated over the interval spanning 166 days before the announcement to 42 days before the announcement (before the beginning of the runup period). Relying on SDC deals' data we created the following dummy variables: complete – whether the deal was completed successfully or not, Hostile – whether the bidder attitude was hostile or not, Rumor – whether the deal followed a rumor or not, Tender – whether the deal was a tender offer or not, Toehold – whether the bidder had more than 5% ownership of the target at the deal's announcement, and NYSE/AMEX whether the deal is listed on NYSE, AMEX or not. If the target and acquirer share the same four-digit SIC code, the deal is considered a Horizontal deal. Relative size is the ratio of Target to Acquirer size. Firms' SIC codes are obtained from CRSP. Heteroscedasticity consistent white p-value are reported underneath. The *,**,*** indicates significance at 10%, 5%, and 1% respectively.

Deal-Type	All Deals		Non-Cash-Only		Cash-Only	
	1	2	3	4	5	6
Constant	0.40557***	1.29798***	0.37858***	1.15061***	0.46224***	1.45282***
(p-value)	(<.0001)	(<.0001)	(<.0001)	(<.0001)	(<.0001)	(<.0001)
BWN-Sentiment-Proxy	-0.0082	-0.02065*	0.00040535	-0.01366	-0.01132	-0.05241*
(p-value)	(0.4901)	(0.0773)	(0.9766)	(0.2938)	(0.6193)	(0.0516)
Target Size		-0.02335**		-0.01643		-0.03946*
(p-value)		(0.039)		(0.1563)		(0.0857)
Target Turnover		0.00143		0.00107		0.00239
(p-value)		(0.1691)		(0.3643)		(0.1199)
Target NYSE/Amex		0.0461		0.0292		0.08799
(p-value)		(0.1154)		(0.3155)		(0.1843)
Target B/M		0.03491		0.03792		0.03829
(p-value)		(0.2015)		(0.1647)		(0.4513)
Target CAR [-42,-2]		0.88831***		0.86605***		0.90669***
(p-value)		(<.0001)		(<.0001)		(<.0001)
Relative Size		-0.54979***		-0.67311***		-0.30593
(p-value)		(<.0001)		(<.0001)		(0.2198)
Toehold Exist		-0.11415***		-0.12168***		-0.08437**
(p-value)		(<.0001)		(0.0007)		(0.0282)
Horizontal		-0.01953		-0.01638		-0.03623
(p-value)		(0.3484)		(0.4662)		(0.4402)
Tender Offer		0.06221**		0.07184		0.06023**
(p-value)		(0.0154)		(0.1002)		(0.0411)
Cash Bid		-0.01413				
(p-value)		(0.3298)				
Hostile		0.09446**		0.07538		0.09921**
(p-value)		(0.0171)		(0.1644)		(0.0469)
Multiple Bidders		0.06705*		0.07258		0.03466
(p-value)		(0.0695)		(0.1649)		(0.4194)
Rumor		-0.04335		-0.00585		-0.10403***
(p-value)		(0.1731)		(0.8979)		(0.0003)
Complete		0.00145		-0.00572		0.02605
(p-value)		(0.9569)		(0.8688)		(0.4484)
Adj-R^2	-0.0002	0.188	-0.0004	0.1969	-0.0007	0.151
Industry Dummies	No	Yes	No	Yes	No	Yes
Number of Cases	3705	3705	2591	2591	1114	1114

Table 4-58 Cross-sectional Regression of Premium 'CAR[-42, +126]' on Target Runup (CAR [-42,-2]) and Runup Multiplied by Baker and Wurgler Sentiment Index non-orthogonalized to Macro Factors (BWN) Quartiles – Testing Markup Pricing

The below table shows the results of the cross-sectional regressions of Premium 'CAR[-42, +126]' on Target Runup 'CAR[-42, -2]' and the Runup multiplied by the sentiment quartile dummies. The Cumulative Abnormal Return (CAR) is estimated as sum of the Abnormal Returns (AR) over the specified period. The AR is calculated as the difference between the realized return of the firm's stock and the expected return. The expected return is obtained using the market model ($r_{i,t} = \alpha + \beta\, r_{m,t}$). This latter is estimated using daily returns spanning 253 trading days before the announcement day to 43 days before the announcement day. CRSP Value weighted index was used as a proxy for the market. The Baker and Wurgler Sentiment Index that is not orthogonalized to Macro variables (BWN) associated with the deal are brought from professor Wurgler Website. For every deal, we estimated a sentiment measure that is equal to the weighted average sentiment index levels that are available during the deal's runup period. This latter spans 42 days before the announcement to 2 days before the announcement. The quartile cutoffs are estimated as per the sentiment original index spanning the period of our analysis: November 1981 till October 2015. Mergers and Acquisitions deals are downloaded from SDC. We limited our sample to Mergers, Acquisitions of Majority Interest and Acquisitions of Remaining Interest. We required that the deal have a reported final offer price on SDC and filtered out the top and bottom deals' percentile when sorted by their offer premium in order to avoid outliers. The offer premium is estimated as the final offer price divided by the target stock price 42 trading days before the announcement day. We removed any offer that is not the first offer within a multibid contest. Deals fall into a multibid contest if bids on the same target are separated by less than 6 months from each other. We also filtered out any deal whose value is less than $10 Million dollar and whose target stock price on day -42 is less than $5. Deal value is brought from SDC. We have also used Target Cumulative Abnomral Return from the beginning of the Runup period till completion day or 126 days after the deal is completed (whichever is shorter) – we termed this variable as CAR-Based-Premium. We require that both target and acquirer firms are public US listed firms with CRSP and Compustat data on both. We divided our sample into All, Non-Cash-Only (Mixed or Stock-Only) and Cash-Only based on the medium of exchange as reported by SDC. Price and Return data is brought from CRSP. For price based runup and markup, we followed Betton et al (2008) by dividing the target stock price 2 days before the announcement day by the target stock price 42 days before the announcement date and the Final Offer Price by the target stock price 2 days before the announcement respectively. For the CAR based runup and markup we estimated them as the CAR over [-42, -2] and [-1, +126] respectively. Size is the logarithm of the firm market cap 42 days before the announcement day. The firm market cap is obtained by multiplying the stock price by the number of shares outstanding (in $Millions). B/M is the ratio of the Book Value of the Firm`s equity divided by the Market Value of the Firm 42 days before the announcement. The Book value of the firm's equity is obtained following the approach of Fama and French (1993) by adding the book value of stockholders equity to the balance sheet deferred taxes and investment tax credit and subtracting the book value of preferred share – all data are brought from Compustat. Target (Acquirer) Turnover is estimated as the average of the Volume to Share Outstanding Ratio calculated over the interval spanning 166 days before the announcement to 42 days before the announcement (before the beginning of the runup period). Relying on SDC deals' data we created the following dummy variables: complete – whether the deal was completed successfully or not, Hostile – whether the bidder attitude was hostile or not, Rumor – whether the deal followed a rumor or not, Tender – whether the deal was a tender offer or not, Toehold – whether the bidder had more than 5% ownership of the target at the deal's announcement, and NYSE/AMEX whether the deal is listed on NYSE, AMEX or not. If the target and acquirer share the same four-digit SIC code, the deal is considered a Horizontal deal. Relative size is the ratio of Target to Acquirer size. Firms' SIC codes are obtained from CRSP. Heteroscedasticity consistent white p-value are reported underneath. The *,**,*** indicates significance at 10%, 5%, and 1% respectively.

Deal-Type	All Deals		Non-Cash-Only		Cash-Only	
	1	2	3	4	5	6
Constant	0.17394***	0.14079	0.13518***	0.11593	0.27103***	0.26327
(p-value)	(<.0001)	(0.2233)	(<.0001)	(0.421)	(<.0001)	(0.1785)
Target CAR [-42,-2]	1.35882***	1.25917***	1.53888***	1.38847***	1.02605***	0.9772***
(p-value)	(<.0001)	(<.0001)	(<.0001)	(<.0001)	(<.0001)	(<.0001)
Q2 x Target CAR [-42,-2]	-0.16651	-0.11782	-0.16023	-0.08311	-0.2118	-0.19208
(p-value)	(0.4197)	(0.5177)	(0.5796)	(0.7314)	(0.3581)	(0.3457)
Q3 x Target CAR [-42,-2]	-0.18871	-0.18361	-0.35587	-0.31458	0.0152	-0.02041
(p-value)	(0.3545)	(0.312)	(0.2124)	(0.1895)	(0.9475)	(0.9211)
Q3 x Target CAR [-42,-2]	-0.07377	-0.06633	-0.18878	-0.14768	-0.00514	0.02474
(p-value)	(0.717)	(0.7152)	(0.5105)	(0.5408)	(0.9806)	(0.8931)
Target Size		0.01473***		0.0139***		0.01133
(p-value)		(0.0015)		(0.0071)		(0.1995)
Target Turnover		-0.0015*		-0.0023**		0.00378**
(p-value)		(0.0889)		(0.0245)		(0.0388)
Target NYSE/Amex		0.01683		0.01078		0.03857
(p-value)		(0.228)		(0.5215)		(0.1064)
Target B/M		0.18798***		0.21901***		0.14531***
(p-value)		(<.0001)		(<.0001)		(0.0012)
Relative Size		-0.55271***		-0.58167***		-0.43073***
(p-value)		(<.0001)		(<.0001)		(0.002)
Toehold Exist		-0.01986		-0.01198		-0.04563
(p-value)		(0.495)		(0.7703)		(0.2403)
Horizontal		0.02126		0.02745*		0.00269
(p-value)		(0.121)		(0.0869)		(0.9187)
Tender Offer		0.05475***		0.02509		0.076***
(p-value)		(0.0049)		(0.5438)		(0.0003)
Cash Bid		0.04821***				
(p-value)		(0.0007)				
Hostile		0.19892***		0.19032***		0.15114***
(p-value)		(<.0001)		(<.0001)		(0.0033)
Multiple Bidders		0.12143***		0.1049***		0.13864***
(p-value)		(<.0001)		(0.0004)		(0.0004)
Rumor		-0.11107***		-0.10304***		-0.10102***
(p-value)		(<.0001)		(0.0011)		(0.0059)
Complete		0.20996***		0.24316***		0.08209**
(p-value)		(<.0001)		(<.0001)		(0.029)
Adj-R^2	0.3333	0.4198	0.374	0.4469	0.2344	0.3319
Industry Dummies	No	Yes	No	Yes	No	Yes
Number of Cases	3705	3705	2591	2591	1114	1114

Table 4-59 Cross-sectional Regression of Premium (Final Offer Price / P-42 - 1) on Target Runup (P-2 / P-42 - 1]) and Runup Multiplied by Baker and Wurgler Sentiment Index non-orthogonalized to Macro Factors (BWN) Quartiles – Testing Markup Pricing

The below table shows the results of the cross-sectional regressions of Premium (Final Offer Price / P-42 - 1) on Target Runup (P-2 / P-42 - 1]) and the Runup multiplied by the sentiment quartile dummies. The Cumulative Abnormal Return (CAR) is estimated as sum of the Abnormal Returns (AR) over the specified period. The AR is calculated as the difference between the realized return of the firm's stock and the expected return. The expected return is obtained using the market model ($r_{i,t} = \alpha + \beta\, r_{m,t}$). This latter is estimated using daily returns spanning 253 trading days before the announcement day to 43 days before the announcement day. CRSP Value weighted index was used as a proxy for the market. The Baker and Wurgler Sentiment Index that is not orthogonalized to Macro variables (BWN) associated with the deal are brought from professor Wurgler Website. For every deal, we estimated a sentiment measure that is equal to the weighted average sentiment index levels that are available during the deal's runup period. This latter spans 42 days before the announcement to 2 days before the announcement. The quartile cutoffs are estimated as per the sentiment original index spanning the period of our analysis: November 1981 till October 2015. Mergers and Acquisitions deals are downloaded from SDC. We limited our sample to Mergers, Acquisitions of Majority Interest and Acquisitions of Remaining Interest. We required that the deal have a reported final offer price on SDC and filtered out the top and bottom deals' percentile when sorted by their offer premium in order to avoid outliers. The offer premium is estimated as the final offer price divided by the target stock price 42 trading days before the announcement day. We removed any offer that is not the first offer within a multibid contest. Deals fall into a multibid contest if bids on the same target are separated by less than 6 months from each other. We also filtered out any deal whose value is less than $10 Million dollar and whose target stock price on day -42 is less than $5. Deal value is brought from SDC. We have also used Target Cumulative Abnomral Return from the beginning of the Runup period till completion day or 126 days after the deal is completed (whichever is shorter) – we termed this variable as CAR-Based-Premium. We require that both target and acquirer firms are public US listed firms with CRSP and Compustat data on both. We divided our sample into All, Non-Cash-Only (Mixed or Stock-Only) and Cash-Only based on the medium of exchange as reported by SDC. Price and Return data is brought from CRSP. For price based runup and markup, we followed Betton et al (2008) by dividing the target stock price 2 days before the announcement day by the target stock price 42 days before the announcement date and the Final Offer Price by the target stock price 2 days before the announcement respectively. For the CAR based runup and markup we estimated them as the CAR over [-42, -2] and [-1, +126] respectively. Size is the logarithm of the firm market cap 42 days before the announcement day. The firm market cap is obtained by multiplying the stock price by the number of shares outstanding (in $Millions). B/M is the ratio of the Book Value of the Firm's equity divided by the Market Value of the Firm 42 days before the announcement. The Book value of the firm's equity is obtained following the approach of Fama and French (1993) by adding the book value of stockholders equity to the balance sheet deferred taxes and investment tax credit and subtracting the book value of preferred share – all data are brought from Compustat. Target (Acquirer) Turnover is estimated as the average of the Volume to Share Outstanding Ratio calculated over the interval spanning 166 days before the announcement to 42 days before the announcement (before the beginning of the runup period). Relying on SDC deals' data we created the following dummy variables: complete – whether the deal was completed successfully or not, Hostile – whether the bidder attitude was hostile or not, Rumor – whether the deal followed a rumor or not, Tender – whether the deal was a tender offer or not, Toehold – whether the bidder had more than 5% ownership of the target at the deal's announcement, and NYSE/AMEX whether the deal is listed on NYSE, AMEX or not. If the target and acquirer share the same four-digit SIC code, the deal is considered a Horizontal deal. Relative size is the ratio of Target to Acquirer size. Firms' SIC codes are obtained from CRSP. Heteroscedasticity consistent white p-value are reported underneath. The *,**,*** indicates significance at 10%, 5%, and 1% respectively.

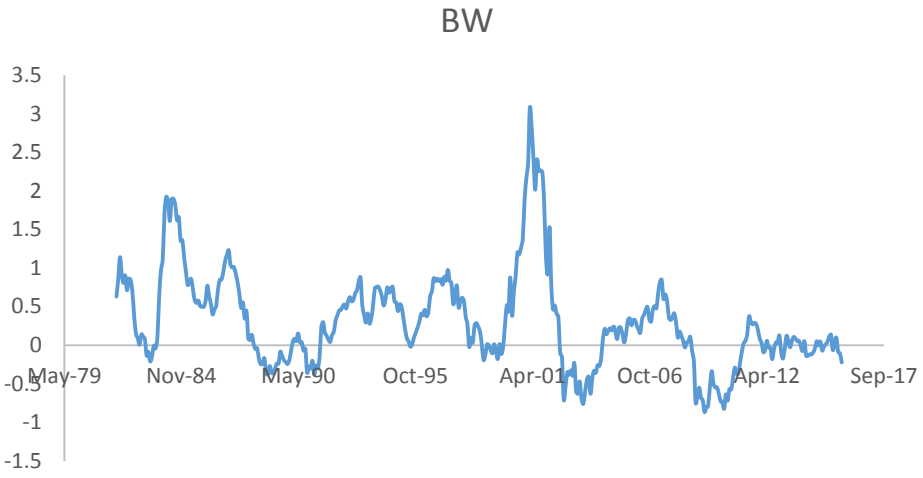
Deal-Type	All Deals		Non-Cash-Only		Cash-Only	
	1	2	3	4	5	6
Constant	0.32354***	1.06824***	0.30465***	0.90868***	0.37102***	1.23693***
(p-value)	(<.0001)	(<.0001)	(<.0001)	(<.0001)	(<.0001)	(<.0001)
Target Runup	1.04943***	1.00402***	0.88057***	0.84847***	1.19841***	1.13944***
(p-value)	(<.0001)	(<.0001)	(<.0001)	(<.0001)	(<.0001)	(<.0001)
Q2 x Target Runup	0.07639	0.10842	0.35542*	0.38274*	-0.28634	-0.26766
(p-value)	(0.6251)	(0.4801)	(0.0678)	(0.0529)	(0.2438)	(0.224)
Q3 x Target Runup	-0.06588	-0.04872	0.11929	0.11489	-0.30456	-0.32055
(p-value)	(0.6692)	(0.7448)	(0.5308)	(0.5475)	(0.2284)	(0.2135)
Q3 x Target Runup	-0.02051	-0.01686	0.16829	0.15983	-0.23695	-0.23119
(p-value)	(0.894)	(0.9114)	(0.3771)	(0.422)	(0.3369)	(0.3167)
Target Size		-0.01951*		-0.0124		-0.03616
(p-value)		(0.0739)		(0.2678)		(0.1014)
Target Turnover		0.00117		0.00078984		0.00307**
(p-value)		(0.1659)		(0.3957)		(0.0401)
Target NYSE/Amex		0.05594*		0.0404		0.09272
(p-value)		(0.051)		(0.1572)		(0.1514)
Target B/M		0.07296***		0.10162***		0.04608
(p-value)		(0.0052)		(<.0001)		(0.3251)
Relative Size		-0.45338***		-0.55511***		-0.2099
(p-value)		(<.0001)		(<.0001)		(0.4082)
Toehold Exist		-0.08477***		-0.07376**		-0.09433**
(p-value)		(0.0002)		(0.0148)		(0.0218)
Horizontal		-0.00713		-0.00071633		-0.03154
(p-value)		(0.7264)		(0.9737)		(0.4956)
Tender Offer		0.07229***		0.08057*		0.0667**
(p-value)		(0.0046)		(0.0599)		(0.0178)
Cash Bid		-0.0089				
(p-value)		(0.5181)				
Hostile		0.10345***		0.08977*		0.11003**
(p-value)		(0.0062)		(0.081)		(0.0249)
Multiple Bidders		0.06007*		0.06414		0.03307
(p-value)		(0.0931)		(0.2096)		(0.4304)
Rumor		-0.06682**		-0.04277		-0.1045***
(p-value)		(0.0321)		(0.3399)		(0.0003)
Complete		-0.01268		-0.02076		0.01322
(p-value)		(0.6272)		(0.5342)		(0.7112)
Adj-R^2	0.1986	0.2394	0.2213	0.2675	0.1502	0.1663
Industry Dummies	No	Yes	No	Yes	No	Yes
Number of Cases	3705	3705	2591	2591	1114	1114

4.9 Appendix B

Figure 4-11 Baker and Wurgler Sentiment Index (BW) for our sample period

Panel A shows the Baker and Wurgler Sentiment Index (BW) brought from professor Wurgler Website for our sample period. Panel B reports the sentiment quartiles that are associated with our sample. For every deal, we estimate a sentiment measure that is equal to the weighted average sentiment index levels that are available during the deal's runup period. This latter spans 42 days before the announcement to 2 days before the announcement. We check where this sentiment measures ranks relative to the BWN values and associate it with a sentiment quartile. The quartile cutoffs are estimated as per the sentiment original index spanning the period of our analysis: November 1981 till October 2015.

Panel A: The Sentiment Index Spanning our Sample



Panel B: The quartiles distribution over our sample period

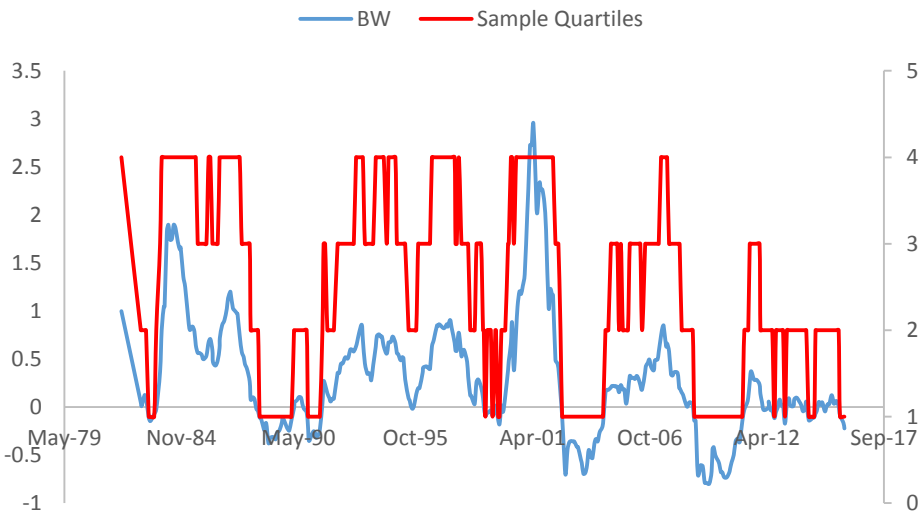


Figure 4-12 Target CAR as we progress in time through the runup period till after the announcement

The below figure show the average Cumulative Abnormal Return (CAR) of the Target firms as we progress in time 42 days before the deal announcement till 10 days after the deal announcement. The Cumulative Abnormal Return (CAR) is estimated as sum of the Abnormal Returns (AR) over the specified period. The AR is calculated as the difference between the realized return of the firm's stock and the expected return. The expected return is obtained using the market model ($r_{i,t} = \alpha + \beta\, r_{m,t}$). This latter was estimated using daily date spanning 253 trading days before the announcement day to 43 days before the announcement day. CRSP Value weighted index was used as a proxy for the market. Once the CAR is estimated for every firm in our sample for a particular day, an equal weighted average is calculated. The CAR estimation period starts from day -42 (42 trading days before the announcement day). The process is repeated progressively as we advance in time. The deals within our sample are classified into four sentiment quartile based on the Baker and Wurgler Sentiment Index that is associated with the deal. BW levels are brought from Wurgler Website. The quartile cutoffs are estimated as per the sentiment original index spanning the period of our analysis: November 1981 till October 2015. For every deal, we estimated a sentiment measure that is equal to the weighted average sentiment index levels that are available during the deal's runup period. This latter spans 42 days before the announcement to 2 days before the announcement. Q1 (Q4) is the quartile with lowest (highest) sentiment index level. Mergers and Acquisitions deals are downloaded from SDC. We limited our sample to Mergers, Acquisitions of Majority Interest and Acquisitions of Remaining Interest. We also required that the deal process a reported final offer price on SDC and filtered out the top and bottom deals' percentile when sorted as per their offer price in order to avoid outliers. We removed any offer that is not the first offer within a multibid contest. Deals fall into a multibid contest if bids on the same target are separated by less than 6 months from each other. We also require that both target and acquirer firms are public US listed firms with CRSP and Compustat data on both. We divided our sample in All, Non-Cash-Only (Mixed or Stock-Only) and Cash-Only based on the medium of exchange as reported by SDC. Similar approach is followed to estimate both target and bidder CAR. We limited our sample to those deal with a deal value greater than $10 Million and target share price greater than $5. Price and Return data is brought from CRSP.

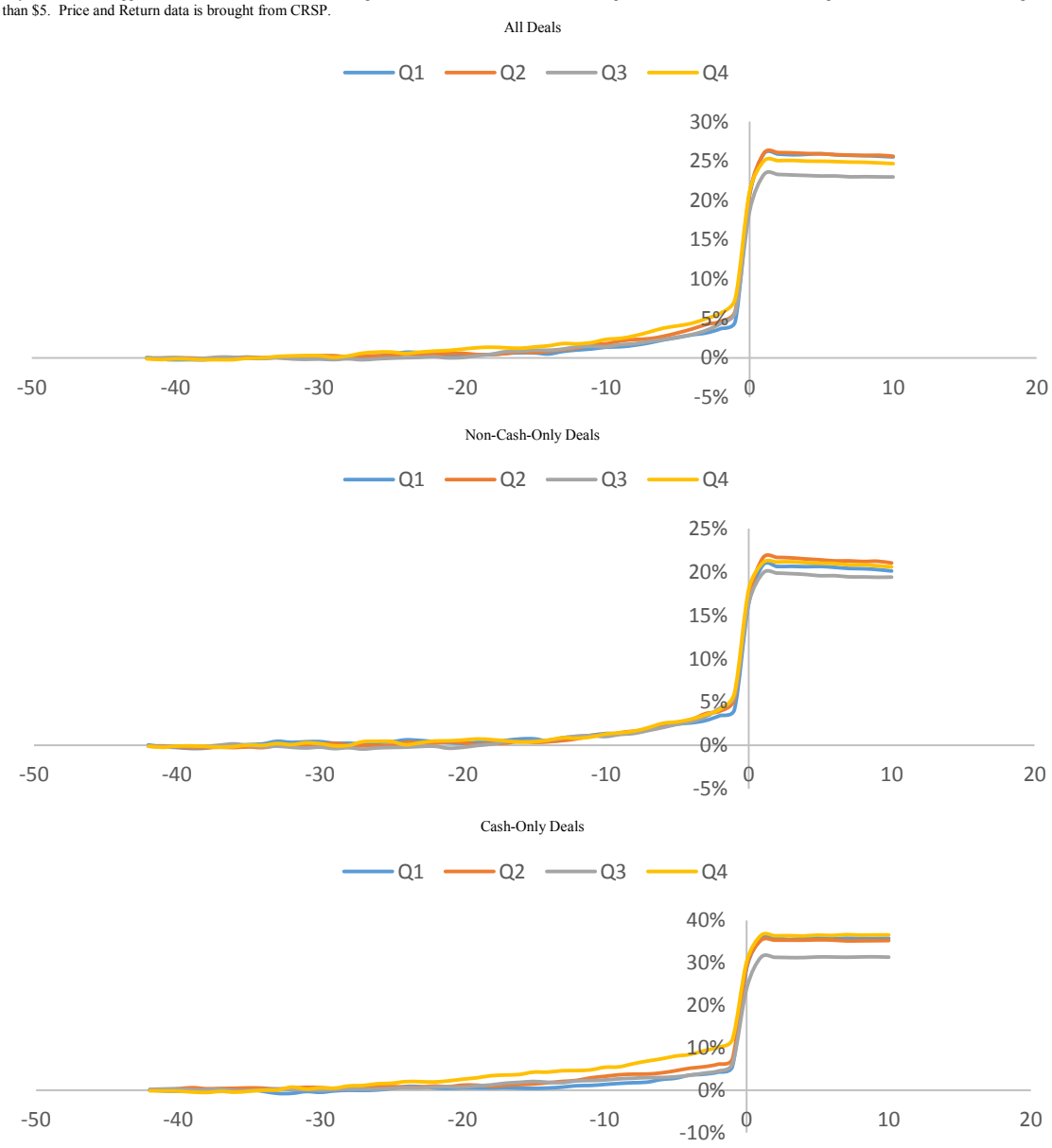


Figure 4-13 Target CAR as we progress in time through the runup period till after the announcement

The below figure show the average Cumulative Abnormal Return (CAR) of the Target firms as we progress in time 42 days before the deal announcement till 126 days after the deal announcement. The Cumulative Abnormal Return (CAR) is estimated as sum of the Abnormal Returns (AR) over the specified period. The AR is calculated as the difference between the realized return of the firm's stock and the expected return. The expected return is obtained using the market model ($r_{i,t} = \alpha + \beta\, r_{m,t}$). This latter was estimated using daily date spanning 253 trading days before the announcement day to 43 days before the announcement day. CRSP Value weighted index was used as a proxy for the market. Once the CAR is estimated for every firm in our sample for a particular day, an equal weighted average is calculated. The CAR estimation period starts from day -42 (42 trading days before the announcement day). The process is repeated progressively as we advance in time. The deals within our sample are classified into four sentiment quartile based on the Baker and Wurgler Sentiment Index (BW) that is associated with the deal. BW levels are brought from Professor Wurgler Website. The quartile cutoffs are estimated as per the sentiment original index spanning the period of our analysis: November 1981 till October 2015. For every deal, we estimated a sentiment measure that is equal to the weighted average sentiment index levels that are available during the deal's runup period. This latter spans 42 days before the announcement to 2 days before the announcement. Q1 (Q4) is the quartile with lowest (highest) sentiment index level. Mergers and Acquisitions deals are downloaded from SDC. We limited our sample to Mergers, Acquisitions of Majority Interest and Acquisitions of Remaining Interest. We also required that the deal process a reported final offer price on SDC and filtered out the top and bottom deals' percentile when sorted as per their offer price in order to avoid outliers. We removed any offer that is not the first offer within a multibid contest. Deals fall into a multibid contest if bids on the same target are separated by less than 6 months from each other. We also require that both target and acquirer firms are public US listed firms with CRSP and Compustat data on both. We divided our sample in All, Non-Cash-Only (Mixed or Stock-Only) and Cash-Only based on the medium of exchange as reported by SDC. Similar approach is followed to estimate both target and bidder CAR. We limited our sample to those deal with a deal value greater than $10 Million and target share price greater than $5. Price and Return data is brought from CRSP.

Figure 4-14 Bidder CAR as we progress in time through the runup period till after the announcement

The below figure show the average Cumulative Abnormal Return (CAR) of the Bidder firms as we progress in time 42 days before the deal announcement till 10 days after the deal announcement. The Cumulative Abnormal Return (CAR) is estimated as sum of the Abnormal Returns (AR) over the specified period. The AR is calculated as the difference between the realized return of the firm's stock and the expected return. The expected return is obtained using the market model ($r_{i,t} = \alpha + \beta\, r_{m,t}$). This latter was estimated using daily date spanning 253 trading days before the announcement day to 43 days before the announcement day. CRSP Value weighted index was used as a proxy for the market. Once the CAR is estimated for every firm in our sample for a particular day, an equal weighted average is calculated. The CAR estimation period starts from day -42 (42 trading days before the announcement day). The process is repeated progressively as we advance in time. The deals within our sample are classified into four sentiment quartile based on the Baker and Wurgler Sentiment Index (BW) that is associated with the deal. BW levels are brought from Wurgler Website. The quartile cutoffs are estimated as per the sentiment original index spanning the period of our analysis: November 1981 till October 2015. For every deal, we estimated a sentiment measure that is equal to the weighted average sentiment index levels that are available during the deal's runup period. This latter spans 42 days before the announcement to 2 days before the announcement. Q1 (Q4) is the quartile with lowest (highest) sentiment index level. Mergers and Acquisitions deals are downloaded from SDC. We limited our sample to Mergers, Acquisitions of Majority Interest and Acquisitions of Remaining Interest. We also required that the deal process a reported final offer price on SDC and filtered out the top and bottom deals' percentile when sorted as per their offer price in order to avoid outliers. We removed any offer that is not the first offer within a multibid contest. Deals fall into a multibid contest if bids on the same target are separated by less than 6 months from each other. We also require that both target and acquirer firms are public US listed firms with CRSP and Compustat data on both. We divided our sample in All, Non-Cash-Only (Mixed or Stock-Only) and Cash-Only based on the medium of exchange as reported by SDC. Similar approach is followed to estimate both target and bidder CAR. We limited our sample to those deal with a deal value greater than $10 Million and target share price greater than $5. Price and Return data is brought from CRSP.

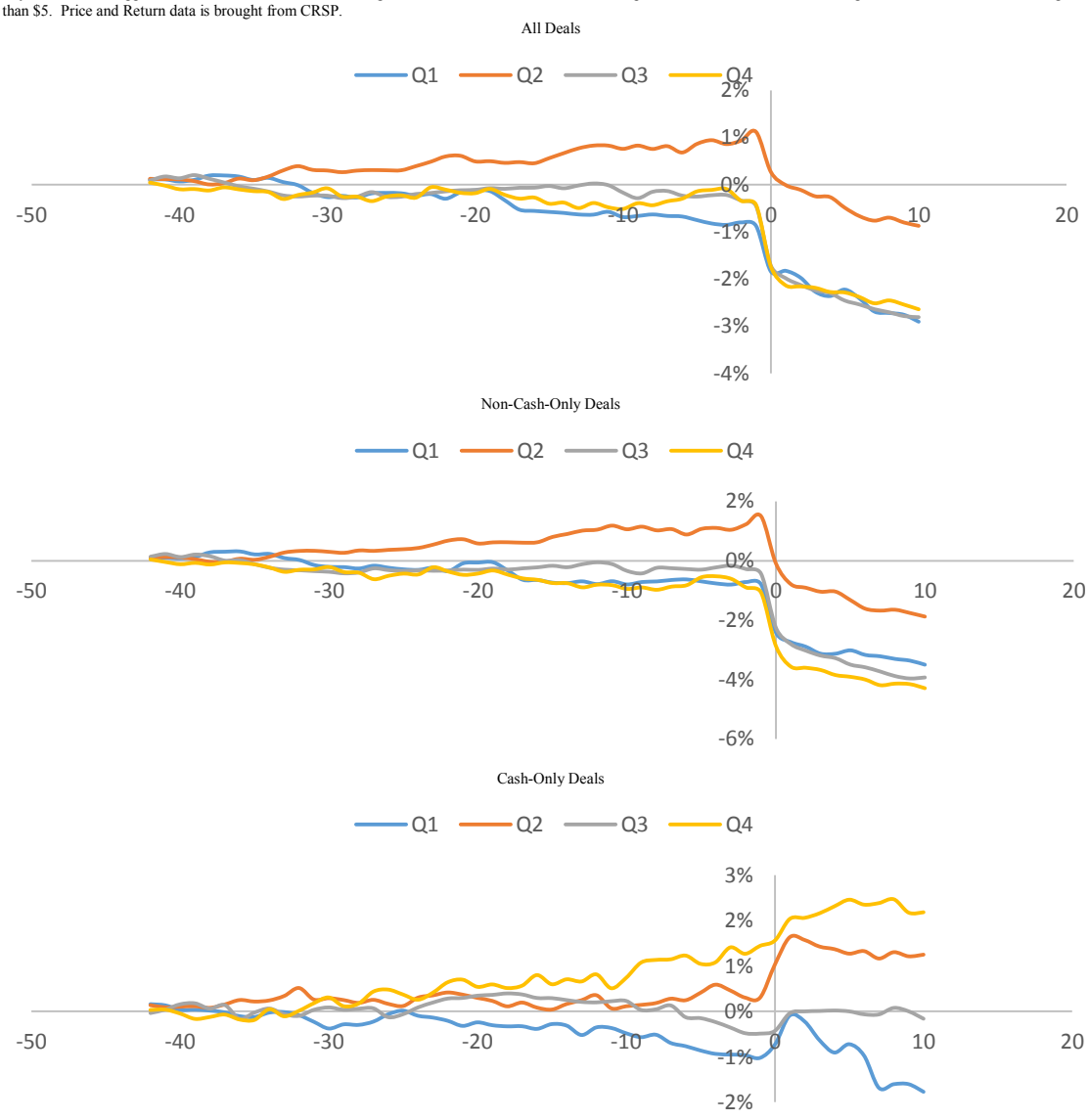


Figure 4-15 Bidder CAR as we progress in time through the runup period till after the announcement

The below figure show the average Cumulative Abnormal Return (CAR) of the Bidder firms as we progress in time 42 days before the deal announcement till 126 days after the deal announcement. The Cumulative Abnormal Return (CAR) is estimated as sum of the Abnormal Returns (AR) over the specified period. The AR is calculated as the difference between the realized return of the firm's stock and the expected return. The expected return is obtained using the market model ($r_{i,t} = \alpha + \beta\, r_{m,t}$). This latter was estimated using daily date spanning 253 trading days before the announcement day to 43 days before the announcement day. CRSP Value weighted index was used as a proxy for the market. Once the CAR is estimated for every firm in our sample for a particular day, an equal weighted average is calculated. The CAR estimation period starts from day -42 (42 trading days before the announcement day). The process is repeated progressively as we advance in time. The deals within our sample are classified into four sentiment quartile based on the Baker and Wurgler Sentiment Index (BW) that is associated with the deal. BW levels are brought from Wurgler Website. The quartile cutoffs are estimated as per the sentiment original index spanning the period of our analysis: November 1981 till October 2015. For every deal, we estimated a sentiment measure that is equal to the weighted average sentiment index levels that are available during the deal's runup period. This latter spans 42 days before the announcement to 2 days before the announcement. Q1 (Q4) is the quartile with lowest (highest) sentiment index level. Mergers and Acquisitions deals are downloaded from SDC. We limited our sample to Mergers, Acquisitions of Majority Interest and Acquisitions of Remaining Interest. We also required that the deal process a reported final offer price on SDC and filtered out the top and bottom deals' percentile when sorted as per their offer price in order to avoid outliers. We removed any offer that is not the first offer within a multibid contest. Deals fall into a multibid contest if bids on the same target are separated by less than 6 months from each other. We also require that both target and acquirer firms are public US listed firms with CRSP and Compustat data on both. We divided our sample in All, Non-Cash-Only (Mixed or Stock-Only) and Cash-Only based on the medium of exchange as reported by SDC. Similar approach is followed to estimate both target and bidder CAR. We limited our sample to those deal with a deal value greater than $10 Million and target share price greater than $5. Price and Return data is brought from CRSP.

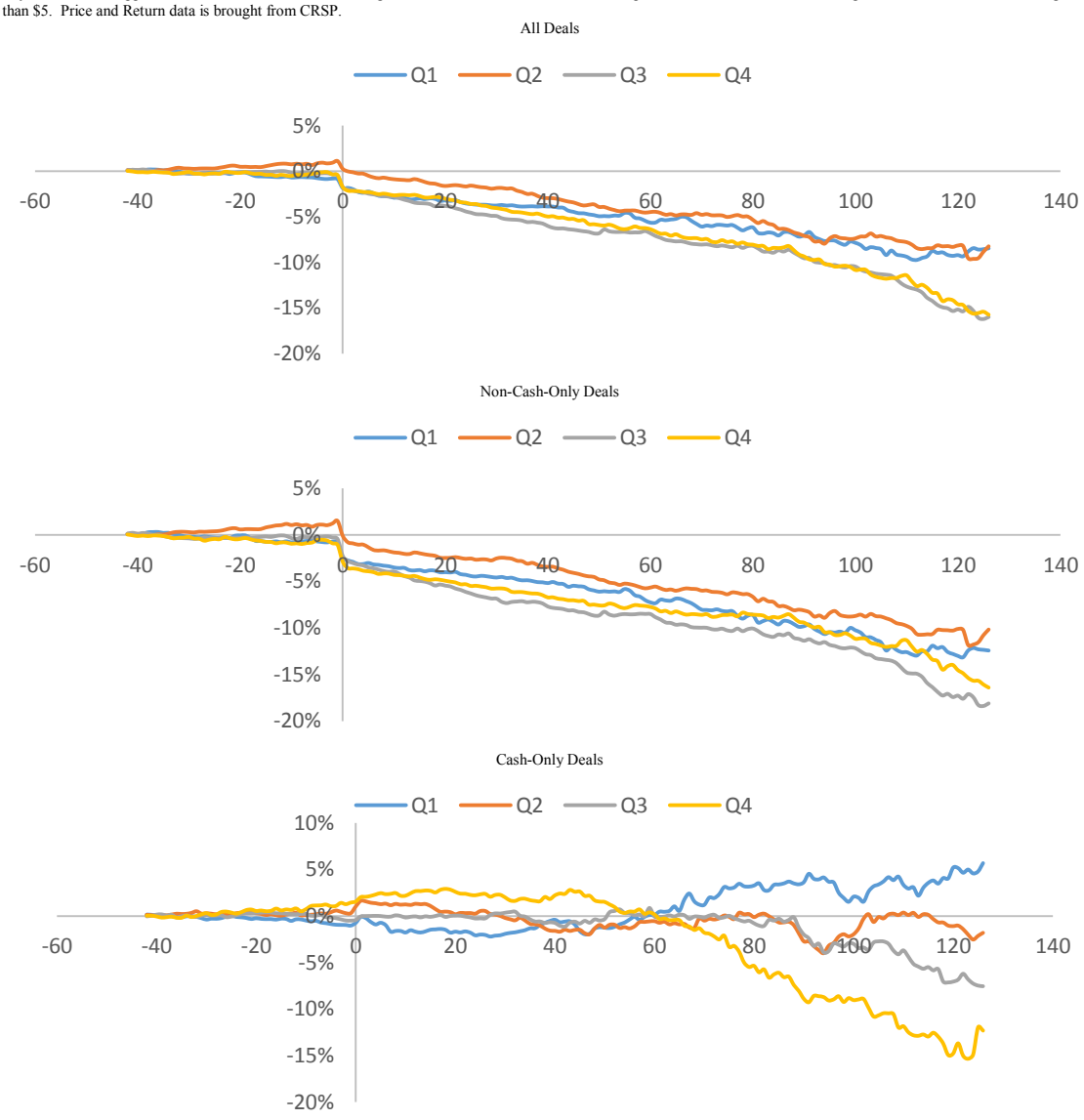


Table 4-60 Descriptive Statistics - by Baker and Wurgler Sentiment Index (BW) – ALL

The below table shows a general descriptive statistics of our data as well as the main variables used in our tests. The Cumulative Abnormal Return (CAR) is estimated as sum of the Abnormal Returns (AR) over the specified period. The AR is calculated as the difference between the realized return of the firm's stock and the expected return. The expected return is obtained using the market model ($r_{i,t} = \alpha + \beta\, r_{m,t}$). This latter is estimated using daily returns spanning 253 trading days before the announcement day to 43 days before the announcement day. CRSP Value weighted index was used as a proxy for the market. The deals within our sample are classified into four sentiment quartile based on the Baker and Wurgler Sentiment Index (BW) associated with the deal. BW levels are brought from professor Wurgler Website. For every deal, we estimated a sentiment measure that is equal to the weighted average sentiment index levels that are available during the deal's runup period. This latter spans 42 days before the announcement to 2 days before the announcement. The quartile cutoffs are estimated as per the sentiment original index spanning the period of our analysis: November 1981 till October 2015. Mergers and Acquisitions deals are downloaded from SDC. We limited our sample to Mergers, Acquisitions of Majority Interest and Acquisitions of Remaining Interest. We required that the deal have a reported final offer price on SDC and filtered out the top and bottom deals' percentile when sorted by per their offer premium in order to avoid outliers. The offer premium is estimated as the final offer price divided by the target stock price 42 trading days before the announcement day. We removed any offer that is not the first offer within a multibid contest. Deals fall into a multibid contest if bids on the same target are separated by less than 6 months from each other. We also filtered out any deal whose value is less than $10 Million dollar and whose target stock price on day -42 is less than $5. Deal value is brought from SDC. We have also used Target Cumulative Abnomral Return from the beginning of the Runup period till completion day or 126 days after the deal is completed (whichever is shorter) – we termed this variable as CAR-Base d-Premium. We require that both target and acquirer firms are public US listed firms with CRSP and Compustat data on both. We divided our sample into All, Non-Cash-Only (Mixed or Stock-Only) and Cash-Only based on the medium of exchange as reported by SDC. Price and Return data is brought from CRSP. For price based runup and markup, we followed Betton et al (2008) by dividing the target stock price 2 days before the announcement day by the target stock price 42 days before the announcement date and the Final Offer Price by the target stock price 2 days before the announcement respectively. For the CAR based runup and markup we estimated them as the CAR over [-42, -2] and [-1, +126] respectively. Size is the logarithm of the firm market cap 42 days before the announcement day. The firm market cap is obtained by multiplying the stock price by the number of shares outstanding (in $Millions). B/M is the ratio of the Book Value of the Firm`s equity divided by the Market Value of the Firm 42 days before the announcement. The Book value of the firm's equity is obtained following the approach of Fama and French (1993) by adding the book value of stockholders equity to the balance sheet deferred taxes and investment tax credit and subtracting the book value of preferred share – all data are brought from Compustat. Target (Acquirer) Turnover is estimated as the average of the Volume to Share Outstanding Ratio calculated over the interval spanning 166 days before the announcement to 42 days before the announcement (before the beginning of the runup period). Relying on SDC deals' data we created the following dummy variables: complete – whether the the deal was completed successfully or not, Hostile – whether the bidder attitude was hostile or not, Rumor – whether the deal followed a rumor or not, Tender – whether the deal was a tender offer or not, Toehold – whether the bidder had more than 5% ownership of the target at the deal's announcement, and NYSE/AMEX whether the deal is listed on NYSE, AMEX or not. If the target and acquirer share the same four-digit SIC code, the deal is considered a Horizontal deal. Firms' SIC codes are obtained from CRSP.

	All Sample	Q1	Q2	Q3	Q4
Target Size	19.4415	19.6222	19.7225	19.3610	19.1533
Target Turnover	6.5291	7.4219	6.8001	6.5429	5.6809
Target B/M	0.5794	0.6268	0.5665	0.5538	0.5872
Acquirer Size	21.4060	21.6241	21.5591	21.3532	21.1797
Acquirer Turnover	6.9172	7.1609	7.0331	6.5318	7.0617
Acquirer B/M	0.5067	0.5481	0.4805	0.4945	0.5163
Acquirer CAR [-42,-2]	-0.0012	-0.0082	0.0093	-0.0037	-0.0034
Acquirer CAR [-1,+1]	-0.0140	-0.0102	-0.0095	-0.0166	-0.0179
Acquirer CAR [+2,+126]	-0.0844	-0.0593	-0.0901	-0.1073	-0.0713
Target CAR [-42,-2]	0.0474	0.0379	0.0474	0.0441	0.0570
Target CAR [-1,+1]	0.2023	0.2221	0.2138	0.1889	0.1930
Target CAR [+2,+126]	-0.0175	-0.0399	-0.0004	-0.0271	-0.0080
Target CAR [-1,+126] – Target Markup – CAR-based	0.1848	0.1823	0.2134	0.1618	0.1850
Target CAR [-42,+126] – Target Premium – CAR-based	0.2322	0.2202	0.2608	0.2059	0.2421
Target Runup [(P_{-2}/P_{-42}) - 1]	0.0763	0.0827	0.0708	0.0691	0.0848
Target Markup [(Final Offer Price/P_{-2}) - 1]	0.3141	0.3569	0.3206	0.2959	0.2993
Premium [(Final Offer Price/P_{-42}) - 1]	0.4031	0.4554	0.4048	0.3718	0.4006
Target Listed on NYSE/AMEX	0.3565	0.3735	0.3909	0.3453	0.3262
Acquirer Listed on NYSE/AMEX	0.6507	0.6250	0.6317	0.6639	0.6709
Toehold Exists	0.0413	0.0298	0.0400	0.0460	0.0451
Horizontal Deal	0.2318	0.2649	0.2462	0.2053	0.2253
Tender Offer	0.1579	0.1994	0.1393	0.1372	0.1694
Cash Only Deal	0.3007	0.3452	0.3207	0.2983	0.2556
Hostile Deal	0.0348	0.0298	0.0292	0.0424	0.0353
First Bid in a Multibid Contest	0.0904	0.0685	0.0702	0.1123	0.0999
Rumored Deal	0.0448	0.0610	0.0745	0.0295	0.0235
Complete Deal	0.8618	0.8378	0.8790	0.8738	0.8492
BW	0.3764	-0.3295	0.0449	0.4109	1.1051
Number of Deals	3705	672	926	1086	1021

Table 4-61 Descriptive Statistics - by Baker and Wurgler Sentiment Index (BW) – Non-Cash-Only

The below table shows a general descriptive statistics of our data as well as the main variables used in our tests for the Non-Cash-Only (Stock and Mixed Deal) sample. The Cumulative Abnormal Return (CAR) is estimated as sum of the Abnormal Returns (AR) over the specified period. The AR is calculated as the difference between the realized return of the firm's stock and the expected return. The expected return is obtained using the market model ($r_{i,t} = \alpha + \beta\, r_{m,t}$). This latter is estimated using daily returns spanning 253 trading days before the announcement day to 43 days before the announcement day. CRSP Value weighted index was used as a proxy for the market. The deals within our sample are classified into four sentiment quartile based on the Baker and Wurgler Sentiment Index (BW) associated with the deal. BW levels are brought from professor Wurgler Website. For every deal, we estimated a sentiment measure that is equal to the weighted average sentiment index levels that are available during the deal's runup period. This latter spans 42 days before the announcement to 2 days before the announcement. The quartile cutoffs are estimated as per the sentiment original index spanning the period of our analysis: November 1981 till October 2015. Mergers and Acquisitions deals are downloaded from SDC. We limited our sample to Mergers, Acquisitions of Majority Interest and Acquisitions of Remaining Interest. We required that the deal have a reported final offer price on SDC and filtered out the top and bottom deals' percentile when sorted by per their offer premium in order to avoid outliers. The offer premium is estimated as the final offer price divided by the target stock price 42 trading days before the announcement day. We removed any offer that is not the first offer within a multibid contest. Deals fall into a multibid contest if bids on the same target are separated by less than 6 months from each other. We also filtered out any deal whose value is less than $10 Million dollar and whose target stock price on day -42 is less than $5. Deal value is brought from SDC. We have also used Target Cumulative Abnomral Return from the beginning of the Runup period till completion day or 126 days after the deal is completed (whichever is shorter) – we termed this variable as CAR-Base d-Premium. We require that both target and acquirer firms are public US listed firms with CRSP and Compustat data on both. We divided our sample into All, Non-Cash-Only (Mixed or Stock-Only) and Cash-Only based on the medium of exchange as reported by SDC. Price and Return data is brought from CRSP. For price based runup and markup, we followed Betton et al (2008) by dividing the target stock price 2 days before the announcement day by the target stock price 42 days before the announcement date and the Final Offer Price by the target stock price 2 days before the announcement respectively. For the CAR based runup and markup we estimated them as the CAR over [-42, -2] and [-1, +126] respectively. Size is the logarithm of the firm market cap 42 days before the announcement day. The firm market cap is obtained by multiplying the stock price by the number of shares outstanding (in $Millions). B/M is the ratio of the Book Value of the Firm`s equity divided by the Market Value of the Firm 42 days before the announcement. The Book value of the firm's equity is obtained following the approach of Fama and French (1993) by adding the book value of stockholders equity to the balance sheet deferred taxes and investment tax credit and subtracting the book value of preferred share – all data are brought from Compustat. Target (Acquirer) Turnover is estimated as the average of the Volume to Share Outstanding Ratio calculated over the interval spanning 166 days before the announcement to 42 days before the announcement (before the beginning of the runup period). Relying on SDC deals' data we created the following dummy variables: complete – whether the the deal was completed successfully or not, Hostile – whether the bidder attitude was hostile or not, Rumor – whether the deal followed a rumor or not, Tender – whether the deal was a tender offer or not, Toehold – whether the bidder had more than 5% ownership of the target at the deal's announcement, and NYSE/AMEX whether the deal is listed on NYSE, AMEX or not. If the target and acquirer share the same four-digit SIC code, the deal is considered a Horizontal deal. Firms' SIC codes are obtained from CRSP.

	All Sample	Q1	Q2	Q3	Q4
Target Size	19.5059	19.7543	19.7892	19.3911	19.2425
Target Turnover	6.4603	7.4695	6.7828	6.2694	5.8005
Target B/M	0.5849	0.6393	0.5854	0.5498	0.5882
Acquirer Size	21.2293	21.3425	21.4012	21.1418	21.1093
Acquirer Turnover	7.1493	7.2593	7.0893	6.6702	7.6155
Acquirer B/M	0.4821	0.5599	0.4738	0.4476	0.4785
Acquirer CAR [-42,-2]	-0.0017	-0.0073	0.0127	-0.0031	-0.0090
Acquirer CAR [-1,+1]	-0.0236	-0.0203	-0.0202	-0.0253	-0.0267
Acquirer CAR [+2,+126]	-0.1074	-0.0801	-0.1058	-0.1367	-0.0950
Target CAR [-42,-2]	0.0408	0.0346	0.0407	0.0435	0.0416
Target CAR [-1,+1]	0.1677	0.1737	0.1771	0.1553	0.1689
Target CAR [+2,+126]	-0.0193	-0.0374	-0.0024	-0.0301	-0.0120
Target CAR [-1,+126] – Target Markup – CAR-based	0.1484	0.1364	0.1747	0.1252	0.1569
Target CAR [-42,+126] – Target Premium – CAR-based	0.1892	0.1709	0.2154	0.1687	0.1985
Target Runup [(P_{-2}/P_{-42}) - 1]	0.0700	0.0752	0.0635	0.0700	0.0726
Target Markup [(Final Offer Price/P_{-2}) - 1]	0.2977	0.3182	0.3094	0.2817	0.2920
Premium [(Final Offer Price/P_{-42}) - 1]	0.3787	0.4062	0.3859	0.3589	0.3768
Target Listed on NYSE/AMEX	0.3701	0.3955	0.4229	0.3504	0.3316
Acquirer Listed on NYSE/AMEX	0.6229	0.5795	0.6184	0.6312	0.6434
Toehold Exists	0.0343	0.0341	0.0382	0.0381	0.0276
Horizontal Deal	0.2493	0.3023	0.2671	0.2218	0.2316
Tender Offer	0.0459	0.0591	0.0413	0.0381	0.0500
Cash Only Deal	0.0000	0.0000	0.0000	0.0000	0.0000
Hostile Deal	0.0247	0.0159	0.0191	0.0354	0.0237
First Bid in a Multibid Contest	0.0853	0.0614	0.0684	0.1089	0.0895
Rumored Deal	0.0440	0.0682	0.0700	0.0328	0.0197
Complete Deal	0.8584	0.8318	0.8808	0.8688	0.8447
BW	0.4054	-0.3260	0.0450	0.4161	1.1165
Number of Deals	2591	440	629	762	760

Table 4-62 Descriptive Statistics - by Baker and Wurgler Sentiment Index (BW) – Cash-Only

The below table shows a general descriptive statistics of our data as well as the main variables used in our tests for the Cash-Only sample. The Cumulative Abnormal Return (CAR) is estimated as sum of the Abnormal Returns (AR) over the specified period. The AR is calculated as the difference between the realized return of the firm's stock and the expected return. The expected return is obtained using the market model ($r_{i,t} = \alpha + \beta\, r_{m,t}$). This latter is estimated using daily returns spanning 253 trading days before the announcement day to 43 days before the announcement day. CRSP Value weighted index was used as a proxy for the market. The deals within our sample are classified into four sentiment quartile based on the Baker and Wurgler Sentiment Index (BW) associated with the deal. BW levels are brought from professor Wurgler Website. For every deal, we estimated a sentiment measure that is equal to the weighted average sentiment index levels that are available during the deal's runup period. This latter spans 42 days before the announcement to 2 days before the announcement. The quartile cutoffs are estimated as per the sentiment original index spanning the period of our analysis: November 1981 till October 2015. Mergers and Acquisitions deals are downloaded from SDC. We limited our sample to Mergers, Acquisitions of Majority Interest and Acquisitions of Remaining Interest. We required that the deal have a reported final offer price on SDC and filtered out the top and bottom deals' percentile when sorted by per their offer premium in order to avoid outliers. The offer premium is estimated as the final offer price divided by the target stock price 42 trading days before the announcement day. We removed any offer that is not the first offer within a multibid contest. Deals fall into a multibid contest if bids on the same target are separated by less than 6 months from each other. We also filtered out any deal whose value is less than $10 Million dollar and whose target stock price on day -42 is less than $5. Deal value is brought from SDC. We have also used Target Cumulative Abnormal Return from the beginning of the Runup period till completion day or 126 days after the deal is completed (whichever is shorter) – we termed this variable as CAR-Based-Premium. We require that both target and acquirer firms are public US listed firms with CRSP and Compustat data on both. We divided our sample into All, Non-Cash-Only (Mixed or Stock-Only) and Cash-Only based on the medium of exchange as reported by SDC. Price and Return data is brought from CRSP. For price based runup and markup, we followed Betton et al (2008) by dividing the target stock price 2 days before the announcement day by the target stock price 42 days before the announcement date and the Final Offer Price by the target stock price 2 days before the announcement respectively. For the CAR based runup and markup we estimated them as the CAR over [-42, -2] and [-1, +126] respectively. Size is the logarithm of the firm market cap 42 days before the announcement day. The firm market cap is obtained by multiplying the stock price by the number of shares outstanding (in $Millions). B/M is the ratio of the Book Value of the Firm`s equity divided by the Market Value of the Firm 42 days before the announcement. The Book value of the firm's equity is obtained following the approach of Fama and French (1993) by adding the book value of stockholders equity to the balance sheet deferred taxes and investment tax credit and subtracting the book value of preferred share – all data are brought from Compustat. Target (Acquirer) Turnover is estimated as the average of the Volume to Share Outstanding Ratio calculated over the interval spanning 166 days before the announcement to 42 days before the announcement (before the beginning of the runup period). Relying on SDC deals' data we created the following dummy variables: complete – whether the the deal was completed successfully or not, Hostile – whether the bidder attitude was hostile or not, Rumor – whether the deal followed a rumor or not, Tender – whether the deal was a tender offer or not, Toehold – whether the bidder had more than 5% ownership of the target at the deal's announcement, and NYSE/AMEX whether the deal is listed on NYSE, AMEX or not. If the target and acquirer share the same four-digit SIC code, the deal is considered a Horizontal deal. Firms' SIC codes are obtained from CRSP.

	All Sample	Q1	Q2	Q3	Q4
Target Size	19.2917	19.3716	19.5812	19.2899	18.8935
Target Turnover	6.6891	7.3318	6.8367	7.1862	5.3326
Target B/M	0.5667	0.6032	0.5266	0.5631	0.5843
Acquirer Size	21.8169	22.1582	21.8935	21.8505	21.3847
Acquirer Turnover	6.3776	6.9742	6.9141	6.2065	5.4492
Acquirer B/M	0.5641	0.5259	0.4947	0.6046	0.6265
Acquirer CAR [-42,-2]	0.0000	-0.0099	0.0021	-0.0051	0.0128
Acquirer CAR [-1,+1]	0.0083	0.0087	0.0133	0.0041	0.0076
Acquirer CAR [+2,+126]	-0.0309	-0.0198	-0.0569	-0.0382	-0.0022
Target CAR [-42,-2]	0.0627	0.0442	0.0615	0.0455	0.1019
Target CAR [-1,+1]	0.2827	0.3139	0.2916	0.2678	0.2633
Target CAR [+2,+126]	-0.0132	-0.0446	0.0040	-0.0200	0.0036
Target CAR [-1,+126] – Target Markup – CAR-based	0.2695	0.2693	0.2956	0.2478	0.2669
Target CAR [-42,+126] – Target Premium – CAR-based	0.3322	0.3135	0.3570	0.2933	0.3688
Target Runup [(P_{-2}/P_{-42}) - 1]	0.0909	0.0970	0.0862	0.0670	0.1203
Target Markup [(Final Offer Price/P_{-2}) - 1]	0.3523	0.4301	0.3443	0.3292	0.3209
Premium [(Final Offer Price/P_{-42}) - 1]	0.4600	0.5488	0.4448	0.4022	0.4699
Target Listed on NYSE/AMEX	0.3250	0.3319	0.3232	0.3333	0.3103
Acquirer Listed on NYSE/AMEX	0.7154	0.7112	0.6599	0.7407	0.7510
Toehold Exists	0.0575	0.0216	0.0438	0.0648	0.0958
Horizontal Deal	0.1912	0.1940	0.2020	0.1667	0.2069
Tender Offer	0.4183	0.4655	0.3468	0.3704	0.5172
Cash Only Deal	1.0000	1.0000	1.0000	1.0000	1.0000
Hostile Deal	0.0584	0.0560	0.0505	0.0586	0.0690
First Bid in a Multibid Contest	0.1023	0.0819	0.0741	0.1204	0.1303
Rumored Deal	0.0467	0.0474	0.0842	0.0216	0.0345
Complete Deal	0.8698	0.8491	0.8754	0.8858	0.8621
BW	0.3090	-0.3360	0.0446	0.3986	1.0720
Number of Deals	1114	232	297	324	261

Table 4-63 Bidder Cumulative Abnormal Return (CAR) during the Announcement Period - by Baker and Wurgler Sentiment Index (BW)

The below table shows the Bidder CAR estimated over the announcement period [-1, +1] sorted across the four sentiment quartiles. The Cumulative Abnormal Return (CAR) is estimated as sum of the Abnormal Returns (AR) over the specified period. The AR is calculated as the difference between the realized return of the firm's stock and the expected return. The expected return is obtained using the market model ($r_{i,t} = \alpha + \beta\, r_{m,t}$). This latter is estimated using daily returns spanning 253 trading days before the announcement day to 43 days before the announcement day. CRSP Value weighted index was used as a proxy for the market. The deals within our sample are classified into four sentiment quartile based on the Baker and Wurgler Sentiment Index associated with the deal. BW levels are brought from professor Wurgler Website. For every deal, we estimated a sentiment measure that is equal to the weighted average sentiment index levels that are available during the deal's runup period. This latter spans 42 days before the announcement to 2 days before the announcement. The quartile cutoffs are estimated as per the sentiment original index spanning the period of our analysis: November 1981 till October 2015. Mergers and Acquisitions deals are downloaded from SDC. We limited our sample to Mergers, Acquisitions of Majority Interest and Acquisitions of Remaining Interest. We required that the deal have a reported final offer price on SDC and filtered out the top and bottom deals' percentile when sorted by per their offer premium in order to avoid outliers. The offer premium is estimated as the final offer price divided by the target stock price 42 trading days before the announcement day. We removed any offer that is not the first offer within a multibid contest. Deals fall into a multibid contest if bids on the same target are separated by less than 6 months from each other. We also filtered out any deal whose value is less than $10 Million dollar and whose target stock price on day -42 is less than $5. Deal value is brought from SDC. We have also used Target Cumulative Abnomral Return from the beginning of the Runup period till completion day or 126 days after the deal is completed (whichever is shorter) – we termed this variable as CAR-Base d-Premium. We require that both target and acquirer firms are public US listed firms with CRSP and Compustat data on both. We divided our sample into All, Non-Cash-Only (Mixed or Stock-Only) and Cash-Only based on the medium of exchange as reported by SDC. Price and Return data is brought from CRSP. For price based runup and markup, we followed Betton et al (2008) by dividing the target stock price 2 days before the announcement day by the target stock price 42 days before the announcement date and the Final Offer Price by the target stock price 2 days before the announcement respectively. For the CAR based runup and markup we estimated them as the CAR over [-42, -2] and [-1, +126] respectively. Size is the logarithm of the firm market cap 42 days before the announcement day. The firm market cap is obtained by multiplying the stock price by the number of shares outstanding (in $Millions). B/M is the ratio of the Book Value of the Firm's equity divided by the Market Value of the Firm 42 days before the announcement. The Book value of the firm's equity is obtained following the approach of Fama and French (1993) by adding the book value of stockholders equity to the balance sheet deferred taxes and investment tax credit and subtracting the book value of preferred share – all data are brought from Compustat. Target (Acquirer) Turnover is estimated as the average of the Volume to Share Outstanding Ratio calculated over the interval spanning 166 days before the announcement to 42 days before the announcement (before the beginning of the runup period). Relying on SDC deals' data we created the following dummy variables: complete – whether the the deal was completed successfully or not, Hostile – whether the bidder attitude was hostile or not, Rumor – whether the deal followed a rumor or not, Tender – whether the deal was a tender offer or not, Toehold – whether the bidder had more than 5% ownership of the target at the deal's announcement, and NYSE/AMEX whether the deal is listed on NYSE, AMEX or not. If the target and acquirer share the same four-digit SIC code, the deal is considered a Horizontal deal. Firms' SIC codes are obtained from CRSP. Q1 – Q4 represents the mean difference between the quintile with lowest index level (Q1) and the quintile with highest index level (Q4). t-stat are reported underneath. The *,**,*** indicates significance at 10%, 5%, and 1% respectively.

All Deals				
Q1	Q2	Q3	Q4	Q1 – Q4
-1.02%***	-0.95%***	-1.66%***	-1.79%***	0.77%*
(-3.23)	(-3.68)	(-7.53)	(-7.39)	(1.94)
Non-Cash-Only Deals (Mixed and Stock-Only Deals)				
-2.03%***	-2.02%***	-2.53%***	-2.67%***	0.64%
(-5.38)	(-6.5)	(-8.96)	(-9.05)	(1.33)
Cash-Only Deals				
0.87%	1.33%***	0.41%	0.76%**	0.12%
(1.56)	(3.1)	(1.42)	(2.1)	(0.18)

Table 4-64 Target Bargaining Power – by Baker and Wurgler Sentiment Index (BW)

The below table presents the deal estimated bargaining power over the different sentiment quartiles. Bargaining power is estimated following Ahern et. Al (2013) as the ratio of the difference of Target and Acquirer Dollar Cumulative Abnormal Return (CAR) divided by the sum of Target and Acquirer market cap obtained 42 days before the announcement. The Dollar CARs are obtained as the sum of the dollar Abnormal Returns (AR). The dollar AR are estimated by multiplying the daily AR by the lagged daily market cap for the corresponding firm. The AR is calculated as the difference between the realized return of the firm's stock and the expected return. The expected return is obtained using the market model ($r_{i,t} = \alpha + \beta\, r_{m,t}$). This latter is estimated using daily returns spanning 253 trading days before the announcement day to 43 days before the announcement day. CRSP Value weighted index was used as a proxy for the market. The deals within our sample are classified into four sentiment quartile based on the Baker and Wurgler Sentiment Index (BW) associated with the deal. BW levels are brought from professor Wurgler Website. For every deal, we estimated a sentiment measure that is equal to the weighted average sentiment index levels that are available during the deal's runup period. This latter spans 42 days before the announcement to 2 days before the announcement. The quartile cutoffs are estimated as per the sentiment original index spanning the period of our analysis: November 1981 till October 2015. Mergers and Acquisitions deals are downloaded from SDC. We limited our sample to Mergers, Acquisitions of Majority Interest and Acquisitions of Remaining Interest. We required that the deal have a reported final offer price on SDC and filtered out the top and bottom deals' percentile when sorted by per their offer premium in order to avoid outliers. The offer premium is estimated as the final offer price divided by the target stock price 42 trading days before the announcement day. We removed any offer that is not the first offer within a multibid contest. Deals fall into a multibid contest if bids on the same target are separated by less than 6 months from each other. We also filtered out any deal whose value is less than $10 Million dollar and whose target stock price on day -42 is less than $5. Deal value is brought from SDC. We have also used Target Cumulative Abnormal Return from the beginning of the Runup period till completion day or 126 days after the deal is completed (whichever is shorter) – we termed this variable as CAR-Based-Premium. We require that both target and acquirer firms are public US listed firms with CRSP and Compustat data on both. We divided our sample into All, Non-Cash-Only (Mixed or Stock-Only) and Cash-Only based on the medium of exchange as reported by SDC. Price and Return data is brought from CRSP. For price based runup and markup, we followed Betton et al (2008) by dividing the target stock price 2 days before the announcement day by the target stock price 42 days before the announcement date and the Final Offer Price by the target stock price 2 days before the announcement respectively. For the CAR based runup and markup we estimated them as the CAR over [-42, -2] and [-1, +126] respectively. Size is the logarithm of the firm market cap 42 days before the announcement day. The firm market cap is obtained by multiplying the stock price by the number of shares outstanding (in $Millions). B/M is the ratio of the Book Value of the Firm's equity divided by the Market Value of the Firm 42 days before the announcement. The Book value of the firm's equity is obtained following the approach of Fama and French (1993) by adding the book value of stockholders equity to the balance sheet deferred taxes and investment tax credit and subtracting the book value of preferred share – all data are brought from Compustat. Target (Acquirer) Turnover is estimated as the average of the Volume to Share Outstanding Ratio calculated over the interval spanning 166 days before the announcement to 42 days before the announcement (before the beginning of the runup period). Relying on SDC deals' data we created the following dummy variables: complete – whether the the deal was completed successfully or not, Hostile – whether the bidder attitude was hostile or not, Rumor – whether the deal followed a rumor or not, Tender – whether the deal was a tender offer or not, Toehold – whether the bidder had more than 5% ownership of the target at the deal's announcement, and NYSE/AMEX whether the deal is listed on NYSE, AMEX or not. If the target and acquirer share the same four-digit SIC code, the deal is considered a Horizontal deal. Firms' SIC codes are obtained from CRSP. Firms' SIC codes are obtained from CRSP.

Panel A: Target Bargaining Power is estimated as the sum of Target and Acquirer CAR over [-1,+1] period				
All Deals				
Q1	Q2	Q3	Q4	Q1 – Q4
4.51%***	4.36%***	4.12%***	4.53%***	-0.03%
(14.82)	(17.1)	(19.24)	(19.6)	(-0.07)
Non-Cash-Only Deals (Mixed and Stock-Only Deals)				
5.18%***	5.05%***	4.57%***	4.81%***	0.37%
(15.13)	(16.78)	(17.58)	(18.65)	(0.87)
Cash-Only Deals				
3.23%***	2.89%***	3.06%***	3.74%***	-0.51%
(5.5)	(6.23)	(8.28)	(7.43)	(-0.66)
Panel B: Target Bargaining Power is estimated as the sum of Target and Acquirer CAR over [-42,+1] period				
All Deals				
Q1	Q2	Q3	Q4	Q1 – Q4
5.77%***	4.44%***	5.17%***	5.69%***	0.08%
(11.37)	(9.25)	(11.89)	(12.07)	(0.11)
Non-Cash-Only Deals (Mixed and Stock-Only Deals)				
6.21%***	4.62%***	5.53%***	6.21%***	0.00%
(10.47)	(7.97)	(10.43)	(11.97)	(0)
Cash-Only Deals				
4.94%***	4.03%***	4.32%***	4.19%***	0.75%
(5.23)	(4.74)	(5.73)	(3.97)	(0.52)
Panel C: Target Bargaining Power is estimated as the sum of Target and Acquirer CAR over [-42,+126] period				
All Deals				
Q1	Q2	Q3	Q4	Q1 – Q4
8.51%***	9.71%***	11.55%***	9.33%***	-0.81%
(8.09)	(10.51)	(13.46)	(9.79)	(-0.56)
Non-Cash-Only Deals (Mixed and Stock-Only Deals)				
9.95%***	10.99%***	13.86%***	10.46%***	-0.51%
(7.21)	(9.13)	(12.79)	(9.42)	(-0.28)
Cash-Only Deals				
5.80%***	7.00%***	6.13%***	6.03%***	-0.23%
(3.74)	(5.24)	(4.75)	(3.28)	(-0.1)

Table 4-65 Synergy – by Baker and Wurgler Sentiment Index (BW)

The below table presents the deal estimated synergy over the different sentiment quartile. Synergy is estimated as the ratio of the sum of Target and Acquirer Dollar Cumulative Abnormal Return (CAR) divided by the sum of Target and Acquirer market cap obtained 42 days before the announcement. The Dollar CARs are obtained as the sum of the dollar Abnormal Returns (AR). The dollar AR are estimated by multiplying the daily AR by the lagged daily market cap for the corresponding firm. The AR is calculated as the difference between the realized return of the firm's stock and the expected return. The expected return is obtained using the market model ($r_{i,t} = \alpha + \beta\, r_{m,t}$). This latter is estimated using daily returns spanning 253 trading days before the announcement day to 43 days before the announcement day. CRSP Value weighted index was used as a proxy for the market. The deals within our sample are classified into four sentiment quartile based on the Baker and Wurgler Sentiment Index (BW) associated with the deal. BW levels are brought from professor Wurgler Website. For every deal, we estimated a sentiment measure that is equal to the weighted average sentiment index levels that are available during the deal's runup period. This latter spans 42 days before the announcement to 2 days before the announcement. The quartile cutoffs are estimated as per the sentiment original index spanning the period of our analysis: November 1981 till October 2015. Mergers and Acquisitions deals are downloaded from SDC. We limited our sample to Mergers, Acquisitions of Majority Interest and Acquisitions of Remaining Interest. We required that the deal have a reported final offer price on SDC and filtered out the top and bottom deals' percentile when sorted by per their offer premium in order to avoid outliers. The offer premium is estimated as the final offer price divided by the target stock price 42 trading days before the announcement day. We removed any offer that is not the first offer within a multibid contest. Deals fall into a multibid contest if bids on the same target are separated by less than 6 months from each other. We also filtered out any deal whose value is less than $10 Million dollar and whose target stock price on day -42 is less than $5. Deal value is brought from SDC. We have also used Target Cumulative Abnormal Return from the beginning of the Runup period till completion day or 126 days after the deal is completed (whichever is shorter) – we termed this variable as CAR-Based-Premium. We require that both target and acquirer firms are public US listed firms with CRSP and Compustat data on both. We divided our sample into All, Non-Cash-Only (Mixed or Stock-Only) and Cash-Only based on the medium of exchange as reported by SDC. Price and Return data is brought from CRSP. For price based runup and markup, we followed Betton et al (2008) by dividing the target stock price 2 days before the announcement day by the target stock price 42 days before the announcement date and the Final Offer Price by the target stock price 2 days before the announcement respectively. For the CAR based runup and markup we estimated them as the CAR over [-42, -2] and [-1, +126] respectively. Size is the logarithm of the firm market cap 42 days before the announcement day. The firm market cap is obtained by multiplying the stock price by the number of shares outstanding (in $Millions). B/M is the ratio of the Book Value of the Firm`s equity divided by the Market Value of the Firm 42 days before the announcement. The Book value of the firm's equity is obtained following the approach of Fama and French (1993) by adding the book value of stockholders equity to the balance sheet deferred taxes and investment tax credit and subtracting the book value of preferred share – all data are brought from Compustat. Target (Acquirer) Turnover is estimated as the average of the Volume to Share Outstanding Ratio calculated over the interval spanning 166 days before the announcement to 42 days before the announcement (before the beginning of the runup period). Relying on SDC deals' data we created the following dummy variables: complete – whether the the deal was completed successfully or not, Hostile – whether the bidder attitude was hostile or not, Rumor – whether the deal followed a rumor or not, Tender – whether the deal was a tender offer or not, Toehold – whether the bidder had more than 5% ownership of the target at the deal's announcement, and NYSE/AMEX whether the deal is listed on NYSE, AMEX or not. If the target and acquirer share the same four-digit SIC code, the deal is considered a Horizontal deal. Firms' SIC codes are obtained from CRSP. Firms' SIC codes are obtained from CRSP. Q1 – Q4 represents the mean difference between the quintile with lowest index level (Q1) and the quintile with highest index level (Q4). t-stat are reported underneath. The *,**,*** indicates significance at 10%, 5%, and 1% respectively.

Panel A: Synergy is estimated as the sum of Target and Acquirer CAR over [-1,+1] period				
All Deals				
Q1	Q2	Q3	Q4	Q1 – Q4
2.42%***	2.72%***	1.70%***	1.75%***	0.68%
(7.48)	(9.66)	(7.61)	(6.79)	(1.64)
Non-Cash-Only Deals (Mixed and Stock-Only Deals)				
1.50%***	1.56%***	0.82%***	0.72%**	0.77%
(4.02)	(4.52)	(3.02)	(2.52)	(1.64)
Cash-Only Deals				
4.18%***	5.19%***	3.75%***	4.73%***	-0.55%
(6.94)	(11.34)	(10.45)	(9.08)	(-0.69)
Panel B: Synergy is estimated as the sum of Target and Acquirer CAR over [-42,+1] period				
All Deals				
Q1	Q2	Q3	Q4	Q1 – Q4
1.67%***	3.98%***	1.40%***	1.68%***	-0.01%
(2.86)	(6.84)	(2.85)	(2.93)	(-0.02)
Non-Cash-Only Deals (Mixed and Stock-Only Deals)				
0.84%	2.80%***	0.42%	-0.20%	1.04%
(1.15)	(3.89)	(0.68)	(-0.3)	(1)
Cash-Only Deals				
3.24%***	6.47%***	3.70%***	7.16%***	-3.93%***
(3.4)	(6.7)	(4.77)	(6.94)	(-2.78)
Panel C: Synergy is estimated as the sum of Target and Acquirer CAR over [-42,+126] period				
All Deals				
Q1	Q2	Q3	Q4	Q1 – Q4
-2.54%**	-1.80%	-6.03%***	-2.84%**	0.30%
(-2.04)	(-1.47)	(-5.79)	(-2.47)	(0.17)
Non-Cash-Only Deals (Mixed and Stock-Only Deals)				
-4.86%***	-4.43%***	-9.41%***	-5.87%***	1.00%
(-2.86)	(-2.75)	(-6.97)	(-4.19)	(0.45)
Cash-Only Deals				
1.87%	3.78%**	1.91%	5.96%***	-4.10%*
(1.17)	(2.28)	(1.41)	(3.27)	(-1.67)

Table 4-66 Target Runup - by Baker and Wurgler Sentiment Index (BW)

The below table shows the Target Runup sorted across the four sentiment quartiles. The Cumulative Abnormal Return (CAR) is estimated as sum of the Abnormal Returns (AR) over the specified period. The AR is calculated as the difference between the realized return of the firm's stock and the expected return. The expected return is obtained using the market model ($r_{i,t} = \alpha + \beta\, r_{m,t}$). This latter is estimated using daily returns spanning 253 trading days before the announcement day to 43 days before the announcement day. CRSP Value weighted index was used as a proxy for the market. The deals within our sample are classified into four sentiment quartile based on the Baker and Wurgler Sentiment Index associated with the deal. BW levels are brought from professor Wurgler Website. For every deal, we estimated a sentiment measure that is equal to the weighted average sentiment index levels that are available during the deal's runup period. This latter spans 42 days before the announcement to 2 days before the announcement. The quartile cutoffs are estimated as per the sentiment original index spanning the period of our analysis: November 1981 till October 2015. Mergers and Acquisitions deals are downloaded from SDC. We limited our sample to Mergers, Acquisitions of Majority Interest and Acquisitions of Remaining Interest. We required that the deal have a reported final offer price on SDC and filtered out the top and bottom deals' percentile when sorted by per their offer premium in order to avoid outliers. The offer premium is estimated as the final offer price divided by the target stock price 42 trading days before the announcement day. We removed any offer that is not the first offer within a multibid contest. Deals fall into a multibid contest if bids on the same target are separated by less than 6 months from each other. We also filtered out any deal whose value is less than $10 Million dollar and whose target stock price on day -42 is less than $5. Deal value is brought from SDC. We have also used Target Cumulative Abnomral Return from the beginning of the Runup period till completion day or 126 days after the deal is completed (whichever is shorter) – we termed this variable as CAR-Base d-Premium. We require that both target and acquirer firms are public US listed firms with CRSP and Compustat data on both. We divided our sample into All, Non-Cash-Only (Mixed or Stock-Only) and Cash-Only based on the medium of exchange as reported by SDC. Price and Return data is brought from CRSP. For price based runup and markup, we followed Betton et al (2008) by dividing the target stock price 2 days before the announcement day by the target stock price 42 days before the announcement date and the Final Offer Price by the target stock price 2 days before the announcement respectively. For the CAR based runup and markup we estimated them as the CAR over [-42, -2] and [-1, +126] respectively. Size is the logarithm of the firm market cap 42 days before the announcement day. The firm market cap is obtained by multiplying the stock price by the number of shares outstanding (in $Millions). B/M is the ratio of the Book Value of the Firm`s equity divided by the Market Value of the Firm 42 days before the announcement. The Book value of the firm's equity is obtained following the approach of Fama and French (1993) by adding the book value of stockholders equity to the balance sheet deferred taxes and investment tax credit and subtracting the book value of preferred share – all data are brought from Compustat. Target (Acquirer) Turnover is estimated as the average of the Volume to Share Outstanding Ratio calculated over the interval spanning 166 days before the announcement to 42 days before the announcement (before the beginning of the runup period). Relying on SDC deals' data we created the following dummy variables: complete – whether the the deal was completed successfully or not, Hostile – whether the bidder attitude was hostile or not, Rumor – whether the deal followed a rumor or not, Tender – whether the deal was a tender offer or not, Toehold – whether the bidder had more than 5% ownership of the target at the deal's announcement, and NYSE/AMEX whether the deal is listed on NYSE, AMEX or not. If the target and acquirer share the same four-digit SIC code, the deal is considered a Horizontal deal. Firms' SIC codes are obtained from CRSP. Q1 – Q4 represents the mean difference between the quintile with lowest index level (Q1) and the quintile with highest index level (Q4). t-stat are reported underneath. The *,**,*** indicates significance at 10%, 5%, and 1% respectively.

Panel A: Runup is estimated as the CAR of the target firm over [-42,-2] period				
All Deals				
Q1	Q2	Q3	Q4	Q1 – Q4
3.79%***	4.74%***	4.41%***	5.70%***	-1.91%*
(5.33)	(7.07)	(7.65)	(8.41)	(-1.88)
Non-Cash-Only Deals (Mixed and Stock-Only Deals)				
3.46%***	4.07%***	4.35%***	4.16%***	-0.70%
(4.01)	(5.06)	(5.98)	(5.23)	(-0.57)
Cash-Only Deals				
4.42%***	6.15%***	4.55%***	10.19%***	-5.77%***
(3.52)	(5.1)	(5.04)	(8.12)	(-3.24)
Panel B: Priced Based Runup - Runup is estimated as [(P-2 / P-42) – 1]				
All Deals				
Q1	Q2	Q3	Q4	Q1 – Q4
8.27%***	7.08%***	6.91%***	8.48%***	-0.21%
(11.33)	(10.53)	(10.57)	(12.6)	(-0.2)
Non-Cash-Only Deals (Mixed and Stock-Only Deals)				
7.52%***	6.35%***	7.00%***	7.26%***	0.26%
(8.78)	(7.96)	(8.3)	(9.35)	(0.22)
Cash-Only Deals				
9.70%***	8.62%***	6.70%***	12.03%***	-2.33%
(7.19)	(6.98)	(7.14)	(9.08)	(-1.23)

Table 4-67 Bidder Cumulative Abnormal Return (CAR) during the Runup Period - by Baker and Wurgler Sentiment Index (BW)

The below table shows the Bidder CAR estimated over the runup period sorted across the four sentiment quartiles. The Cumulative Abnormal Return (CAR) is estimated as sum of the Abnormal Returns (AR) over the specified period. The AR is calculated as the difference between the realized return of the firm's stock and the expected return. The expected return is obtained using the market model ($r_{i,t} = \alpha + \beta\, r_{m,t}$). This latter is estimated using daily returns spanning 253 trading days before the announcement day to 43 days before the announcement day. CRSP Value weighted index was used as a proxy for the market. The deals within our sample are classified into four sentiment quartile based on the Baker and Wurgler Sentiment Index (BW) associated with the deal. BW levels are brought from professor Wurgler Website. For every deal, we estimated a sentiment measure that is equal to the weighted average sentiment index levels that are available during the deal's runup period. This latter spans 42 days before the announcement to 2 days before the announcement. The quartile cutoffs are estimated as per the sentiment original index spanning the period of our analysis: November 1981 till October 2015. Mergers and Acquisitions deals are downloaded from SDC. We limited our sample to Mergers, Acquisitions of Majority Interest and Acquisitions of Remaining Interest. We required that the deal have a reported final offer price on SDC and filtered out the top and bottom deals' percentile when sorted by per their offer premium in order to avoid outliers. The offer premium is estimated as the final offer price divided by the target stock price 42 trading days before the announcement day. We removed any offer that is not the first offer within a multibid contest. Deals fall into a multibid contest if bids on the same target are separated by less than 6 months from each other. We also filtered out any deal whose value is less than $10 Million dollar and whose target stock price on day -42 is less than $5. Deal value is brought from SDC. We have also used Target Cumulative Abnomral Return from the beginning of the Runup period till completion day or 126 days after the deal is completed (whichever is shorter) – we termed this variable as CAR-Base d-Premium. We require that both target and acquirer firms are public US listed firms with CRSP and Compustat data on both. We divided our sample into All, Non-Cash-Only (Mixed or Stock-Only) and Cash-Only based on the medium of exchange as reported by SDC. Price and Return data is brought from CRSP. For price based runup and markup, we followed Betton et al (2008) by dividing the target stock price 2 days before the announcement day by the target stock price 42 days before the announcement date and the Final Offer Price by the target stock price 2 days before the announcement respectively. For the CAR based runup and markup we estimated them as the CAR over [-42, -2] and [-1, +126] respectively. Size is the logarithm of the firm market cap 42 days before the announcement day. The firm market cap is obtained by multiplying the stock price by the number of shares outstanding (in $Millions). B/M is the ratio of the Book Value of the Firm's equity divided by the Market Value of the Firm 42 days before the announcement. The Book value of the firm's equity is obtained following the approach of Fama and French (1993) by adding the book value of stockholders equity to the balance sheet deferred taxes and investment tax credit and subtracting the book value of preferred share – all data are brought from Compustat. Target (Acquirer) Turnover is estimated as the average of the Volume to Share Outstanding Ratio calculated over the interval spanning 166 days before the announcement to 42 days before the announcement (before the beginning of the runup period). Relying on SDC deals' data we created the following dummy variables: complete – whether the the deal was completed successfully or not, Hostile – whether the bidder attitude was hostile or not, Rumor – whether the deal followed a rumor or not, Tender – whether the deal was a tender offer or not, Toehold – whether the bidder had more than 5% ownership of the target at the deal's announcement, and NYSE/AMEX whether the deal is listed on NYSE, AMEX or not. If the target and acquirer share the same four-digit SIC code, the deal is considered a Horizontal deal. Firms' SIC codes are obtained from CRSP. Q1 – Q4 represents the mean difference between the quintile with lowest index level (Q1) and the quintile with highest index level (Q4). t-stat are reported underneath. The *,**,*** indicates significance at 10%, 5%, and 1% respectively.

All Deals				
Q1	Q2	Q3	Q4	Q1 – Q4
-0.82%	0.93%*	-0.37%	-0.35%	-0.48%
(-1.52)	(1.87)	(-0.83)	(-0.64)	(-0.6)
Non-Cash-Only Deals (Mixed and Stock-Only Deals)				
-0.73%	1.27%**	-0.31%	-0.90%	0.17%
(-1.03)	(1.99)	(-0.55)	(-1.4)	(0.17)
Cash-Only Deals				
-0.99%	0.21%	-0.51%	1.28%	-2.27%*
(-1.23)	(0.28)	(-0.75)	(1.39)	(-1.84)

Table 4-68 Target Markup - by Baker and Wurgler Sentiment Index (BW)

The below table shows the Target Markup sorted across the four sentiment quartiles. The Cumulative Abnormal Return (CAR) is estimated as sum of the Abnormal Returns (AR) over the specified period. The AR is calculated as the difference between the realized return of the firm's stock and the expected return. The expected return is obtained using the market model ($r_{i,t} = \alpha + \beta\, r_{m,t}$). This latter is estimated using daily returns spanning 253 trading days before the announcement day to 43 days before the announcement day. CRSP Value weighted index was used as a proxy for the market. The deals within our sample are classified into four sentiment quartile based on the Baker and Wurgler Sentiment Index associated with the deal. BW levels are brought from professor Wurgler Website. For every deal, we estimated a sentiment measure that is equal to the weighted average sentiment index levels that are available during the deal's runup period. This latter spans 42 days before the announcement to 2 days before the announcement. The quartile cutoffs are estimated as per the sentiment original index spanning the period of our analysis: November 1981 till October 2015. Mergers and Acquisitions deals are downloaded from SDC. We limited our sample to Mergers, Acquisitions of Majority Interest and Acquisitions of Remaining Interest. We required that the deal have a reported final offer price on SDC and filtered out the top and bottom deals' percentile when sorted by per their offer premium in order to avoid outliers. The offer premium is estimated as the final offer price divided by the target stock price 42 trading days before the announcement day. We removed any offer that is not the first offer within a multibid contest. Deals fall into a multibid contest if bids on the same target are separated by less than 6 months from each other. We also filtered out any deal whose value is less than $10 Million dollar and whose target stock price on day -42 is less than $5. Deal value is brought from SDC. We have also used Target Cumulative Abnomral Return from the beginning of the Runup period till completion day or 126 days after the deal is completed (whichever is shorter) – we termed this variable as CAR-Base d-Premium. We require that both target and acquirer firms are public US listed firms with CRSP and Compustat data on both. We divided our sample into All, Non-Cash-Only (Mixed or Stock-Only) and Cash-Only based on the medium of exchange as reported by SDC. Price and Return data is brought from CRSP. For price based runup and markup, we followed Betton et al (2008) by dividing the target stock price 2 days before the announcement day by the target stock price 42 days before the announcement date and the Final Offer Price by the target stock price 2 days before the announcement respectively. For the CAR based runup and markup we estimated them as the CAR over [-42, -2] and [-1, +126] respectively. Size is the logarithm of the firm market cap 42 days before the announcement day. The firm market cap is obtained by multiplying the stock price by the number of shares outstanding (in $Millions). B/M is the ratio of the Book Value of the Firm`s equity divided by the Market Value of the Firm 42 days before the announcement. The Book value of the firm's equity is obtained following the approach of Fama and French (1993) by adding the book value of stockholders equity to the balance sheet deferred taxes and investment tax credit and subtracting the book value of preferred share – all data are brought from Compustat. Target (Acquirer) Turnover is estimated as the average of the Volume to Share Outstanding Ratio calculated over the interval spanning 166 days before the announcement to 42 days before the announcement (before the beginning of the runup period). Relying on SDC deals' data we created the following dummy variables: complete – whether the the deal was completed successfully or not, Hostile – whether the bidder attitude was hostile or not, Rumor – whether the deal followed a rumor or not, Tender – whether the deal was a tender offer or not, Toehold – whether the bidder had more than 5% ownership of the target at the deal's announcement, and NYSE/AMEX whether the deal is listed on NYSE, AMEX or not. If the target and acquirer share the same four-digit SIC code, the deal is considered a Horizontal deal. Firms' SIC codes are obtained from CRSP. Q1 – Q4 represents the mean difference between the quintile with lowest index level (Q1) and the quintile with highest index level (Q4). t-stat are reported underneath. The *,**,*** indicates significance at 10%, 5%, and 1% respectively.

Panel A: Markup is estimated as the CAR of the target firm over [-1,+126] period				
All Deals				
Q1	Q2	Q3	Q4	Q1 – Q4
18.23%***	21.34%***	16.18%***	18.50%***	-0.28%
(12.82)	(18.48)	(15.17)	(17.39)	(-0.16)
Non-Cash-Only Deals (Mixed and Stock-Only Deals)				
13.64%***	17.47%***	12.52%***	15.69%***	-2.06%
(8.09)	(12.52)	(9.59)	(12.38)	(-0.98)
Cash-Only Deals				
26.93%***	29.56%***	24.78%***	26.69%***	0.24%
(10.75)	(14.95)	(14.25)	(14.55)	(0.08)
Panel B: Priced Based Markup - Target Markup is estimated as [(Final Offer Price / P-2) – 1]				
All Deals				
Q1	Q2	Q3	Q4	Q1 – Q4
35.69%***	32.06%***	29.59%***	29.93%***	5.75%**
(13.23)	(22.3)	(34.14)	(35.92)	(2.38)
Non-Cash-Only Deals (Mixed and Stock-Only Deals)				
31.82%***	30.94%***	28.17%***	29.20%***	2.63%
(10.24)	(15.77)	(25.97)	(29.85)	(0.98)
Cash-Only Deals				
43.01%***	34.43%***	32.92%***	32.09%***	10.93%**
(8.43)	(20.52)	(23.96)	(20.28)	(2.15)

Table 4-69 Target Cumulative Abnormal Return (CAR) during the Announcement Period - by Baker and Wurgler Sentiment Index (BW)

The below table shows the Target CAR estimated over the announcement period [-1, +1] sorted across the four sentiment quartiles. The Cumulative Abnormal Return (CAR) is estimated as sum of the Abnormal Returns (AR) over the specified period. The AR is calculated as the difference between the realized return of the firm's stock and the expected return. The expected return is obtained using the market model ($r_{i,t} = \alpha + \beta\, r_{m,t}$). This latter is estimated using daily returns spanning 253 trading days before the announcement day to 43 days before the announcement day. CRSP Value weighted index was used as a proxy for the market. The deals within our sample are classified into four sentiment quartile based on the Baker and Wurgler Sentiment Index associated with the deal. BW levels are brought from professor Wurgler Website. For every deal, we estimated a sentiment measure that is equal to the weighted average sentiment index levels that are available during the deal's runup period. This latter spans 42 days before the announcement to 2 days before the announcement. The quartile cutoffs are estimated as per the sentiment original index spanning the period of our analysis: November 1981 till October 2015. Mergers and Acquisitions deals are downloaded from SDC. We limited our sample to Mergers, Acquisitions of Majority Interest and Acquisitions of Remaining Interest. We required that the deal have a reported final offer price on SDC and filtered out the top and bottom deals' percentile when sorted by per their offer premium in order to avoid outliers. The offer premium is estimated as the final offer price divided by the target stock price 42 trading days before the announcement day. We removed any offer that is not the first offer within a multibid contest. Deals fall into a multibid contest if bids on the same target are separated by less than 6 months from each other. We also filtered out any deal whose value is less than $10 Million dollar and whose target stock price on day -42 is less than $5. Deal value is brought from SDC. We have also used Target Cumulative Abnomral Return from the beginning of the Runup period till completion day or 126 days after the deal is completed (whichever is shorter) – we termed this variable as CAR-Base d-Premium. We require that both target and acquirer firms are public US listed firms with CRSP and Compustat data on both. We divided our sample into All, Non-Cash-Only (Mixed or Stock-Only) and Cash-Only based on the medium of exchange as reported by SDC. Price and Return data is brought from CRSP. For price based runup and markup, we followed Betton et al (2008) by dividing the target stock price 2 days before the announcement day by the target stock price 42 days before the announcement date and the Final Offer Price by the target stock price 2 days before the announcement respectively. For the CAR based runup and markup we estimated them as the CAR over [-42, -2] and [-1, +126] respectively. Size is the logarithm of the firm market cap 42 days before the announcement day. The firm market cap is obtained by multiplying the stock price by the number of shares outstanding (in $Millions). B/M is the ratio of the Book Value of the Firm's equity divided by the Market Value of the Firm 42 days before the announcement. The Book value of the firm's equity is obtained following the approach of Fama and French (1993) by adding the book value of stockholders equity to the balance sheet deferred taxes and investment tax credit and subtracting the book value of preferred share – all data are brought from Compustat. Target (Acquirer) Turnover is estimated as the average of the Volume to Share Outstanding Ratio calculated over the interval spanning 166 days before the announcement to 42 days before the announcement (before the beginning of the runup period). Relying on SDC deals' data we created the following dummy variables: complete – whether the the deal was completed successfully or not, Hostile – whether the bidder attitude was hostile or not, Rumor – whether the deal followed a rumor or not, Tender – whether the deal was a tender offer or not, Toehold – whether the bidder had more than 5% ownership of the target at the deal's announcement, and NYSE/AMEX whether the deal is listed on NYSE, AMEX or not. If the target and acquirer share the same four-digit SIC code, the deal is considered a Horizontal deal. Firms' SIC codes are obtained from CRSP. Q1 – Q4 represents the mean difference between the quintile with lowest index level (Q1) and the quintile with highest index level (Q4). t-stat are reported underneath. The *,**,*** indicates significance at 10%, 5%, and 1% respectively.

All Deals				
Q1	Q2	Q3	Q4	Q1 – Q4
22.21%***	21.38%***	18.89%***	19.30%***	2.91%***
(25.44)	(29.63)	(30.79)	(31.07)	(2.79)
Non-Cash-Only Deals (Mixed and Stock-Only Deals)				
17.37%***	17.71%***	15.53%***	16.89%***	0.48%
(20.95)	(23.11)	(22.99)	(24.84)	(0.44)
Cash-Only Deals				
31.39%***	29.16%***	26.78%***	26.33%***	5.07%**
(17.07)	(19.96)	(22.37)	(19.97)	(2.27)

Table 4-70 Premium - by Baker and Wurgler Sentiment Index (BW)

The below table shows the Premium sorted across the four sentiment quartiles. The Cumulative Abnormal Return (CAR) is estimated as sum of the Abnormal Returns (AR) over the specified period. The AR is calculated as the difference between the realized return of the firm's stock and the expected return. The expected return is obtained using the market model ($r_{i,t} = \alpha + \beta\, r_{m,t}$). This latter is estimated using daily returns spanning 253 trading days before the announcement day to 43 days before the announcement day. CRSP Value weighted index was used as a proxy for the market. The deals within our sample are classified into four sentiment quartile based on the Baker and Wurgler Sentiment Index associated with the deal. BW levels are brought from professor Wurgler Website. For every deal, we estimated a sentiment measure that is equal to the weighted average sentiment index levels that are available during the deal's runup period. This latter spans 42 days before the announcement to 2 days before the announcement. The quartile cutoffs are estimated as per the sentiment original index spanning the period of our analysis: November 1981 till October 2015. Mergers and Acquisitions deals are downloaded from SDC. We limited our sample to Mergers, Acquisitions of Majority Interest and Acquisitions of Remaining Interest. We required that the deal have a reported final offer price on SDC and filtered out the top and bottom deals' percentile when sorted by per their offer premium in order to avoid outliers. The offer premium is estimated as the final offer price divided by the target stock price 42 trading days before the announcement day. We removed any offer that is not the first offer within a multibid contest. Deals fall into a multibid contest if bids on the same target are separated by less than 6 months from each other. We also filtered out any deal whose value is less than $10 Million dollar and whose target stock price on day -42 is less than $5. Deal value is brought from SDC. We have also used Target Cumulative Abnomral Return from the beginning of the Runup period till completion day or 126 days after the deal is completed (whichever is shorter) – we termed this variable as CAR-Base d-Premium. We require that both target and acquirer firms are public US listed firms with CRSP and Compustat data on both. We divided our sample into All, Non-Cash-Only (Mixed or Stock-Only) and Cash-Only based on the medium of exchange as reported by SDC. Price and Return data is brought from CRSP. For price based runup and markup, we followed Betton et al (2008) by dividing the target stock price 2 days before the announcement day by the target stock price 42 days before the announcement date and the Final Offer Price by the target stock price 2 days before the announcement respectively. For the CAR based runup and markup we estimated them as the CAR over [-42, -2] and [-1, +126] respectively. Size is the logarithm of the firm market cap 42 days before the announcement day. The firm market cap is obtained by multiplying the stock price by the number of shares outstanding (in $Millions). B/M is the ratio of the Book Value of the Firm`s equity divided by the Market Value of the Firm 42 days before the announcement. The Book value of the firm's equity is obtained following the approach of Fama and French (1993) by adding the book value of stockholders equity to the balance sheet deferred taxes and investment tax credit and subtracting the book value of preferred share – all data are brought from Compustat. Target (Acquirer) Turnover is estimated as the average of the Volume to Share Outstanding Ratio calculated over the interval spanning 166 days before the announcement to 42 days before the announcement (before the beginning of the runup period). Relying on SDC deals' data we created the following dummy variables: complete – whether the the deal was completed successfully or not, Hostile – whether the bidder attitude was hostile or not, Rumor – whether the deal followed a rumor or not, Tender – whether the deal was a tender offer or not, Toehold – whether the bidder had more than 5% ownership of the target at the deal's announcement, and NYSE/AMEX whether the deal is listed on NYSE, AMEX or not. If the target and acquirer share the same four-digit SIC code, the deal is considered a Horizontal deal. Firms' SIC codes are obtained from CRSP. Q1 – Q4 represents the mean difference between the quintile with lowest index level (Q1) and the quintile with highest index level (Q4). t-stat are reported underneath. The *,**,*** indicates significance at 10%, 5%, and 1% respectively.

Panel A: Premium is estimated as the CAR of the target firm over [-42,+126] period				
All Deals				
Q1	Q2	Q3	Q4	Q1 – Q4
22.02%***	26.08%***	20.59%***	24.21%***	-2.19%
(13.03)	(18.76)	(16.44)	(17.69)	(-1.01)
Non-Cash-Only Deals (Mixed and Stock-Only Deals)				
17.09%***	21.54%***	16.87%***	19.85%***	-2.76%
(8.21)	(12.43)	(10.8)	(12.13)	(-1.03)
Cash-Only Deals				
31.35%***	35.70%***	29.33%***	36.88%***	-5.52%
(11.2)	(16.17)	(15.07)	(16.3)	(-1.55)
Panel B: Priced Based Premium - Target Markup is estimated as [(Final Offer Price / P-42) – 1]				
All Deals				
Q1	Q2	Q3	Q4	Q1 – Q4
45.54%***	40.48%***	37.18%***	40.06%***	5.49%*
(15.64)	(25.25)	(34.15)	(35.96)	(2.01)
Non-Cash-Only Deals (Mixed and Stock-Only Deals)				
40.62%***	38.59%***	35.89%***	37.68%***	2.94%
(12.93)	(17.84)	(25.43)	(29.21)	(1)
Cash-Only Deals				
54.88%***	44.48%***	40.22%***	46.99%***	7.89%
(9.25)	(22.41)	(26.7)	(21.78)	(1.31)

Table 4-71 Logistic Model Estimation of the Probability that the deal will be a cash-only offer versus a deal being a non-cash-only offer

The Baker and Wurgler Sentiment Index (BW) associated with the deal are brought from professor Wurgler Website. For every deal, we estimated a sentiment measure that is equal to the weighted average sentiment index levels that are available during the deal's runup period. This latter spans 42 days before the announcement to 2 days before the announcement. The quartile cutoffs are estimated as per the sentiment original index spanning the period of our analysis: November 1981 till October 2015. Mergers and Acquisitions deals are downloaded from SDC. We limited our sample to Mergers, Acquisitions of Majority Interest and Acquisitions of Remaining Interest. We required that the deal have a reported final offer price on SDC and filtered out the top and bottom deals' percentile when sorted by per their offer premium in order to avoid outliers. The offer premium is estimated as the final offer price divided by the target stock price 42 trading days before the announcement day. We removed any offer that is not the first offer within a multibid contest. Deals fall into a multibid contest if bids on the same target are separated by less than 6 months from each other. We also filtered out any deal whose value is less than $10 Million dollar and whose target stock price on day -42 is less than $5. Deal value is brought from SDC. We require that both target and acquirer firms are public US listed firms with CRSP and Compustat data on both. We divided our sample into All, Non-Cash-Only (Mixed or Stock-Only) and Cash-Only based on the medium of exchange as reported by SDC. Size is the logarithm of the firm market cap 42 days before the announcement day. The firm market cap is obtained by multiplying the stock price by the number of shares outstanding (in $Millions). B/M is the ratio of the Book Value of the Firm`s equity divided by the Market Value of the Firm 42 days before the announcement. The Book value of the firm's equity is obtained following the approach of Fama and French (1993) by adding the book value of stockholders equity to the balance sheet deferred taxes and investment tax credit and subtracting the book value of preferred share – all data are brought from Compustat. Target (Acquirer) Turnover is estimated as the average of the Volume to Share Outstanding Ratio calculated over the interval spanning 166 days before the announcement to 42 days before the announcement (before the beginning of the runup period). Relying on SDC deals' data we created the following dummy variables: complete – whether the the deal was completed successfully or not, Hostile – whether the bidder attitude was hostile or not, Rumor – whether the deal followed a rumor or not, Tender – whether the deal was a tender offer or not, Toehold – whether the bidder had more than 5% ownership of the target at the deal's announcement, and NYSE/AMEX whether the deal is listed on NYSE, AMEX or not. If the target and acquirer share the same four-digit SIC code, the deal is considered a Horizontal deal. Firms' SIC codes are obtained from CRSP. Q1 – Q4 represents the mean difference between the quintile with lowest index level (Q1) and the quintile with highest index level (Q4). t-stat are reported underneath. The *,**,*** indicates significance at 10%, 5%, and 1% respectively.

	1	2	3
Constant	-0.7476***	4.3349***	5.6552***
(p-value)	(<.0001)	(<.0001)	(<.0001)
BW-Sentiment-Proxy	-0.2713***	-0.3726***	-0.3602***
(p-value)	(<.0001)	(<.0001)	(<.0001)
Target Size		-0.00461	-0.00512
(p-value)		(0.8936)	(0.8918)
Target Turnover		-0.00109	-0.0161**
(p-value)		(0.8517)	(0.0235)
Target NYSE/Amex		-0.0556	-0.0627
(p-value)		(0.5934)	(0.584)
Target B/M		-0.0981	0.1565
(p-value)		(0.3504)	(0.2045)
Bidder Turnover		0.000033	-0.0133*
(p-value)		(0.995)	(0.0765)
Bidder NYSE/Amex		0.2118**	0.1497
(p-value)		(0.036)	(0.1794)
Bidder B/M		0.1229***	0.1461**
(p-value)		(0.0081)	(0.0131)
Relative Size		-6.1343***	-6.5451***
(p-value)		(<.0001)	(<.0001)
Toehold Exist		0.5124**	0.3708*
(p-value)		(0.0113)	(0.0846)
Horizontal		-0.2588**	-0.2284**
(p-value)		(0.0167)	(0.0483)
Tender Offer		2.7125***	2.4441***
(p-value)		(<.0001)	(<.0001)
Hostile		0.1089	0.2156
(p-value)		(0.6563)	(0.3873)
Multiple Bidders		0.0334	-0.093
(p-value)		(0.8267)	(0.5595)
Rumor		0.1815	0.2041
(p-value)		(0.3917)	(0.3598)
Pseudo-R^2	0.0054	0.2221	0.2758
Industry Dummies	No	No	Yes
Number of Cases	3705	3705	3705

Table 4-72 Cross-sectional Regression of Bidder CAR [-1,+1] on Baker and Wurgler Sentiment Index (BW)

The below table shows the results of the cross-sectional regressions of Bidder CAR estimated over the announcement period [-1,+1] on Baker and Wurgler Sentiment Index (BW). The Cumulative Abnormal Return (CAR) is estimated as sum of the Abnormal Returns (AR) over the specified period. The AR is calculated as the difference between the realized return of the firm's stock and the expected return. The expected return is obtained using the market model ($r_{i,t} = \alpha + \beta\, r_{m,t}$). This latter is estimated using daily returns spanning 253 trading days before the announcement day to 43 days before the announcement day. CRSP Value weighted index was used as a proxy for the market. The Baker and Wurgler Sentiment Index (BW) associated with the deal are brought from professor Wurgler Website. For every deal, we estimated a sentiment measure that is equal to the weighted average sentiment index levels that are available during the deal's runup period. This latter spans 42 days before the announcement to 2 days before the announcement. The quartile cutoffs are estimated as per the sentiment original index spanning the period of our analysis: November 1981 till October 2015. Mergers and Acquisitions deals are downloaded from SDC. We limited our sample to Mergers, Acquisitions of Majority Interest and Acquisitions of Remaining Interest. We required that the deal have a reported final offer price on SDC and filtered out the top and bottom deals' percentile when sorted by their offer premium in order to avoid outliers. The offer premium is estimated as the final offer price divided by the target stock price 42 trading days before the announcement day. We removed any offer that is not the first offer within a multibid contest. Deals fall into a multibid contest if bids on the same target are separated by less than 6 months from each other. We also filtered out any deal whose value is less than $10 Million dollar and whose target stock price on day -42 is less than $5. Deal value is brought from SDC. We have also used Target Cumulative Abnomral Return from the beginning of the Runup period till completion day or 126 days after the deal is completed (whichever is shorter) – we termed this variable as CAR-Base d-Premium. We require that both target and acquirer firms are public US listed firms with CRSP and Compustat data on both. We divided our sample into All, Non-Cash-Only (Mixed or Stock-Only) and Cash-Only based on the medium of exchange as reported by SDC. Price and Return data is brought from CRSP. For price based runup and markup, we followed Betton et al (2008) by dividing the target stock price 2 days before the announcement day by the target stock price 42 days before the announcement date and the Final Offer Price by the target stock price 2 days before the announcement respectively. For the CAR based runup and markup we estimated them as the CAR over [-42, -2] and [-1, +126] respectively. Size is the logarithm of the firm market cap 42 days before the announcement day. The firm market cap is obtained by multiplying the stock price by the number of shares outstanding (in $Millions). B/M is the ratio of the Book Value of the Firm's equity divided by the Market Value of the Firm 42 days before the announcement. The Book value of the firm's equity is obtained following the approach of Fama and French (1993) by adding the book value of stockholders equity to the balance sheet deferred taxes and investment tax credit and subtracting the book value of preferred share – all data are brought from Compustat. Target (Acquirer) Turnover is estimated as the average of the Volume to Share Outstanding Ratio calculated over the interval spanning 166 days before the announcement to 42 days before the announcement (before the beginning of the runup period). Relying on SDC deals' data we created the following dummy variables: complete – whether the deal was completed successfully or not, Hostile – whether the bidder attitude was hostile or not, Rumor – whether the deal followed a rumor or not, Tender – whether the deal was a tender offer or not, Toehold – whether the bidder had more than 5% ownership of the target at the deal's announcement, and NYSE/AMEX whether the deal is listed on NYSE, AMEX or not. If the target and acquirer share the same four-digit SIC code, the deal is considered a Horizontal deal. Relative size is the ratio of Target to Acquirer size. Firms' SIC codes are obtained from CRSP. Heteroscedasticity consistent white p-value are reported underneath. The *,**,*** indicates significance at 10%, 5%, and 1% respectively.

Deal-Type	All Deals		Non-Cash-Only		Cash-Only	
	1	2	3	4	5	6
Constant	-0.01203***	0.10883***	-0.02177***	0.17289***	0.0086***	0.07923
(p-value)	(<.0001)	(0.0075)	(<.0001)	(0.0012)	(0.0003)	(0.2096)
BW-Sentiment-Proxy	-0.00528**	-0.00468**	-0.00458	-0.00622**	-0.0008616	0.00056592
(p-value)	(0.0212)	(0.0372)	(0.1077)	(0.0302)	(0.786)	(0.8515)
Bidder Size		-0.00347***		-0.00444***		-0.00344**
(p-value)		(<.0001)		(<.0001)		(0.0152)
Bidder Turnover		0.00001206		0.00003441		0.00013288
(p-value)		(0.8528)		(0.6043)		(0.7425)
Bidder NYSE/Amex		0.0075**		0.01023***		0.00215
(p-value)		(0.0168)		(0.0074)		(0.6867)
Bidder B/M		0.00013845		0.00437**		-0.00046828
(p-value)		(0.8805)		(0.0481)		(0.6372)
Target Turnover		-0.00053718***		-0.00064909***		0.0001855
(p-value)		(0.0071)		(0.005)		(0.6089)
Target NYSE/Amex		-0.00019017		0.00256		-0.00284
(p-value)		(0.9515)		(0.5074)		(0.5907)
Target B/M		0.00272		-0.00615		0.01173**
(p-value)		(0.4239)		(0.1889)		(0.04)
CAR [-42,-2] Target		0.01124		0.0149		-0.0058
(p-value)		(0.1573)		(0.1272)		(0.5662)
CAR [-1,+1] Target		0.02377***		0.04606***		-0.01728**
(p-value)		(0.0004)		(<.0001)		(0.0201)
Relative Size		-0.06379**		-0.13393***		0.01917
(p-value)		(0.02)		(<.0001)		(0.6851)
Toehold Exist		0.0029		0.00482		0.00068608
(p-value)		(0.6832)		(0.6311)		(0.9427)
Horizontal		0.00099211		0.00077705		0.00161
(p-value)		(0.7647)		(0.8472)		(0.7702)
Tender Offer		0.0062		0.01297*		0.00333
(p-value)		(0.1444)		(0.0976)		(0.5508)
Cash Bid		0.02409***				
(p-value)		(<.0001)				
Hostile		-0.00361		0.00881		-0.01682
(p-value)		(0.6008)		(0.3051)		(0.1425)
Multiple Bidders		0.00513		0.00756		-0.00137
(p-value)		(0.3122)		(0.2567)		(0.8442)
Rumor		0.018***		0.02527***		0.00209
(p-value)		(0.0047)		(0.0035)		(0.8018)
Complete		0.00773		0.00592		0.00994
(p-value)		(0.13)		(0.3016)		(0.3258)
Adj-R^2	0.0015	0.0819	0.0009	0.0747	-0.0008	0.1065
Industry Dummies	No	Yes	No	Yes	No	Yes
Number of Cases	3705	3705	2591	2591	1114	1114

Table 4-73 Cross-sectional Regression of Target Bargaining Power estimated over [-1, +1] interval on Baker and Wurgler Sentiment Index (BW)

The below table shows the results of the cross-sectional regressions of target bargaining power estimated over the interval [-1, +1] Baker and Wurgler Sentiment Index (BW). The Bargaining power is estimated following Ahern et. Al (2013) as the ratio of the difference of Target and Acquirer Dollar Cumulative Abnormal Return (CAR) divided by the sum of Target and Acquirer market cap obtained 42 days before the announcement. The Dollar CARs are obtained as the sum of the dollar Abnormal Returns (AR). The dollar AR are estimated by multiplying the daily AR by the lagged daily market cap for the corresponding firm. The AR is calculated as the difference between the realized return of the firm's stock and the expected return. The expected return is obtained using the market model ($r_{i,t} = \alpha + \beta\, r_{m,t}$). This latter is estimated using daily returns spanning 253 trading days before the announcement day to 43 days before the announcement day. CRSP Value weighted index was used as a proxy for the market. The Baker and Wurgler Sentiment Index (BW) associated with the deal are brought from professor Wurgler Website. For every deal, we estimated a sentiment measure that is equal to the weighted average sentiment index levels that are available during the deal's runup period. This latter spans 42 days before the announcement to 2 days before the announcement. The quartile cutoffs are estimated as per the sentiment original index spanning the period of our analysis: November 1981 till October 2015. Mergers and Acquisitions deals are downloaded from SDC. We limited our sample to Mergers, Acquisitions of Majority Interest and Acquisitions of Remaining Interest. We required that the deal have a reported final offer price on SDC and filtered out the top and bottom deals' percentile when sorted by their offer premium in order to avoid outliers. The offer premium is estimated as the final offer price divided by the target stock price 42 trading days before the announcement day. We removed any offer that is not the first offer within a multibid contest. Deals fall into a multibid contest if bids on the same target are separated by less than 6 months from each other. We also filtered out any deal whose value is less than $10 Million dollar and whose target stock price on day -42 is less than $5. Deal value is brought from SDC. We have also used Target Cumulative Abnomral Return from the beginning of the Runup period till completion day or 126 days after the deal is completed (whichever is shorter) – we termed this variable as CAR-Base d-Premium. We require that both target and acquirer firms are public US listed firms with CRSP and Compustat data on both. We divided our sample into All, Non-Cash-Only (Mixed or Stock-Only) and Cash-Only based on the medium of exchange as reported by SDC. Price and Return data is brought from CRSP. For price based runup and markup, we followed Betton et al (2008) by dividing the target stock price 2 days before the announcement day by the target stock price 42 days before the announcement date and the Final Offer Price by the target stock price 2 days before the announcement respectively. For the CAR based runup and markup we estimated them as the CAR over [-42, -2] and [-1, +126] respectively. Size is the logarithm of the firm market cap 42 days before the announcement day. The firm market cap is obtained by multiplying the stock price by the number of shares outstanding (in $Millions). B/M is the ratio of the Book Value of the Firm's equity divided by the Market Value of the Firm 42 days before the announcement. The Book value of the firm's equity is obtained following the approach of Fama and French (1993) by adding the book value of stockholders equity to the balance sheet deferred taxes and investment tax credit and subtracting the book value of preferred share – all data are brought from Compustat. Target (Acquirer) Turnover is estimated as the average of the Volume to Share Outstanding Ratio calculated over the interval spanning 166 days before the announcement to 42 days before the announcement (before the beginning of the runup period). Relying on SDC deals' data we created the following dummy variables: complete – whether the deal was completed successfully or not, Hostile – whether the bidder attitude was hostile or not, Rumor – whether the deal followed a rumor or not, Tender – whether the deal was a tender offer or not, Toehold – whether the bidder had more than 5% ownership of the target at the deal's announcement, and NYSE/AMEX whether the deal is listed on NYSE, AMEX or not. If the target and acquirer share the same four-digit SIC code, the deal is considered a Horizontal deal. Relative size is the ratio of Target to Acquirer size. Firms' SIC codes are obtained from CRSP. Heteroscedasticity consistent white p-value are reported underneath. The *,**,*** indicates significance at 10%, 5%, and 1% respectively.

Deal-Type	All Deals		Non-Cash-Only		Cash-Only	
	1	2	3	4	5	6
Constant	0.04379***	-0.27723***	0.04932***	-0.2373***	0.03208***	-0.36084***
(p-value)	(<.0001)	(<.0001)	(<.0001)	(<.0001)	(<.0001)	(<.0001)
BW-Sentiment-Proxy	-0.00043431	0.00114	-0.00183	0.0005373	-1.8072E-07	-0.00024157
(p-value)	(0.8311)	(0.5541)	(0.4343)	(0.8091)	(1)	(0.9499)
Target Size		0.0013		0.0042***		-0.00318
(p-value)		(0.22)		(0.0006)		(0.1248)
Target Turnover		0.00053195***		0.00049823***		0.00057562
(p-value)		(0.0022)		(0.0048)		(0.2606)
Target NYSE/Amex		0.00132		-0.00337		0.00888*
(p-value)		(0.6379)		(0.3158)		(0.079)
Target B/M		0.00867**		0.01736***		0.00082916
(p-value)		(0.0224)		(<.0001)		(0.8626)
Bidder Turnover		-0.00006423		-0.00004463		-0.00006043
(p-value)		(0.4)		(0.4859)		(0.8789)
Bidder NYSE/Amex		-0.00589*		-0.00927**		0.00426
(p-value)		(0.0645)		(0.0119)		(0.4721)
Bidder B/M		0.00015341		-0.00141		0.00114
(p-value)		(0.8493)		(0.5044)		(0.3268)
Relative Size		0.30109***		0.2105***		0.47054***
(p-value)		(<.0001)		(<.0001)		(<.0001)
Toehold Exist		-0.01387**		-0.01202		-0.02107**
(p-value)		(0.0224)		(0.1495)		(0.0192)
Horizontal		0.00458		0.00697**		0.00023812
(p-value)		(0.1517)		(0.0483)		(0.9742)
Tender Offer		0.00387		0.00103		0.00651
(p-value)		(0.3202)		(0.8945)		(0.1685)
Cash Bid		-0.00989***				
(p-value)		(0.0017)				
Hostile		0.02848***		0.02575***		0.02062**
(p-value)		(<.0001)		(0.0048)		(0.0205)
Multiple Bidders		-0.0046		-0.00608		0.00314
(p-value)		(0.3075)		(0.2987)		(0.6252)
Rumor		-0.02389***		-0.02714***		-0.01692**
(p-value)		(<.0001)		(0.0002)		(0.0419)
Complete		0.00445		0.00474		0.00244
(p-value)		(0.2712)		(0.3176)		(0.7488)
Adj-R^2	-0.0003	0.1348	-0.0001	0.1042	-0.0009	0.2182
Industry Dummies	No	Yes	No	Yes	No	Yes
Number of Cases	3705	3705	2591	2591	1114	1114

Table 4-74 Cross-sectional Regression of Target Bargaining Power estimated over [-42, +1] interval on Baker and Wurgler Sentiment Index (BW)

The below table shows the results of the cross-sectional regressions of target bargaining power estimated over the interval [-42, +1] Baker and Wurgler Sentiment Index (BW). The Bargaining power is estimated following Ahern et. Al (2013) as the ratio of the difference of Target and Acquirer Dollar Cumulative Abnormal Return (CAR) divided by the sum of Target and Acquirer market cap obtained 42 days before the announcement. The Dollar CARs are obtained as the sum of the dollar Abnormal Returns (AR). The dollar AR are estimated by multiplying the daily AR by the lagged daily market cap for the corresponding firm. The AR is calculated as the difference between the realized return of the firm's stock and the expected return. The expected return is obtained using the market model ($r_{i,t} = \alpha + \beta\, r_{m,t}$). This latter is estimated using daily returns spanning 253 trading days before the announcement day to 43 days before the announcement day. CRSP Value weighted index was used as a proxy for the market. The Baker and Wurgler Sentiment Index (BW) associated with the deal are brought from professor Wurgler Website. For every deal, we estimated a sentiment measure that is equal to the weighted average sentiment index levels that are available during the deal's runup period. This latter spans 42 days before the announcement to 2 days before the announcement. The quartile cutoffs are estimated as per the sentiment original index spanning the period of our analysis: November 1981 till October 2015. Mergers and Acquisitions deals are downloaded from SDC. We limited our sample to Mergers, Acquisitions of Majority Interest and Acquisitions of Remaining Interest. We required that the deal have a reported final offer price on SDC and filtered out the top and bottom deals' percentile when sorted by their offer premium in order to avoid outliers. The offer premium is estimated as the final offer price divided by the target stock price 42 trading days before the announcement day. We removed any offer that is not the first offer within a multibid contest. Deals fall into a multibid contest if bids on the same target are separated by less than 6 months from each other. We also filtered out any deal whose value is less than $10 Million dollar and whose target stock price on day -42 is less than $5. Deal value is brought from SDC. We have also used Target Cumulative Abnomral Return from the beginning of the Runup period till completion day or 126 days after the deal is completed (whichever is shorter) – we termed this variable as CAR-Base d-Premium. We require that both target and acquirer firms are public US listed firms with CRSP and Compustat data on both. We divided our sample into All, Non-Cash-Only (Mixed or Stock-Only) and Cash-Only based on the medium of exchange as reported by SDC. Price and Return data is brought from CRSP. For price based runup and markup, we followed Betton et al (2008) by dividing the target stock price 2 days before the announcement day by the target stock price 42 days before the announcement date and the Final Offer Price by the target stock price 2 days before the announcement respectively. For the CAR based runup and markup we estimated them as the CAR over [-42, -2] and [-1, +126] respectively. Size is the logarithm of the firm market cap 42 days before the announcement day. The firm market cap is obtained by multiplying the stock price by the number of shares outstanding (in $Millions). B/M is the ratio of the Book Value of the Firm's equity divided by the Market Value of the Firm 42 days before the announcement. The Book value of the firm's equity is obtained following the approach of Fama and French (1993) by adding the book value of stockholders equity to the balance sheet deferred taxes and investment tax credit and subtracting the book value of preferred share – all data are brought from Compustat. Target (Acquirer) Turnover is estimated as the average of the Volume to Share Outstanding Ratio calculated over the interval spanning 166 days before the announcement to 42 days before the announcement (before the beginning of the runup period). Relying on SDC deals' data we created the following dummy variables: complete – whether the deal was completed successfully or not, Hostile – whether the bidder attitude was hostile or not, Rumor – whether the deal followed a rumor or not, Tender – whether the deal was a tender offer or not, Toehold – whether the bidder had more than 5% ownership of the target at the deal's announcement, and NYSE/AMEX whether the deal is listed on NYSE, AMEX or not. If the target and acquirer share the same four-digit SIC code, the deal is considered a Horizontal deal. Relative size is the ratio of Target to Acquirer size. Firms' SIC codes are obtained from CRSP. Heteroscedasticity consistent white p-value are reported underneath. The *,**,*** indicates significance at 10%, 5%, and 1% respectively.

Deal-Type	All Deals		Non-Cash-Only		Cash-Only	
	1	2	3	4	5	6
Constant	0.05181***	-0.26701***	0.05522***	-0.09018	0.04456***	-0.56381***
(p-value)	(<.0001)	(<.0001)	(<.0001)	(0.1562)	(<.0001)	(<.0001)
BW-Sentiment-Proxy	0.00158	0.00335	0.00257	0.00445	-0.00363	-0.00626
(p-value)	(0.6751)	(0.3723)	(0.5528)	(0.3)	(0.6347)	(0.4121)
Target Size		0.0018		0.00531**		-0.00438
(p-value)		(0.3818)		(0.0278)		(0.2504)
Target Turnover		0.00033259		0.00024022		0.00132
(p-value)		(0.5134)		(0.6797)		(0.1117)
Target NYSE/Amex		-0.00048825		0.00223		-0.00801
(p-value)		(0.9345)		(0.7544)		(0.4406)
Target B/M		0.00998		0.02374**		0.00038825
(p-value)		(0.1455)		(0.0144)		(0.966)
Bidder Turnover		0.00025307		0.0003186		-0.0002765
(p-value)		(0.4323)		(0.3095)		(0.7651)
Bidder NYSE/Amex		-0.01851***		-0.02406***		-0.00156
(p-value)		(0.0017)		(0.0004)		(0.8923)
Bidder B/M		-0.0034**		-0.00893		0.00020323
(p-value)		(0.042)		(0.1244)		(0.9384)
Relative Size		0.27987***		0.05364		0.70352***
(p-value)		(<.0001)		(0.2694)		(<.0001)
Toehold Exist		-0.02957**		-0.02329		-0.05774***
(p-value)		(0.0248)		(0.1646)		(0.0079)
Horizontal		0.00297		0.00892		-0.00938
(p-value)		(0.6295)		(0.1963)		(0.4627)
Tender Offer		0.01008		0.01099		0.0084
(p-value)		(0.2099)		(0.4775)		(0.381)
Cash Bid		-0.00803				
(p-value)		(0.1983)				
Hostile		0.03565***		0.00604		0.03959**
(p-value)		(0.0099)		(0.7603)		(0.0427)
Multiple Bidders		-0.0256***		-0.04201***		0.00773
(p-value)		(0.0092)		(0.0007)		(0.5919)
Rumor		0.00998		0.00654		0.01018
(p-value)		(0.2936)		(0.5695)		(0.5171)
Complete		-0.0008338		-0.00522		0.00235
(p-value)		(0.9187)		(0.5749)		(0.8851)
Adj-R^2	-0.0002	0.0463	-0.0003	0.0439	-0.0007	0.1281
Industry Dummies	No	Yes	No	Yes	No	Yes
Number of Cases	3705	3705	2591	2591	1114	1114

Table 4-75 Cross-sectional Regression of Target Bargaining Power estimated over [-42, +126] interval on Baker and Wurgler Sentiment Index (BW)

The below table shows the results of the cross-sectional regressions of target bargaining power estimated over the interval [-42, +126] Baker and Wurgler Sentiment Index (BW). The Bargaining power is estimated following Ahern et. Al (2013) as the ratio of the difference of Target and Acquirer Dollar Cumulative Abnormal Return (CAR) divided by the sum of Target and Acquirer market cap obtained 42 days before the announcement. The Dollar CARs are obtained as the sum of the dollar Abnormal Returns (AR). The dollar AR are estimated by multiplying the daily AR by the lagged daily market cap for the corresponding firm. The AR is calculated as the difference between the realized return of the firm's stock and the expected return. The expected return is obtained using the market model ($r_{i,t} = \alpha + \beta\, r_{m,t}$). This latter is estimated using daily returns spanning 253 trading days before the announcement day to 43 days before the announcement day. CRSP Value weighted index was used as a proxy for the market. The Baker and Wurgler Sentiment Index (BW) associated with the deal are brought from professor Wurgler Website. For every deal, we estimated a sentiment measure that is equal to the weighted average sentiment index levels that are available during the deal's runup period. This latter spans 42 days before the announcement to 2 days before the announcement. The quartile cutoffs are estimated as per the sentiment original index spanning the period of our analysis: November 1981 till October 2015. Mergers and Acquisitions deals are downloaded from SDC. We limited our sample to Mergers, Acquisitions of Majority Interest and Acquisitions of Remaining Interest. We required that the deal have a reported final offer price on SDC and filtered out the top and bottom deals' percentile when sorted by their offer premium in order to avoid outliers. The offer premium is estimated as the final offer price divided by the target stock price 42 trading days before the announcement day. We removed any offer that is not the first offer within a multibid contest. Deals fall into a multibid contest if bids on the same target are separated by less than 6 months from each other. We also filtered out any deal whose value is less than $10 Million dollar and whose target stock price on day -42 is less than $5. Deal value is brought from SDC. We have also used Target Cumulative Abnomral Return from the beginning of the Runup period till completion day or 126 days after the deal is completed (whichever is shorter) – we termed this variable as CAR-Base d-Premium. We require that both target and acquirer firms are public US listed firms with CRSP and Compustat data on both. We divided our sample into All, Non-Cash-Only (Mixed or Stock-Only) and Cash-Only based on the medium of exchange as reported by SDC. Price and Return data is brought from CRSP. For price based runup and markup, we followed Betton et al (2008) by dividing the target stock price 2 days before the announcement day by the target stock price 42 days before the announcement date and the Final Offer Price by the target stock price 2 days before the announcement respectively. For the CAR based runup and markup we estimated them as the CAR over [-42, -2] and [-1, +126] respectively. Size is the logarithm of the firm market cap 42 days before the announcement day. The firm market cap is obtained by multiplying the stock price by the number of shares outstanding (in $Millions). B/M is the ratio of the Book Value of the Firm's equity divided by the Market Value of the Firm 42 days before the announcement. The Book value of the firm's equity is obtained following the approach of Fama and French (1993) by adding the book value of stockholders equity to the balance sheet deferred taxes and investment tax credit and subtracting the book value of preferred share – all data are brought from Compustat. Target (Acquirer) Turnover is estimated as the average of the Volume to Share Outstanding Ratio calculated over the interval spanning 166 days before the announcement to 42 days before the announcement (before the beginning of the runup period). Relying on SDC deals' data we created the following dummy variables: complete – whether the deal was completed successfully or not, Hostile – whether the bidder attitude was hostile or not, Rumor – whether the deal followed a rumor or not, Tender – whether the deal was a tender offer or not, Toehold – whether the bidder had more than 5% ownership of the target at the deal's announcement, and NYSE/AMEX whether the deal is listed on NYSE, AMEX or not. If the target and acquirer share the same four-digit SIC code, the deal is considered a Horizontal deal. Relative size is the ratio of Target to Acquirer size. Firms' SIC codes are obtained from CRSP. Heteroscedasticity consistent white p-value are reported underneath. The *,**,*** indicates significance at 10%, 5%, and 1% respectively.

Deal-Type	All Deals		Non-Cash-Only		Cash-Only	
	1	2	3	4	5	6
Constant	0.09789***	0.03863	0.11449***	0.3472***	0.06278***	-0.54911***
(p-value)	(<.0001)	(0.7032)	(<.0001)	(0.0037)	(<.0001)	(0.0008)
BW-Sentiment-Proxy	0.00364	0.00187	0.00122	-0.00061984	-0.00024978	0.00158
(p-value)	(0.6171)	(0.7968)	(0.8873)	(0.9418)	(0.9857)	(0.9137)
Target Size		-0.00487		-0.0025		-0.00794
(p-value)		(0.1891)		(0.5828)		(0.1946)
Target Turnover		0.00121		0.00128		0.00117
(p-value)		(0.1801)		(0.2244)		(0.3546)
Target NYSE/Amex		0.00543		0.00671		0.01276
(p-value)		(0.6351)		(0.6419)		(0.4687)
Target B/M		-0.01811		-0.01573		-0.00929
(p-value)		(0.1747)		(0.41)		(0.6115)
Bidder Turnover		0.00126		0.00131		0.00216
(p-value)		(0.2034)		(0.1636)		(0.1706)
Bidder NYSE/Amex		-0.0432***		-0.05447***		-0.00102
(p-value)		(0.0003)		(0.0002)		(0.9577)
Bidder B/M		-0.01635***		-0.0344**		-0.00667
(p-value)		(0.0001)		(0.0267)		(0.1983)
Relative Size		0.14827*		-0.17719*		0.7492***
(p-value)		(0.0943)		(0.0911)		(<.0001)
Toehold Exist		-0.0054		-0.01323		-0.01737
(p-value)		(0.8164)		(0.63)		(0.6732)
Horizontal		0.00192		0.01418		-0.02633
(p-value)		(0.8689)		(0.3077)		(0.1941)
Tender Offer		-0.01475		-0.02786		-0.00513
(p-value)		(0.3034)		(0.3493)		(0.748)
Cash Bid		-0.04645***				
(p-value)		(<.0001)				
Hostile		0.07718***		0.03175		0.08579**
(p-value)		(0.0041)		(0.3543)		(0.0395)
Multiple Bidders		-0.02617		-0.04054		-0.00222
(p-value)		(0.1977)		(0.117)		(0.9343)
Rumor		0.00104		-0.00399		0.00274
(p-value)		(0.9543)		(0.8664)		(0.9093)
Complete		-0.03346		-0.04159*		-0.0248
(p-value)		(0.0749)		(0.0661)		(0.4151)
Adj-R2	-0.0002	0.0443	-0.0004	0.0537	-0.0009	0.0572
Industry Dummies	No	Yes	No	Yes	No	Yes
Number of Cases	3705	3705	2591	2591	1114	1114

Table 4-76 Cross-sectional Regression of Synergy estimated over [-1, +1] interval on Baker and Wurgler Sentiment Index (BW)

The below table shows the results of the cross-sectional regressions of synergy power estimated over the interval [-1, +1] on Baker and Wurgler Sentiment Index (BW). Synergy is estimated as the ratio of the sum of Target and Acquirer Dollar Cumulative Abnormal Return (CAR) divided by the sum of Target and Acquirer market cap obtained 42 days before the announcement. The Dollar CARs are obtained as the sum of the dollar Abnormal Returns (AR). The dollar AR are estimated by multiplying the daily AR by the lagged daily market cap for the corresponding firm. The AR is calculated as the difference between the realized return of the firm's stock and the expected return. The expected return is obtained using the market model ($r_{i,t} = \alpha + \beta\, r_{m,t}$). This latter is estimated using daily returns spanning 253 trading days before the announcement day to 43 days before the announcement day. CRSP Value weighted index was used as a proxy for the market. The Baker and Wurgler Sentiment Index (BW) associated with the deal are brought from professor Wurgler Website. For every deal, we estimated a sentiment measure that is equal to the weighted average sentiment index levels that are available during the deal's runup period. This latter spans 42 days before the announcement to 2 days before the announcement. The quartile cutoffs are estimated as per the sentiment original index spanning the period of our analysis: November 1981 till October 2015. Mergers and Acquisitions deals are downloaded from SDC. We limited our sample to Mergers, Acquisitions of Majority Interest and Acquisitions of Remaining Interest. We required that the deal have a reported final offer price on SDC and filtered out the top and bottom deals' percentile when sorted by their offer premium in order to avoid outliers. The offer premium is estimated as the final offer price divided by the target stock price 42 trading days before the announcement day. We removed any offer that is not the first offer within a multibid contest. Deals fall into a multibid contest if bids on the same target are separated by less than 6 months from each other. We also filtered out any deal whose value is less than $10 Million dollar and whose target stock price on day -42 is less than $5. Deal value is brought from SDC. We have also used Target Cumulative Abnomral Return from the beginning of the Runup period till completion day or 126 days after the deal is completed (whichever is shorter) – we termed this variable as CAR-Base d-Premium. We require that both target and acquirer firms are public US listed firms with CRSP and Compustat data on both. We divided our sample into All, Non-Cash-Only (Mixed or Stock-Only) and Cash-Only based on the medium of exchange as reported by SDC. Price and Return data is brought from CRSP. For price based runup and markup, we followed Betton et al (2008) by dividing the target stock price 2 days before the announcement day by the target stock price 42 days before the announcement date and the Final Offer Price by the target stock price 2 days before the announcement respectively. For the CAR based runup and markup we estimated them as the CAR over [-42, -2] and [-1, +126] respectively. Size is the logarithm of the firm market cap 42 days before the announcement day. The firm market cap is obtained by multiplying the stock price by the number of shares outstanding (in $Millions). B/M is the ratio of the Book Value of the Firm`s equity divided by the Market Value of the Firm 42 days before the announcement. The Book value of the firm's equity is obtained following the approach of Fama and French (1993) by adding the book value of stockholders equity to the balance sheet deferred taxes and investment tax credit and subtracting the book value of preferred share – all data are brought from Compustat. Target (Acquirer) Turnover is estimated as the average of the Volume to Share Outstanding Ratio calculated over the interval spanning 166 days before the announcement to 42 days before the announcement (before the beginning of the runup period). Relying on SDC deals' data we created the following dummy variables: complete – whether the deal was completed successfully or not, Hostile – whether the bidder attitude was hostile or not, Rumor – whether the deal followed a rumor or not, Tender – whether the deal was a tender offer or not, Toehold – whether the bidder had more than 5% ownership of the target at the deal's announcement, and NYSE/AMEX whether the deal is listed on NYSE, AMEX or not. If the target and acquirer share the same four-digit SIC code, the deal is considered a Horizontal deal. Relative size is the ratio of Target to Acquirer size. Firms' SIC codes are obtained from CRSP. Heteroscedasticity consistent white p-value are reported underneath. The *,**,*** indicates significance at 10%, 5%, and 1% respectively.

Deal-Type	All Deals		Non-Cash-Only		Cash-Only	
	1	2	3	4	5	6
Constant	0.02324***	-0.20271***	0.01297***	-0.11035***	0.04499***	-0.32439***
(p-value)	(<.0001)	(<.0001)	(<.0001)	(0.0041)	(<.0001)	(<.0001)
BW-Sentiment-Proxy	-0.00597***	-0.00356*	-0.00521**	-0.00505**	-0.0014	0.00005582
(p-value)	(0.005)	(0.0797)	(0.0329)	(0.0355)	(0.7343)	(0.9879)
Target Size		-0.0046***		-0.00388****		-0.00832***
(p-value)		(<.0001)		(0.0035)		(<.0001)
Target Turnover		-0.00036376*		-0.00062235**		0.00091904**
(p-value)		(0.0952)		(0.0154)		(0.0348)
Target NYSE/Amex		0.00408		0.00519		0.00541
(p-value)		(0.1973)		(0.1917)		(0.2459)
Target B/M		0.01296***		0.00915*		0.01676***
(p-value)		(0.0005)		(0.0591)		(0.0083)
Bidder Turnover		-0.00006616		-0.00001943		0.00008649
(p-value)		(0.2812)		(0.7319)		(0.8198)
Bidder NYSE/Amex		0.00545		0.00541		0.00774
(p-value)		(0.1068)		(0.1675)		(0.157)
Bidder B/M		0.00019226		0.00512**		-0.00001157
(p-value)		(0.8645)		(0.0329)		(0.992)
Relative Size		0.32831***		0.19072***		0.58114***
(p-value)		(<.0001)		(<.0001)		(<.0001)
Toehold Exist		-0.00904		0.00126		-0.02333**
(p-value)		(0.1719)		(0.8859)		(0.0213)
Horizontal		0.00354		0.00342		0.00607
(p-value)		(0.2957)		(0.3854)		(0.3441)
Tender Offer		0.0116***		0.02607***		0.00112
(p-value)		(0.003)		(0.0021)		(0.7914)
Cash Bid		0.03302***				
(p-value)		(<.0001)				
Hostile		0.02264***		0.04311***		-0.00001677
(p-value)		(0.001)		(<.0001)		(0.9985)
Multiple Bidders		0.0012		0.00239		-0.00084688
(p-value)		(0.8026)		(0.695)		(0.8979)
Rumor		0.00058795		0.0076		-0.01194
(p-value)		(0.9205)		(0.3441)		(0.1062)
Complete		0.01262***		0.00911*		0.02232***
(p-value)		(0.0031)		(0.0701)		(0.0012)
Adj-R^2	0.0018	0.1569	0.0013	0.0838	-0.0008	0.3555
Industry Dummies	No	Yes	No	Yes	No	Yes
Number of Cases	3705	3705	2591	2591	1114	1114

Table 4-77 Cross-sectional Regression of Synergy estimated over [-42, +1] interval on Baker and Wurgler Sentiment Index (BW)

The below table shows the results of the cross-sectional regressions of synergy power estimated over the interval [-42, +1] on Baker and Wurgler Sentiment Index (BW). Synergy is estimated as the ratio of the sum of Target and Acquirer Dollar Cumulative Abnormal Return (CAR) divided by the sum of Target and Acquirer market cap obtained 42 days before the announcement. The Dollar CARs are obtained as the sum of the dollar Abnormal Returns (AR). The dollar AR are estimated by multiplying the daily AR by the lagged daily market cap for the corresponding firm. The AR is calculated as the difference between the realized return of the firm's stock and the expected return. The expected return is obtained using the market model ($r_{i,t} = \alpha + \beta\, r_{m,t}$). This latter is estimated using daily returns spanning 253 trading days before the announcement day to 43 days before the announcement day. CRSP Value weighted index was used as a proxy for the market. The Baker and Wurgler Sentiment Index (BW) associated with the deal are brought from professor Wurgler Website. For every deal, we estimated a sentiment measure that is equal to the weighted average sentiment index levels that are available during the deal's runup period. This latter spans 42 days before the announcement to 2 days before the announcement. The quartile cutoffs are estimated as per the sentiment original index spanning the period of our analysis: November 1981 till October 2015. Mergers and Acquisitions deals are downloaded from SDC. We limited our sample to Mergers, Acquisitions of Majority Interest and Acquisitions of Remaining Interest. We required that the deal have a reported final offer price on SDC and filtered out the top and bottom deals' percentile when sorted by their offer premium in order to avoid outliers. The offer premium is estimated as the final offer price divided by the target stock price 42 trading days before the announcement day. We removed any offer that is not the first offer within a multibid contest. Deals fall into a multibid contest if bids on the same target are separated by less than 6 months from each other. We also filtered out any deal whose value is less than $10 Million dollar and whose target stock price on day -42 is less than $5. Deal value is brought from SDC. We have also used Target Cumulative Abnomral Return from the beginning of the Runup period till completion day or 126 days after the deal is completed (whichever is shorter) – we termed this variable as CAR-Base d-Premium. We require that both target and acquirer firms are public US listed firms with CRSP and Compustat data on both. We divided our sample into All, Non-Cash-Only (Mixed or Stock-Only) and Cash-Only based on the medium of exchange as reported by SDC. Price and Return data is brought from CRSP. For price based runup and markup, we followed Betton et al (2008) by dividing the target stock price 2 days before the announcement day by the target stock price 42 days before the announcement date and the Final Offer Price by the target stock price 2 days before the announcement respectively. For the CAR based runup and markup we estimated them as the CAR over [-42, -2] and [-1, +126] respectively. Size is the logarithm of the firm market cap 42 days before the announcement day. The firm market cap is obtained by multiplying the stock price by the number of shares outstanding (in $Millions). B/M is the ratio of the Book Value of the Firm`s equity divided by the Market Value of the Firm 42 days before the announcement. The Book value of the firm's equity is obtained following the approach of Fama and French (1993) by adding the book value of stockholders equity to the balance sheet deferred taxes and investment tax credit and subtracting the book value of preferred share – all data are brought from Compustat. Target (Acquirer) Turnover is estimated as the average of the Volume to Share Outstanding Ratio calculated over the interval spanning 166 days before the announcement to 42 days before the announcement (before the beginning of the runup period). Relying on SDC deals' data we created the following dummy variables: complete – whether the deal was completed successfully or not, Hostile – whether the bidder attitude was hostile or not, Rumor – whether the deal followed a rumor or not, Tender – whether the deal was a tender offer or not, Toehold – whether the bidder had more than 5% ownership of the target at the deal's announcement, and NYSE/AMEX whether the deal is listed on NYSE, AMEX or not. If the target and acquirer share the same four-digit SIC code, the deal is considered a Horizontal deal. Relative size is the ratio of Target to Acquirer size. Firms' SIC codes are obtained from CRSP. Heteroscedasticity consistent white p-value are reported underneath. The *,**,*** indicates significance at 10%, 5%, and 1% respectively.

Deal-Type	All Deals		Non-Cash-Only		Cash-Only	
	1	2	3	4	5	6
Constant	0.02501***	-0.23517***	0.01358***	-0.16916**	0.04931***	-0.33855***
(p-value)	(<.0001)	(0.0001)	(0.0006)	(0.0232)	(<.0001)	(0.0004)
BW-Sentiment-Proxy	-0.00882**	-0.00581	-0.01165**	-0.01251**	0.00717	0.01184
(p-value)	(0.0409)	(0.1679)	(0.0237)	(0.0131)	(0.3647)	(0.1244)
Target Size		-0.0083***		-0.00686**		-0.01285***
(p-value)		(0.0007)		(0.0213)		(0.0006)
Target Turnover		-0.00079809		-0.00133		0.00137*
(p-value)		(0.2303)		(0.1119)		(0.0795)
Target NYSE/Amex		0.00741		-0.00002315		0.02837***
(p-value)		(0.2896)		(0.9979)		(0.0073)
Target B/M		0.0302***		0.02532**		0.03156**
(p-value)		(0.0007)		(0.0315)		(0.0143)
Bidder Turnover		-0.00043146		-0.00037374		-0.00010108
(p-value)		(0.1331)		(0.2262)		(0.9111)
Bidder NYSE/Amex		0.01976***		0.01888**		0.02439**
(p-value)		(0.0039)		(0.0226)		(0.0349)
Bidder B/M		0.00218		0.01423**		0.00017999
(p-value)		(0.3043)		(0.0107)		(0.9339)
Relative Size		0.4314***		0.2743***		0.70981***
(p-value)		(<.0001)		(<.0001)		(<.0001)
Toehold Exist		-0.01528		-0.01039		-0.01848
(p-value)		(0.2927)		(0.5922)		(0.3982)
Horizontal		0.00701		0.00488		0.01581
(p-value)		(0.3397)		(0.5781)		(0.219)
Tender Offer		0.00847		0.01729		0.00226
(p-value)		(0.3211)		(0.3586)		(0.8124)
Cash Bid		0.04166***				
(p-value)		(<.0001)				
Hostile		0.03897**		0.08285***		-0.00576
(p-value)		(0.0127)		(0.0002)		(0.7969)
Multiple Bidders		0.00788		0.01596		-0.01063
(p-value)		(0.4655)		(0.2506)		(0.4533)
Rumor		0.00602		0.01498		-0.00864
(p-value)		(0.6011)		(0.3266)		(0.6015)
Complete		0.03442***		0.03694***		0.03337**
(p-value)		(0.0004)		(0.0015)		(0.0407)
Adj-R^2	0.0007	0.0755	0.0014	0.0565	-0.0002	0.1427
Industry Dummies	No	Yes	No	Yes	No	Yes
Number of Cases	3705	3705	2591	2591	1114	1114

Table 4-78 Cross-sectional Regression of Synergy estimated over [-42, +126] interval on Baker and Wurgler Sentiment Index (BW)

The below table shows the results of the cross-sectional regressions of synergy power estimated over the interval [-42, +126] on Baker and Wurgler Sentiment Index (BW). Synergy is estimated as the ratio of the sum of Target and Acquirer Dollar Cumulative Abnormal Return (CAR) divided by the sum of Target and Acquirer market cap obtained 42 days before the announcement. The Dollar CARs are obtained as the sum of the dollar Abnormal Returns (AR). The dollar AR are estimated by multiplying the daily AR by the lagged daily market cap for the corresponding firm. The AR is calculated as the difference between the realized return of the firm's stock and the expected return. The expected return is obtained using the market model ($r_{i,t} = \alpha + \beta\, r_{m,t}$). This latter is estimated using daily returns spanning 253 trading days before the announcement day to 43 days before the announcement day. CRSP Value weighted index was used as a proxy for the market. The Baker and Wurgler Sentiment Index (BW) associated with the deal are brought from professor Wurgler Website. For every deal, we estimated a sentiment measure that is equal to the weighted average sentiment index levels that are available during the deal's runup period. This latter spans 42 days before the announcement to 2 days before the announcement. The quartile cutoffs are estimated as per the sentiment original index spanning the period of our analysis: November 1981 till October 2015. Mergers and Acquisitions deals are downloaded from SDC. We limited our sample to Mergers, Acquisitions of Majority Interest and Acquisitions of Remaining Interest. We required that the deal have a reported final offer price on SDC and filtered out the top and bottom deals' percentile when sorted by their offer premium in order to avoid outliers. The offer premium is estimated as the final offer price divided by the target stock price 42 trading days before the announcement day. We removed any offer that is not the first offer within a multibid contest. Deals fall into a multibid contest if bids on the same target are separated by less than 6 months from each other. We also filtered out any deal whose value is less than $10 Million dollar and whose target stock price on day -42 is less than $5. Deal value is brought from SDC. We have also used Target Cumulative Abnomral Return from the beginning of the Runup period till completion day or 126 days after the deal is completed (whichever is shorter) – we termed this variable as CAR-Base d-Premium. We require that both target and acquirer firms are public US listed firms with CRSP and Compustat data on both. We divided our sample into All, Non-Cash-Only (Mixed or Stock-Only) and Cash-Only based on the medium of exchange as reported by SDC. Price and Return data is brought from CRSP. For price based runup and markup, we followed Betton et al (2008) by dividing the target stock price 2 days before the announcement day by the target stock price 42 days before the announcement date and the Final Offer Price by the target stock price 2 days before the announcement respectively. For the CAR based runup and markup we estimated them as the CAR over [-42, -2] and [-1, +126] respectively. Size is the logarithm of the firm market cap 42 days before the announcement day. The firm market cap is obtained by multiplying the stock price by the number of shares outstanding (in $Millions). B/M is the ratio of the Book Value of the Firm`s equity divided by the Market Value of the Firm 42 days before the announcement. The Book value of the firm's equity is obtained following the approach of Fama and French (1993) by adding the book value of stockholders equity to the balance sheet deferred taxes and investment tax credit and subtracting the book value of preferred share – all data are brought from Compustat. Target (Acquirer) Turnover is estimated as the average of the Volume to Share Outstanding Ratio calculated over the interval spanning 166 days before the announcement to 42 days before the announcement (before the beginning of the runup period). Relying on SDC deals' data we created the following dummy variables: complete – whether the deal was completed successfully or not, Hostile – whether the bidder attitude was hostile or not, Rumor – whether the deal followed a rumor or not, Tender – whether the deal was a tender offer or not, Toehold – whether the bidder had more than 5% ownership of the target at the deal's announcement, and NYSE/AMEX whether the deal is listed on NYSE, AMEX or not. If the target and acquirer share the same four-digit SIC code, the deal is considered a Horizontal deal. Relative size is the ratio of Target to Acquirer size. Firms' SIC codes are obtained from CRSP. Heteroscedasticity consistent white p-value are reported underneath. The *,**,*** indicates significance at 10%, 5%, and 1% respectively.

Deal-Type	All Deals		Non-Cash-Only		Cash-Only	
	1	2	3	4	5	6
Constant	-0.02916***	-0.66818***	0.11449***	0.3472***	0.03136***	-0.61747***
(p-value)	(<.0001)	(<.0001)	(<.0001)	(0.0037)	(0.0004)	(0.001)
BW-Sentiment-Proxy	-0.01447*	-0.00821	0.00122	-0.00061984	0.00691	0.01226
(p-value)	(0.0984)	(0.3343)	(0.8873)	(0.9418)	(0.6116)	(0.3604)
Target Size		0.0027		-0.0025		-0.00703
(p-value)		(0.5695)		(0.5828)		(0.2973)
Target Turnover		-0.00325***		0.00128		0.00325**
(p-value)		(0.0031)		(0.2244)		(0.0138)
Target NYSE/Amex		0.00787		0.00671		0.026
(p-value)		(0.5704)		(0.6419)		(0.1668)
Target B/M		0.12234***		-0.01573		0.08602***
(p-value)		(<.0001)		(0.41)		(0.0001)
Bidder Turnover		-0.00118		0.00131		-0.0016
(p-value)		(0.2698)		(0.1636)		(0.3155)
Bidder NYSE/Amex		0.0481***		-0.05447***		0.02882
(p-value)		(0.0007)		(0.0002)		(0.1511)
Bidder B/M		0.01843***		-0.0344**		0.00834
(p-value)		(0.0015)		(0.0267)		(0.109)
Relative Size		0.47635***		-0.17719*		0.77867***
(p-value)		(<.0001)		(0.0911)		(<.0001)
Toehold Exist		-0.02087		-0.01323		-0.09256**
(p-value)		(0.4997)		(0.63)		(0.0263)
Horizontal		0.02489*		0.01418		0.02777
(p-value)		(0.0952)		(0.3077)		(0.2051)
Tender Offer		0.02721*		-0.02786		0.0147
(p-value)		(0.0707)		(0.3493)		(0.3598)
Cash Bid		0.08511***		0.03175		
(p-value)		(<.0001)		(0.3543)		
Hostile		0.10028***		-0.04054		0.07331
(p-value)		(0.0021)		(0.117)		(0.1449)
Multiple Bidders		0.06322***		-0.00399		0.05043*
(p-value)		(0.0067)		(0.8664)		(0.0765)
Rumor		-0.00949		-0.04159*		-0.01471
(p-value)		(0.699)		(0.0661)		(0.5821)
Complete		0.16808***		0.09834**		0.12767***
(p-value)		(<.0001)		(0.0396)		(<.0001)
Adj-R^2	0.0004	0.1011	-0.0004	0.0537	-0.0007	0.0878
Industry Dummies	No	Yes	No	Yes	No	Yes
Number of Cases	3705	3705	2591	2591	1114	1114

Table 4-79 Cross-sectional Regression of Target Runup 'CAR[-42, -2]' on Baker and Wurgler Sentiment Index (BW)

The below table shows the results of the cross-sectional regressions of Target CAR estimated over the runup period on Baker and Wurgler Sentiment Index (BW). The Cumulative Abnormal Return (CAR) is estimated as sum of the Abnormal Returns (AR) over the specified period. The AR is calculated as the difference between the realized return of the firm's stock and the expected return. The expected return is obtained using the market model ($r_{i,t} = \alpha + \beta\, r_{m,t}$). This latter is estimated using daily returns spanning 253 trading days before the announcement day to 43 days before the announcement day. CRSP Value weighted index was used as a proxy for the market. The Baker and Wurgler Sentiment Index (BW) associated with the deal are brought from professor Wurgler Website. For every deal, we estimated a sentiment measure that is equal to the weighted average sentiment index levels that are available during the deal's runup period. This latter spans 42 days before the announcement to 2 days before the announcement. The quartile cutoffs are estimated as per the sentiment original index spanning the period of our analysis: November 1981 till October 2015. Mergers and Acquisitions deals are downloaded from SDC. We limited our sample to Mergers, Acquisitions of Majority Interest and Acquisitions of Remaining Interest. We required that the deal have a reported final offer price on SDC and filtered out the top and bottom deals' percentile when sorted by their offer premium in order to avoid outliers. The offer premium is estimated as the final offer price divided by the target stock price 42 trading days before the announcement day. We removed any offer that is not the first offer within a multibid contest. Deals fall into a multibid contest if bids on the same target are separated by less than 6 months from each other. We also filtered out any deal whose value is less than $10 Million dollar and whose target stock price on day -42 is less than $5. Deal value is brought from SDC. We have also used Target Cumulative Abnormal Return from the beginning of the Runup period till completion day or 126 days after the deal is completed (whichever is shorter) – we termed this variable as CAR-Base d-Premium. We require that both target and acquirer firms are public US listed firms with CRSP and Compustat data on both. We divided our sample into All, Non-Cash-Only (Mixed or Stock-Only) and Cash-Only based on the medium of exchange as reported by SDC. Price and Return data is brought from CRSP. For price based runup and markup, we followed Betton et al (2008) by dividing the target stock price 2 days before the announcement day by the target stock price 42 days before the announcement date and the Final Offer Price by the target stock price 2 days before the announcement respectively. For the CAR based runup and markup we estimated them as the CAR over [-42, -2] and [-1, +126] respectively. Size is the logarithm of the firm market cap 42 days before the announcement day. The firm market cap is obtained by multiplying the stock price by the number of shares outstanding (in $Millions). B/M is the ratio of the Book Value of the Firm`s equity divided by the Market Value of the Firm 42 days before the announcement. The Book value of the firm's equity is obtained following the approach of Fama and French (1993) by adding the book value of stockholders equity to the balance sheet deferred taxes and investment tax credit and subtracting the book value of preferred share – all data are brought from Compustat. Target (Acquirer) Turnover is estimated as the average of the Volume to Share Outstanding Ratio calculated over the interval spanning 166 days before the announcement to 42 days before the announcement (before the beginning of the runup period). Relying on SDC deals' data we created the following dummy variables: complete – whether the deal was completed successfully or not, Hostile – whether the bidder attitude was hostile or not, Rumor – whether the deal followed a rumor or not, Tender – whether the deal was a tender offer or not, Toehold – whether the bidder had more than 5% ownership of the target at the deal's announcement, and NYSE/AMEX whether the deal is listed on NYSE, AMEX or not. If the target and acquirer share the same four-digit SIC code, the deal is considered a Horizontal deal. Relative size is the ratio of Target to Acquirer size. Firms' SIC codes are obtained from CRSP. Heteroscedasticity consistent white p-value are reported underneath. The *,**,*** indicates significance at 10%, 5%, and 1% respectively.

Deal-Type	All Deals		Non-Cash-Only		Cash-Only	
	1	2	3	4	5	6
Constant	0.0442***	0.2934***	0.03959***	0.27646***	0.05414***	0.32799***
(p-value)	(<.0001)	(<.0001)	(<.0001)	(0.0044)	(<.0001)	(0.0057)
BW-Sentiment-Proxy	0.00836	0.0079	0.00288	-0.00034694	0.02768**	0.02637**
(p-value)	(0.1464)	(0.1658)	(0.6691)	(0.9582)	(0.0126)	(0.0174)
Target Size		-0.00613**		-0.00219		-0.01625***
(p-value)		(0.0261)		(0.4918)		(0.0019)
Target Turnover		-0.00064645		-0.00105		0.00226**
(p-value)		(0.2633)		(0.1168)		(0.0238)
Target NYSE/Amex		-0.00721		-0.0122		0.00553
(p-value)		(0.3822)		(0.2305)		(0.6981)
Target B/M		0.05936***		0.07633***		0.03859**
(p-value)		(<.0001)		(<.0001)		(0.0394)
Relative Size		-0.22924***		-0.34434***		-0.00392
(p-value)		(<.0001)		(<.0001)		(0.9607)
Toehold Exist		-0.03469**		-0.03586*		-0.04371*
(p-value)		(0.0239)		(0.0515)		(0.0973)
Horizontal		0.00681		0.01116		-0.00665
(p-value)		(0.4039)		(0.254)		(0.6458)
Tender Offer		0.0129		0.00026285		0.0112
(p-value)		(0.2245)		(0.9899)		(0.3648)
Cash Bid		0.00016048				
(p-value)		(0.9845)				
Hostile		0.00411		0.01548		-0.01769
(p-value)		(0.8397)		(0.5601)		(0.5583)
Multiple Bidders		-0.01501		-0.02767*		-0.0029
(p-value)		(0.246)		(0.0842)		(0.887)
Rumor		0.08552***		0.0591***		0.12187***
(p-value)		(<.0001)		(0.0018)		(<.0001)
Complete		0.03503***		0.0446***		0.00837
(p-value)		(0.002)		(0.0011)		(0.6421)
Adj-R^2	0.0004	0.0358	-0.0003	0.0417	0.0061	0.0527
Industry Dummies	No	Yes	No	Yes	No	Yes
Number of Cases	3705	3705	2591	2591	1114	1114

Table 4-80 Cross-sectional Regression of Target Runup '[(P-2 / P-42) - 1]' on Baker and Wurgler Sentiment Index (BW)

The below table shows the results of the cross-sectional regressions of Target Runup on Baker and Wurgler Sentiment Index (BW). The Cumulative Abnormal Return (CAR) is estimated as sum of the Abnormal Returns (AR) over the specified period. The AR is calculated as the difference between the realized return of the firm's stock and the expected return. The expected return is obtained using the market model ($r_{i,t} = \alpha + \beta\, r_{m,t}$). This latter is estimated using daily returns spanning 253 trading days before the announcement day to 43 days before the announcement day. CRSP Value weighted index was used as a proxy for the market. The Baker and Wurgler Sentiment Index (BW) associated with the deal are brought from professor Wurgler Website. For every deal, we estimated a sentiment measure that is equal to the weighted average sentiment index levels that are available during the deal's runup period. This latter spans 42 days before the announcement to 2 days before the announcement. The quartile cutoffs are estimated as per the sentiment original index spanning the period of our analysis: November 1981 till October 2015. Mergers and Acquisitions deals are downloaded from SDC. We limited our sample to Mergers, Acquisitions of Majority Interest and Acquisitions of Remaining Interest. We required that the deal have a reported final offer price on SDC and filtered out the top and bottom deals' percentile when sorted by their offer premium in order to avoid outliers. The offer premium is estimated as the final offer price divided by the target stock price 42 trading days before the announcement day. We removed any offer that is not the first offer within a multibid contest. Deals fall into a multibid contest if bids on the same target are separated by less than 6 months from each other. We also filtered out any deal whose value is less than $10 Million dollar and whose target stock price on day -42 is less than $5. Deal value is brought from SDC. We have also used Target Cumulative Abnormal Return from the beginning of the Runup period till completion day or 126 days after the deal is completed (whichever is shorter) – we termed this variable as CAR-Base d-Premium. We require that both target and acquirer firms are public US listed firms with CRSP and Compustat data on both. We divided our sample into All, Non-Cash-Only (Mixed or Stock-Only) and Cash-Only based on the medium of exchange as reported by SDC. Price and Return data is brought from CRSP. For price based runup and markup, we followed Betton et al (2008) by dividing the target stock price 2 days before the announcement day by the target stock price 42 days before the announcement date and the Final Offer Price by the target stock price 2 days before the announcement respectively. For the CAR based runup and markup we estimated them as the CAR over [-42, -2] and [-1, +126] respectively. Size is the logarithm of the firm market cap 42 days before the announcement day. The firm market cap is obtained by multiplying the stock price by the number of shares outstanding (in $Millions). B/M is the ratio of the Book Value of the Firm's equity divided by the Market Value of the Firm 42 days before the announcement. The Book value of the firm's equity is obtained following the approach of Fama and French (1993) by adding the book value of stockholders equity to the balance sheet deferred taxes and investment tax credit and subtracting the book value of preferred share – all data are brought from Compustat. Target (Acquirer) Turnover is estimated as the average of the Volume to Share Outstanding Ratio calculated over the interval spanning 166 days before the announcement to 42 days before the announcement (before the beginning of the runup period). Relying on SDC deals' data we created the following dummy variables: complete – whether the deal was completed successfully or not, Hostile – whether the bidder attitude was hostile or not, Rumor – whether the deal followed a rumor or not, Tender – whether the deal was a tender offer or not, Toehold – whether the bidder had more than 5% ownership of the target at the deal's announcement, and NYSE/AMEX whether the deal is listed on NYSE, AMEX or not. If the target and acquirer share the same four-digit SIC code, the deal is considered a Horizontal deal. Relative size is the ratio of Target to Acquirer size. Firms' SIC codes are obtained from CRSP. Heteroscedasticity consistent white p-value are reported underneath. The *,**,*** indicates significance at 10%, 5%, and 1% respectively.

Deal-Type	All Deals		Non-Cash-Only		Cash-Only	
	1	2	3	4	5	6
Constant	0.0763***	0.4735***	0.07108***	0.45928***	0.08744***	0.51481***
(p-value)	(<.0001)	(<.0001)	(<.0001)	(<.0001)	(<.0001)	(<.0001)
BW-Sentiment-Proxy	0.00002803	-0.00163	-0.00254	-0.00757	0.01112	0.0077
(p-value)	(0.9961)	(0.7734)	(0.7011)	(0.2468)	(0.3338)	(0.5196)
Target Size		-0.00833***		-0.00484		-0.01805***
(p-value)		(0.003)		(0.1596)		(0.0011)
Target Turnover		-0.00024204		-0.00057441		0.00182*
(p-value)		(0.6552)		(0.344)		(0.0812)
Target NYSE/Amex		-0.01537*		-0.01931		-0.00291
(p-value)		(0.0651)		(0.0612)		(0.8423)
Target B/M		0.01675		0.00918		0.02903
(p-value)		(0.1216)		(0.4862)		(0.1057)
Relative Size		-0.30385***		-0.42057***		-0.09815
(p-value)		(<.0001)		(<.0001)		(0.2669)
Toehold Exist		-0.05895***		-0.07594***		-0.04304*
(p-value)		(0.0002)		(0.0001)		(0.0942)
Horizontal		-0.00561		-0.0049		-0.01162
(p-value)		(0.4896)		(0.6142)		(0.4378)
Tender Offer		0.00077249		-0.00938		0.00008264
(p-value)		(0.9437)		(0.6484)		(0.995)
Cash Bid		-0.00244				
(p-value)		(0.7742)				
Hostile		-0.00588		-0.00112		-0.02213
(p-value)		(0.766)		(0.9671)		(0.443)
Multiple Bidders		-0.00658		-0.01665		-0.00233
(p-value)		(0.6129)		(0.3048)		(0.9128)
Rumor		0.09493***		0.08188***		0.11478***
(p-value)		(<.0001)		(0.0001)		(<.0001)
Complete		0.04464***		0.05064***		0.02772
(p-value)		(<.0001)		(<.0001)		(0.1477)
Adj-R^2	-0.0003	0.0379	-0.0003	0.0408	0.0001	0.0445
Industry Dummies	No	Yes	No	Yes	No	Yes
Number of Cases	3705	3705	2591	2591	1114	1114

Table 4-81 Cross-sectional Regression of Bidder CAR [-42,-2] on Baker and Wurgler Sentiment Index (BW)

The below table shows the results of the cross-sectional regressions of Bidder CAR estimated over the runup period on Baker and Wurgler Sentiment Index (BW). The Cumulative Abnormal Return (CAR) is estimated as sum of the Abnormal Returns (AR) over the specified period. The AR is calculated as the difference between the realized return of the firm's stock and the expected return. The expected return is obtained using the market model ($r_{i,t} = \alpha + \beta\, r_{m,t}$). This latter is estimated using daily returns spanning 253 trading days before the announcement day to 43 days before the announcement day. CRSP Value weighted index was used as a proxy for the market. The Baker and Wurgler Sentiment Index (BW) associated with the deal are brought from professor Wurgler Website. For every deal, we estimated a sentiment measure that is equal to the weighted average sentiment index levels that are available during the deal's runup period. This latter spans 42 days before the announcement to 2 days before the announcement. The quartile cutoffs are estimated as per the sentiment original index spanning the period of our analysis: November 1981 till October 2015. Mergers and Acquisitions deals are downloaded from SDC. We limited our sample to Mergers, Acquisitions of Majority Interest and Acquisitions of Remaining Interest. We required that the deal have a reported final offer price on SDC and filtered out the top and bottom deals' percentile when sorted by their offer premium in order to avoid outliers. The offer premium is estimated as the final offer price divided by the target stock price 42 trading days before the announcement day. We removed any offer that is not the first offer within a multibid contest. Deals fall into a multibid contest if bids on the same target are separated by less than 6 months from each other. We also filtered out any deal whose value is less than $10 Million dollar and whose target stock price on day -42 is less than $5. Deal value is brought from SDC. We have also used Target Cumulative Abnomral Return from the beginning of the Runup period till completion day or 126 days after the deal is completed (whichever is shorter) – we termed this variable as CAR-Base d-Premium. We require that both target and acquirer firms are public US listed firms with CRSP and Compustat data on both. We divided our sample into All, Non-Cash-Only (Mixed or Stock-Only) and Cash-Only based on the medium of exchange as reported by SDC. Price and Return data is brought from CRSP. For price based runup and markup, we followed Betton et al (2008) by dividing the target stock price 2 days before the announcement day by the target stock price 42 days before the announcement date and the Final Offer Price by the target stock price 2 days before the announcement respectively. For the CAR based runup and markup we estimated them as the CAR over [-42, -2] and [-1, +126] respectively. Size is the logarithm of the firm market cap 42 days before the announcement day. The firm market cap is obtained by multiplying the stock price by the number of shares outstanding (in $Millions). B/M is the ratio of the Book Value of the Firm`s equity divided by the Market Value of the Firm 42 days before the announcement. The Book value of the firm's equity is obtained following the approach of Fama and French (1993) by adding the book value of stockholders equity to the balance sheet deferred taxes and investment tax credit and subtracting the book value of preferred share – all data are brought from Compustat. Target (Acquirer) Turnover is estimated as the average of the Volume to Share Outstanding Ratio calculated over the interval spanning 166 days before the announcement to 42 days before the announcement (before the beginning of the runup period). Relying on SDC deals' data we created the following dummy variables: complete – whether the deal was completed successfully or not, Hostile – whether the bidder attitude was hostile or not, Rumor – whether the deal followed a rumor or not, Tender – whether the deal was a tender offer or not, Toehold – whether the bidder had more than 5% ownership of the target at the deal's announcement, and NYSE/AMEX whether the deal is listed on NYSE, AMEX or not. If the target and acquirer share the same four-digit SIC code, the deal is considered a Horizontal deal. Relative size is the ratio of Target to Acquirer size. Firms' SIC codes are obtained from CRSP. Heteroscedasticity consistent white p-value are reported underneath. The *,**,*** indicates significance at 10%, 5%, and 1% respectively.

Deal-Type	All Deals		Non-Cash-Only		Cash-Only	
	1	2	3	4	5	6
Constant	-0.00066368	-0.07863	0.00042755	-0.1584	-0.00287	0.04938
(p-value)	(0.8152)	(0.3491)	(0.9075)	(0.1311)	(0.4962)	(0.7194)
BW-Sentiment-Proxy	-0.0014	-0.00221	-0.00528	-0.00553	0.00935	0.01005
(p-value)	(0.7383)	(0.5955)	(0.312)	(0.2775)	(0.1593)	(0.1695)
Bidder Size		-0.00176		-0.00311		-0.00006764
(p-value)		(0.3749)		(0.215)		(0.9823)
Bidder Turnover		-0.00029763		-0.00032777		0.00011032
(p-value)		(0.3031)		(0.2653)		(0.9118)
Bidder NYSE/Amex		0.00991		0.00932		0.01384
(p-value)		(0.1031)		(0.2122)		(0.1759)
Bidder B/M		0.00643***		0.01417*		0.00262
(p-value)		(0.0004)		(0.0508)		(0.1885)
Target Turnover		0.00000972		-0.00003475		0.00002093
(p-value)		(0.9863)		(0.9581)		(0.9748)
Target NYSE/Amex		0.00045011		-0.00635		0.0174*
(p-value)		(0.9442)		(0.4405)		(0.0822)
Target B/M		-0.00081116		-0.01606		0.01246
(p-value)		(0.9087)		(0.1477)		(0.1814)
CAR [-42,-2] Target		0.18379***		0.22352***		0.09876***
(p-value)		(<.0001)		(<.0001)		(0.0004)
CAR [-1,+1] Target		0.05766***		0.09988***		-0.00372
(p-value)		(<.0001)		(<.0001)		(0.8486)
Relative Size		0.11587**		0.20752***		-0.03043
(p-value)		(0.0277)		(0.0013)		(0.7416)
Toehold Exist		0.00775		0.01109		0.01406
(p-value)		(0.5632)		(0.5242)		(0.5041)
Horizontal		-0.0013		-0.00404		0.00373
(p-value)		(0.8463)		(0.6167)		(0.7418)
Tender Offer		-0.00616		-0.00823		0.00661
(p-value)		(0.4482)		(0.6238)		(0.5158)
Cash Bid		-0.00257				
(p-value)		(0.6654)				
Hostile		0.00338		0.02805		-0.01907
(p-value)		(0.8177)		(0.1995)		(0.3688)
Multiple Bidders		0.01836*		0.03519***		-0.00911
(p-value)		(0.0604)		(0.0052)		(0.5159)
Rumor		-0.02475**		-0.0193		-0.02509*
(p-value)		(0.0123)		(0.1292)		(0.0792)
Complete		0.00833		0.01453		-0.0099
(p-value)		(0.3917)		(0.201)		(0.6082)
Adj-R^2	-0.0002	0.058	0	0.0855	0.0008	0.018
Industry Dummies	No	Yes	No	Yes	No	Yes
Number of Cases	3705	3705	2591	2591	1114	1114

Table 4-82 Cross-sectional Regression of Target Markup 'CAR[-1, +126]' on Baker and Wurgler Sentiment Index (BW)

The below table shows the results of the cross-sectional regressions of Target CAR estimated over markup period [-1, +126] on Baker and Wurgler Sentiment Index (BW). The Cumulative Abnormal Return (CAR) is estimated as sum of the Abnormal Returns (AR) over the specified period. The AR is calculated as the difference between the realized return of the firm's stock and the expected return. The expected return is obtained using the market model ($r_{i,t} = \alpha + \beta\, r_{m,t}$). This latter is estimated using daily returns spanning 253 trading days before the announcement day to 43 days before the announcement day. CRSP Value weighted index was used as a proxy for the market. The Baker and Wurgler Sentiment Index (BW) associated with the deal are brought from professor Wurgler Website. For every deal, we estimated a sentiment measure that is equal to the weighted average sentiment index levels that are available during the deal's runup period. This latter spans 42 days before the announcement to 2 days before the announcement. The quartile cutoffs are estimated as per the sentiment original index spanning the period of our analysis: November 1981 till October 2015. Mergers and Acquisitions deals are downloaded from SDC. We limited our sample to Mergers, Acquisitions of Majority Interest and Acquisitions of Remaining Interest. We required that the deal have a reported final offer price on SDC and filtered out the top and bottom deals' percentile when sorted by their offer premium in order to avoid outliers. The offer premium is estimated as the final offer price divided by the target stock price 42 trading days before the announcement day. We removed any offer that is not the first offer within a multibid contest. Deals fall into a multibid contest if bids on the same target are separated by less than 6 months from each other. We also filtered out any deal whose value is less than $10 Million dollar and whose target stock price on day -42 is less than $5. Deal value is brought from SDC. We have also used Target Cumulative Abnomral Return from the beginning of the Runup period till completion day or 126 days after the deal is completed (whichever is shorter) – we termed this variable as CAR-Base d-Premium. We require that both target and acquirer firms are public US listed firms with CRSP and Compustat data on both. We divided our sample into All, Non-Cash-Only (Mixed or Stock-Only) and Cash-Only based on the medium of exchange as reported by SDC. Price and Return data is brought from CRSP. For price based runup and markup, we followed Betton et al (2008) by dividing the target stock price 2 days before the announcement day by the target stock price 42 days before the announcement date and the Final Offer Price by the target stock price 2 days before the announcement respectively. For the CAR based runup and markup we estimated them as the CAR over [-42, -2] and [-1, +126] respectively. Size is the logarithm of the firm market cap 42 days before the announcement day. The firm market cap is obtained by multiplying the stock price by the number of shares outstanding (in $Millions). B/M is the ratio of the Book Value of the Firm's equity divided by the Market Value of the Firm 42 days before the announcement. The Book value of the firm's equity is obtained following the approach of Fama and French (1993) by adding the book value of stockholders equity to the balance sheet deferred taxes and investment tax credit and subtracting the book value of preferred share – all data are brought from Compustat. Target (Acquirer) Turnover is estimated as the average of the Volume to Share Outstanding Ratio calculated over the interval spanning 166 days before the announcement to 42 days before the announcement (before the beginning of the runup period). Relying on SDC deals' data we created the following dummy variables: complete – whether the deal was completed successfully or not, Hostile – whether the bidder attitude was hostile or not, Rumor – whether the deal followed a rumor or not, Tender – whether the deal was a tender offer or not, Toehold – whether the bidder had more than 5% ownership of the target at the deal's announcement, and NYSE/AMEX whether the deal is listed on NYSE, AMEX or not. If the target and acquirer share the same four-digit SIC code, the deal is considered a Horizontal deal. Relative size is the ratio of Target to Acquirer size. Firms' SIC codes are obtained from CRSP. Heteroscedasticity consistent white p-value are reported underneath. The *,**,*** indicates significance at 10%, 5%, and 1% respectively.

Deal-Type	All Deals		Non-Cash-Only		Cash-Only	
	1	2	3	4	5	6
Constant	0.18843***	0.1465	0.14773***	0.11078	0.2744***	0.28294
(p-value)	(<.0001)	(0.2086)	(<.0001)	(0.4417)	(<.0001)	(0.155)
BW-Sentiment-Proxy	-0.00959	-0.00337	0.00169	-0.00155	-0.01589	0.0013
(p-value)	(0.3088)	(0.6956)	(0.8794)	(0.8798)	(0.3411)	(0.9362)
Target Size		0.01459***		0.01352***		0.01118
(p-value)		(0.0018)		(0.0089)		(0.2095)
Target Turnover		-0.00152*		-0.00227**		0.00369**
(p-value)		(0.0805)		(0.0258)		(0.041)
Target NYSE/Amex		0.01751		0.01219		0.04052*
(p-value)		(0.2077)		(0.4663)		(0.0926)
Target B/M		0.18864***		0.21896***		0.14681***
(p-value)		(<.0001)		(<.0001)		(0.0013)
Target CAR [-42,-2]		0.14875***		0.21347***		-0.08953
(p-value)		(0.0001)		(<.0001)		(0.1738)
Relative Size		-0.55625***		-0.57737***		-0.44441***
(p-value)		(<.0001)		(<.0001)		(0.0015)
Toehold Exist		-0.02021		-0.01428		-0.0424
(p-value)		(0.4832)		(0.7247)		(0.2804)
Horizontal		0.02105		0.02732*		0.0036
(p-value)		(0.1249)		(0.0915)		(0.8902)
Tender Offer		0.05331***		0.02145		0.07628***
(p-value)		(0.0081)		(0.6247)		(0.0003)
Cash Bid		0.04815***				
(p-value)		(0.0009)				
Hostile		0.19968***		0.19127***		0.14988***
(p-value)		(<.0001)		(<.0001)		(0.0037)
Multiple Bidders		0.12072***		0.10438***		0.13963***
(p-value)		(<.0001)		(0.0006)		(0.0003)
Rumor		-0.10939***		-0.09785***		-0.10236***
(p-value)		(<.0001)		(0.0019)		(0.0047)
Complete		0.20947***		0.24451***		0.08082**
(p-value)		(<.0001)		(<.0001)		(0.0312)
Adj-R^2	0	0.1444	-0.0004	0.1448	-0.0001	0.1267
Industry Dummies	No	Yes	No	Yes	No	Yes
Number of Cases	3705	3705	2591	2591	1114	1114

Table 4-83 Cross-sectional Regression of Target Markup '[(Final Offer Price / P-1) - 1]' on Baker and Wurgler Sentiment Index (BW)

The below table shows the results of the cross-sectional regressions of Target Markup [(Final Offer Price / P-1) - 1] on Baker and Wurgler Sentiment Index (BW). The Cumulative Abnormal Return (CAR) is estimated as sum of the Abnormal Returns (AR) over the specified period. The AR is calculated as the difference between the realized return of the firm's stock and the expected return. The expected return is obtained using the market model ($r_{i,t} = \alpha + \beta\, r_{m,t}$). This latter is estimated using daily returns spanning 253 trading days before the announcement day to 43 days before the announcement day. CRSP Value weighted index was used as a proxy for the market. The Baker and Wurgler Sentiment Index (BW) associated with the deal are brought from professor Wurgler Website. For every deal, we estimated a sentiment measure that is equal to the weighted average sentiment index levels that are available during the deal's runup period. This latter spans 42 days before the announcement to 2 days before the announcement. The quartile cutoffs are estimated as per the sentiment original index spanning the period of our analysis: November 1981 till October 2015. Mergers and Acquisitions deals are downloaded from SDC. We limited our sample to Mergers, Acquisitions of Majority Interest and Acquisitions of Remaining Interest. We required that the deal have a reported final offer price on SDC and filtered out the top and bottom deals' percentile when sorted by their offer premium in order to avoid outliers. The offer premium is estimated as the final offer price divided by the target stock price 42 trading days before the announcement day. We removed any offer that is not the first offer within a multibid contest. Deals fall into a multibid contest if bids on the same target are separated by less than 6 months from each other. We also filtered out any deal whose value is less than $10 Million dollar and whose target stock price on day -42 is less than $5. Deal value is brought from SDC. We have also used Target Cumulative Abnomral Return from the beginning of the Runup period till completion day or 126 days after the deal is completed (whichever is shorter) – we termed this variable as CAR-Base d-Premium. We require that both target and acquirer firms are public US listed firms with CRSP and Compustat data on both. We divided our sample into All, Non-Cash-Only (Mixed or Stock-Only) and Cash-Only based on the medium of exchange as reported by SDC. Price and Return data is brought from CRSP. For price based runup and markup, we followed Betton et al (2008) by dividing the target stock price 2 days before the announcement day by the target stock price 42 days before the announcement date and the Final Offer Price by the target stock price 2 days before the announcement respectively. For the CAR based runup and markup we estimated them as the CAR over [-42, -2] and [-1, +126] respectively. Size is the logarithm of the firm market cap 42 days before the announcement day. The firm market cap is obtained by multiplying the stock price by the number of shares outstanding (in $Millions). B/M is the ratio of the Book Value of the Firm's equity divided by the Market Value of the Firm 42 days before the announcement. The Book value of the firm's equity is obtained following the approach of Fama and French (1993) by adding the book value of stockholders equity to the balance sheet deferred taxes and investment tax credit and subtracting the book value of preferred share – all data are brought from Compustat. Target (Acquirer) Turnover is estimated as the average of the Volume to Share Outstanding Ratio calculated over the interval spanning 166 days before the announcement to 42 days before the announcement (before the beginning of the runup period). Relying on SDC deals' data we created the following dummy variables: complete – whether the deal was completed successfully or not, Hostile – whether the bidder attitude was hostile or not, Rumor – whether the deal followed a rumor or not, Tender – whether the deal was a tender offer or not, Toehold – whether the bidder had more than 5% ownership of the target at the deal's announcement, and NYSE/AMEX whether the deal is listed on NYSE, AMEX or not. If the target and acquirer share the same four-digit SIC code, the deal is considered a Horizontal deal. Relative size is the ratio of Target to Acquirer size. Firms' SIC codes are obtained from CRSP. Heteroscedasticity consistent white p-value are reported underneath. The *,**,*** indicates significance at 10%, 5%, and 1% respectively.

Deal-Type	All Deals		Non-Cash-Only		Cash-Only	
	1	2	3	4	5	6
Constant	0.32051***	1.05531***	0.2992***	0.92302***	0.36532***	1.21719***
(p-value)	(<.0001)	(<.0001)	(<.0001)	(0.0003)	(<.0001)	(<.0001)
BW-Sentiment-Proxy	-0.01705	-0.01547	-0.0038	-0.00897	-0.04209**	-0.03723
(p-value)	(0.1126)	(0.1554)	(0.7662)	(0.4595)	(0.0327)	(0.1172)
Target Size		-0.01786*		-0.01228		-0.03318*
(p-value)		(0.0967)		(0.3019)		(0.0826)
Target Turnover		0.00102		0.00065411		0.00291*
(p-value)		(0.2116)		(0.4641)		(0.0563)
Target NYSE/Amex		0.0564**		0.04151		0.09346
(p-value)		(0.0293)		(0.1173)		(0.1007)
Target B/M		0.07816***		0.0943***		0.06291
(p-value)		(0.0025)		(0.0004)		(0.1593)
Target CAR [-42,-2]		-0.23704***		-0.21703***		-0.3432***
(p-value)		(<.0001)		(<.0001)		(<.0001)
Relative Size		-0.45736***		-0.52297***		-0.26258
(p-value)		(<.0001)		(<.0001)		(0.2323)
Toehold Exist		-0.0755***		-0.05412*		-0.09084**
(p-value)		(0.0017)		(0.0958)		(0.0153)
Horizontal		-0.00833		-0.000501		-0.0365
(p-value)		(0.6662)		(0.9813)		(0.3735)
Tender Offer		0.07266***		0.0971**		0.06363**
(p-value)		(0.0021)		(0.0252)		(0.0123)
Cash Bid		-0.00888				
(p-value)		(0.5207)				
Hostile		0.11806***		0.09746*		0.12497**
(p-value)		(0.0051)		(0.0619)		(0.0343)
Multiple Bidders		0.04797		0.0502		0.03682
(p-value)		(0.1562)		(0.2879)		(0.3597)
Rumor		-0.06559**		-0.044		-0.08813***
(p-value)		(0.0253)		(0.2982)		(0.0004)
Complete		-0.02827		-0.03659		-0.00081491
(p-value)		(0.3302)		(0.3343)		(0.9806)
Adj-R^2	0.0003	0.057	-0.0004	0.0543	0.0024	0.0451
Industry Dummies	No	Yes	No	Yes	No	Yes
Number of Cases	3705	3705	2591	2591	1114	1114

Table 4-84 Cross-sectional Regression of Target CAR [-1,+1] on Baker and Wurgler Sentiment Index (BW)

The below table shows the results of the cross-sectional regressions of Target CAR estimated over the announcement period [-1,+1] on Baker and Wurgler Sentiment Index (BW). The Cumulative Abnormal Return (CAR) is estimated as sum of the Abnormal Returns (AR) over the specified period. The AR is calculated as the difference between the realized return of the firm's stock and the expected return. The expected return is obtained using the market model ($r_{i,t} = \alpha + \beta\, r_{m,t}$). This latter is estimated using daily returns spanning 253 trading days before the announcement day to 43 days before the announcement day. CRSP Value weighted index was used as a proxy for the market. The Baker and Wurgler Sentiment Index (BW) associated with the deal are brought from professor Wurgler Website. For every deal, we estimated a sentiment measure that is equal to the weighted average sentiment index levels that are available during the deal's runup period. This latter spans 42 days before the announcement to 2 days before the announcement. The quartile cutoffs are estimated as per the sentiment original index spanning the period of our analysis: November 1981 till October 2015. Mergers and Acquisitions deals are downloaded from SDC. We limited our sample to Mergers, Acquisitions of Majority Interest and Acquisitions of Remaining Interest. We required that the deal have a reported final offer price on SDC and filtered out the top and bottom deals' percentile when sorted by their offer premium in order to avoid outliers. The offer premium is estimated as the final offer price divided by the target stock price 42 trading days before the announcement day. We removed any offer that is not the first offer within a multibid contest. Deals fall into a multibid contest if bids on the same target are separated by less than 6 months from each other. We also filtered out any deal whose value is less than $10 Million dollar and whose target stock price on day -42 is less than $5. Deal value is brought from SDC. We have also used Target Cumulative Abnomral Return from the beginning of the Runup period till completion day or 126 days after the deal is completed (whichever is shorter) – we termed this variable as CAR-Base d-Premium. We require that both target and acquirer firms are public US listed firms with CRSP and Compustat data on both. We divided our sample into All, Non-Cash-Only (Mixed or Stock-Only) and Cash-Only based on the medium of exchange as reported by SDC. Price and Return data is brought from CRSP. For price based runup and markup, we followed Betton et al (2008) by dividing the target stock price 2 days before the announcement day by the target stock price 42 days before the announcement date and the Final Offer Price by the target stock price 2 days before the announcement respectively. For the CAR based runup and markup we estimated them as the CAR over [-42, -2] and [-1, +126] respectively. Size is the logarithm of the firm market cap 42 days before the announcement day. The firm market cap is obtained by multiplying the stock price by the number of shares outstanding (in $Millions). B/M is the ratio of the Book Value of the Firm`s equity divided by the Market Value of the Firm 42 days before the announcement. The Book value of the firm's equity is obtained following the approach of Fama and French (1993) by adding the book value of stockholders equity to the balance sheet deferred taxes and investment tax credit and subtracting the book value of preferred share – all data are brought from Compustat. Target (Acquirer) Turnover is estimated as the average of the Volume to Share Outstanding Ratio calculated over the interval spanning 166 days before the announcement to 42 days before the announcement (before the beginning of the runup period). Relying on SDC deals' data we created the following dummy variables: complete – whether the deal was completed successfully or not, Hostile – whether the bidder attitude was hostile or not, Rumor – whether the deal followed a rumor or not, Tender – whether the deal was a tender offer or not, Toehold – whether the bidder had more than 5% ownership of the target at the deal's announcement, and NYSE/AMEX whether the deal is listed on NYSE, AMEX or not. If the target and acquirer share the same four-digit SIC code, the deal is considered a Horizontal deal. Relative size is the ratio of Target to Acquirer size. Firms' SIC codes are obtained from CRSP. Heteroscedasticity consistent white p-value are reported underneath. The *,**,*** indicates significance at 10%, 5%, and 1% respectively.

Deal-Type	All Deals		Non-Cash-Only		Cash-Only	
	1	2	3	4	5	6
Constant	0.20694***	0.71969***	0.16663***	0.66922***	0.29198***	0.83211***
(p-value)	(<.0001)	(<.0001)	(<.0001)	(<.0001)	(<.0001)	(<.0001)
BW-Sentiment-Proxy	-0.01234**	-0.00579	0.00272	-0.00179	-0.03006**	-0.01671
(p-value)	(0.0319)	(0.2611)	(0.6551)	(0.7402)	(0.0157)	(0.1845)
Target Size		0.00274		0.00375		-0.00445
(p-value)		(0.2986)		(0.2022)		(0.4285)
Target Turnover		-0.00027593		-0.0006402		0.00223*
(p-value)		(0.5441)		(0.1854)		(0.0818)
Target NYSE/Amex		0.0087		0.00385		0.02324
(p-value)		(0.2978)		(0.6831)		(0.1655)
Target B/M		0.07705***		0.08775***		0.06324***
(p-value)		(<.0001)		(<.0001)		(0.0096)
CAR [-42,-2] Target		-0.17399***		-0.15101***		-0.25656***
(p-value)		(<.0001)		(<.0001)		(<.0001)
Relative Size		-0.66724***		-0.7119***		-0.51968***
(p-value)		(<.0001)		(<.0001)		(<.0001)
Toehold Exist		-0.04445***		-0.03449*		-0.05464**
(p-value)		(0.0022)		(0.0629)		(0.0309)
Horizontal		0.01038		0.009		0.00967
(p-value)		(0.1953)		(0.2804)		(0.6304)
Tender Offer		0.05693***		0.05498**		0.05781***
(p-value)		(<.0001)		(0.0104)		(<.0001)
Cash Bid		0.0559***				
(p-value)		(<.0001)				
Hostile		0.06037***		0.07168***		0.03117
(p-value)		(0.0001)		(0.0002)		(0.2753)
Multiple Bidders		0.00435		-0.00902		0.03026
(p-value)		(0.7293)		(0.5343)		(0.2288)
Rumor		-0.05935***		-0.03716**		-0.08864***
(p-value)		(<.0001)		(0.0229)		(<.0001)
Complete		0.03509***		0.03626***		0.02938
(p-value)		(0.0003)		(0.0006)		(0.1731)
Adj-R^2	0.001	0.1818	-0.0003	0.1331	0.0044	0.13
Industry Dummies	No	Yes	No	Yes	No	Yes
Number of Cases	3705	3705	2591	2591	1114	1114

Table 4-85 Cross-sectional Regression of Premium 'CAR[-42, +126]' on Baker and Wurgler Sentiment Index (BW)

The below table shows the results of the cross-sectional regressions of Premium 'CAR[-42, +126]' on Baker and Wurgler Sentiment Index (BW). The Cumulative Abnormal Return (CAR) is estimated as sum of the Abnormal Returns (AR) over the specified period. The AR is calculated as the difference between the realized return of the firm's stock and the expected return. The expected return is obtained using the market model ($r_{i,t} = \alpha + \beta\, r_{m,t}$). This latter is estimated using daily returns spanning 253 trading days before the announcement day to 43 days before the announcement day. CRSP Value weighted index was used as a proxy for the market. The Baker and Wurgler Sentiment Index (BW) associated with the deal are brought from professor Wurgler Website. For every deal, we estimated a sentiment measure that is equal to the weighted average sentiment index levels that are available during the deal's runup period. This latter spans 42 days before the announcement to 2 days before the announcement. The quartile cutoffs are estimated as per the sentiment original index spanning the period of our analysis: November 1981 till October 2015. Mergers and Acquisitions deals are downloaded from SDC. We limited our sample to Mergers, Acquisitions of Majority Interest and Acquisitions of Remaining Interest. We required that the deal have a reported final offer price on SDC and filtered out the top and bottom deals' percentile when sorted by their offer premium in order to avoid outliers. The offer premium is estimated as the final offer price divided by the target stock price 42 trading days before the announcement day. We removed any offer that is not the first offer within a multibid contest. Deals fall into a multibid contest if bids on the same target are separated by less than 6 months from each other. We also filtered out any deal whose value is less than $10 Million dollar and whose target stock price on day -42 is less than $5. Deal value is brought from SDC. We have also used Target Cumulative Abnomral Return from the beginning of the Runup period till completion day or 126 days after the deal is completed (whichever is shorter) – we termed this variable as CAR-Based-Premium. We require that both target and acquirer firms are public US listed firms with CRSP and Compustat data on both. We divided our sample into All, Non-Cash-Only (Mixed or Stock-Only) and Cash-Only based on the medium of exchange as reported by SDC. Price and Return data is brought from CRSP. For price based runup and markup, we followed Betton et al (2008) by dividing the target stock price 2 days before the announcement day by the target stock price 42 days before the announcement date and the Final Offer Price by the target stock price 2 days before the announcement respectively. For the CAR based runup and markup we estimated them as the CAR over [-42, -2] and [-1, +126] respectively. Size is the logarithm of the firm market cap 42 days before the announcement day. The firm market cap is obtained by multiplying the stock price by the number of shares outstanding (in $Millions). B/M is the ratio of the Book Value of the Firm's equity divided by the Market Value of the Firm 42 days before the announcement. The Book value of the firm's equity is obtained following the approach of Fama and French (1993) by adding the book value of stockholders equity to the balance sheet deferred taxes and investment tax credit and subtracting the book value of preferred share – all data are brought from Compustat. Target (Acquirer) Turnover is estimated as the average of the Volume to Share Outstanding Ratio calculated over the interval spanning 166 days before the announcement to 42 days before the announcement (before the beginning of the runup period). Relying on SDC deals' data we created the following dummy variables: complete – whether the deal was completed successfully or not, Hostile – whether the bidder attitude was hostile or not, Rumor – whether the deal followed a rumor or not, Tender – whether the deal was a tender offer or not, Toehold – whether the bidder had more than 5% ownership of the target at the deal's announcement, and NYSE/AMEX whether the deal is listed on NYSE, AMEX or not. If the target and acquirer share the same four-digit SIC code, the deal is considered a Horizontal deal. Relative size is the ratio of Target to Acquirer size. Firms' SIC codes are obtained from CRSP. Heteroscedasticity consistent white p-value are reported underneath. The *,**,*** indicates significance at 10%, 5%, and 1% respectively.

Deal-Type	All Deals		Non-Cash-Only		Cash-Only	
	1	2	3	4	5	6
Constant	0.23264***	0.1465	0.18732***	0.11078	0.32854***	0.28294
(p-value)	(<.0001)	(0.2086)	(<.0001)	(0.4417)	(<.0001)	(0.155)
BW-Sentiment-Proxy	-0.00123	-0.00337	0.00457	-0.00155	0.0118	0.0013
(p-value)	(0.9186)	(0.6956)	(0.7487)	(0.8798)	(0.5844)	(0.9362)
Target Size		0.01459***		0.01352***		0.01118
(p-value)		(0.0018)		(0.0089)		(0.2095)
Target Turnover		-0.00152*		-0.00227**		0.00369**
(p-value)		(0.0805)		(0.0258)		(0.041)
Target NYSE/Amex		0.01751		0.01219		0.04052*
(p-value)		(0.2077)		(0.4663)		(0.0926)
Target B/M		0.18864***		0.21896***		0.14681***
(p-value)		(<.0001)		(<.0001)		(0.0013)
Target CAR [-42,-2]		1.14875***		1.21347***		0.91047***
(p-value)		(<.0001)		(<.0001)		(<.0001)
Relative Size		-0.55625***		-0.57737***		-0.44441***
(p-value)		(<.0001)		(<.0001)		(0.0015)
Toehold Exist		-0.02021		-0.01428		-0.0424
(p-value)		(0.4832)		(0.7247)		(0.2804)
Horizontal		0.02105		0.02732*		0.0036
(p-value)		(0.1249)		(0.0915)		(0.8902)
Tender Offer		0.05331***		0.02145		0.07628***
(p-value)		(0.0081)		(0.6247)		(0.0003)
Cash Bid		0.04815***				
(p-value)		(0.0009)				
Hostile		0.19968***		0.19127***		0.14988***
(p-value)		(<.0001)		(<.0001)		(0.0037)
Multiple Bidders		0.12072***		0.10438***		0.13963***
(p-value)		(<.0001)		(0.0006)		(0.0003)
Rumor		-0.10939***		-0.09785***		-0.10236***
(p-value)		(<.0001)		(0.0019)		(0.0047)
Complete		0.20947***		0.24451***		0.08082**
(p-value)		(<.0001)		(<.0001)		(0.0312)
Adj-R^2	-0.0003	0.4193	-0.0003	0.4446	-0.0006	0.3308
Industry Dummies	No	Yes	No	Yes	No	Yes
Number of Cases	3705	3705	2591	2591	1114	1114

Table 4-86 Cross-sectional Regression of Premium '[(Final Offer Price / P-42) - 1]' on Baker and Wurgler Sentiment Index (BW)

The below table shows the results of the cross-sectional regressions of Premium [(Final Offer Price / P-42) - 1] on Baker and Wurgler Sentiment Index (BW). The Cumulative Abnormal Return (CAR) is estimated as sum of the Abnormal Returns (AR) over the specified period. The AR is calculated as the difference between the realized return of the firm's stock and the expected return. The expected return is obtained using the market model ($r_{i,t} = \alpha + \beta r_{m,t}$). This latter is estimated using daily returns spanning 253 trading days before the announcement day to 43 days before the announcement day. CRSP Value weighted index was used as a proxy for the market. The Baker and Wurgler Sentiment Index (BW) associated with the deal are brought from professor Wurgler Website. For every deal, we estimated a sentiment measure that is equal to the weighted average sentiment index levels that are available during the deal's runup period. This latter spans 42 days before the announcement to 2 days before the announcement. The quartile cutoffs are estimated as per the sentiment original index spanning the period of our analysis: November 1981 till October 2015. Mergers and Acquisitions deals are downloaded from SDC. We limited our sample to Mergers, Acquisitions of Majority Interest and Acquisitions of Remaining Interest. We required that the deal have a reported final offer price on SDC and filtered out the top and bottom deals' percentile when sorted by their offer premium in order to avoid outliers. The offer premium is estimated as the final offer price divided by the target stock price 42 trading days before the announcement day. We removed any offer that is not the first offer within a multibid contest. Deals fall into a multibid contest if bids on the same target are separated by less than 6 months from each other. We also filtered out any deal whose value is less than $10 Million dollar and whose target stock price on day -42 is less than $5. Deal value is brought from SDC. We have also used Target Cumulative Abnomral Return from the beginning of the Runup period till completion day or 126 days after the deal is completed (whichever is shorter) – we termed this variable as CAR-Base d-Premium. We require that both target and acquirer firms are public US listed firms with CRSP and Compustat data on both. We divided our sample into All, Non-Cash-Only (Mixed or Stock-Only) and Cash-Only based on the medium of exchange as reported by SDC. Price and Return data is brought from CRSP. For price based runup and markup, we followed Betton et al (2008) by dividing the target stock price 2 days before the announcement day by the target stock price 42 days before the announcement date and the Final Offer Price by the target stock price 2 days before the announcement respectively. For the CAR based runup and markup we estimated them as the CAR over [-42, -2] and [-1, +126] respectively. Size is the logarithm of the firm market cap 42 days before the announcement day. The firm market cap is obtained by multiplying the stock price by the number of shares outstanding (in $Millions). B/M is the ratio of the Book Value of the Firm`s equity divided by the Market Value of the Firm 42 days before the announcement. The Book value of the firm's equity is obtained following the approach of Fama and French (1993) by adding the book value of stockholders equity to the balance sheet deferred taxes and investment tax credit and subtracting the book value of preferred share – all data are brought from Compustat. Target (Acquirer) Turnover is estimated as the average of the Volume to Share Outstanding Ratio calculated over the interval spanning 166 days before the announcement to 42 days before the announcement (before the beginning of the runup period). Relying on SDC deals' data we created the following dummy variables: complete – whether the deal was completed successfully or not, Hostile – whether the bidder attitude was hostile or not, Rumor – whether the deal followed a rumor or not, Tender – whether the deal was a tender offer or not, Toehold – whether the bidder had more than 5% ownership of the target at the deal's announcement, and NYSE/AMEX whether the deal is listed on NYSE, AMEX or not. If the target and acquirer share the same four-digit SIC code, the deal is considered a Horizontal deal. Relative size is the ratio of Target to Acquirer size. Firms' SIC codes are obtained from CRSP. Heteroscedasticity consistent white p-value are reported underneath. The *,**,*** indicates significance at 10%, 5%, and 1% respectively.

Deal-Type	All Deals		Non-Cash-Only		Cash-Only	
	1	2	3	4	5	6
Constant	0.40946***	1.29828***	0.38166***	1.15173***	0.46811***	1.44433***
(p-value)	(<.0001)	(<.0001)	(<.0001)	(<.0001)	(<.0001)	(<.0001)
BW-Sentiment-Proxy	-0.01677	-0.02632**	-0.00725	-0.01798	-0.02641	-0.06058**
(p-value)	(0.196)	(0.0272)	(0.6294)	(0.1698)	(0.2922)	(0.0281)
Target Size		-0.02313**		-0.0163		-0.03848*
(p-value)		(0.0383)		(0.1557)		(0.0863)
Target Turnover		0.00141		0.00105		0.00245
(p-value)		(0.1756)		(0.3757)		(0.1095)
Target NYSE/Amex		0.04566		0.02886		0.08694
(p-value)		(0.1176)		(0.3199)		(0.187)
Target B/M		0.03463		0.0378		0.03786
(p-value)		(0.2052)		(0.1664)		(0.4553)
Target CAR [-42,-2]		0.88833***		0.86576***		0.9086***
(p-value)		(<.0001)		(<.0001)		(<.0001)
Relative Size		-0.55248***		-0.67579***		-0.3108
(p-value)		(<.0001)		(<.0001)		(0.2083)
Toehold Exist		-0.11398***		-0.12187***		-0.08316**
(p-value)		(<.0001)		(0.0007)		(0.0315)
Horizontal		-0.01931		-0.01613		-0.03658
(p-value)		(0.3523)		(0.4717)		(0.4348)
Tender Offer		0.06137**		0.07147		0.05773**
(p-value)		(0.0161)		(0.1019)		(0.0424)
Cash Bid		-0.01357				
(p-value)		(0.3448)				
Hostile		0.09446**		0.07528		0.09921**
(p-value)		(0.0169)		(0.1651)		(0.0462)
Multiple Bidders		0.06702*		0.07252		0.03463
(p-value)		(0.0691)		(0.1643)		(0.4201)
Rumor		-0.04462		-0.00663		-0.10742***
(p-value)		(0.1615)		(0.8846)		(0.0002)
Complete		0.00182		-0.0055		0.02736
(p-value)		(0.9455)		(0.8728)		(0.4273)
Adj-R^2	0.0002	0.1884	-0.0003	0.1971	0	0.152
Industry Dummies	No	Yes	No	Yes	No	Yes
Number of Cases	3705	3705	2591	2591	1114	1114

Table 4-87 Cross-sectional Regression of Premium 'CAR[-42, +126]' on Target Runup (CAR [-42,-2]) and Runup Multiplied by Baker and Wurgler Sentiment Index (BW) Quartiles – Testing Markup Pricing

The below table shows the results of the cross-sectional regressions of Premium 'CAR[-42, +126]' on Target Runup 'CAR[-42, -2]' and the Runup multiplied by the sentiment quartile dummies. The Cumulative Abnormal Return (CAR) is estimated as sum of the Abnormal Returns (AR) over the specified period. The AR is calculated as the difference between the realized return of the firm's stock and the expected return. The expected return is obtained using the market model ($r_{i,t} = \alpha + \beta\, r_{m,t}$). This latter is estimated using daily returns spanning 253 trading days before the announcement day to 43 days before the announcement day. CRSP Value weighted index was used as a proxy for the market. The Baker and Wurgler Sentiment Index (BW) associated with the deal are brought from professor Wurgler Website. For every deal, we estimated a sentiment measure that is equal to the weighted average sentiment index levels that are available during the deal's runup period. This latter spans 42 days before the announcement to 2 days before the announcement. The quartile cutoffs are estimated as per the sentiment original index spanning the period of our analysis: November 1981 till October 2015. Mergers and Acquisitions deals are downloaded from SDC. We limited our sample to Mergers, Acquisitions of Majority Interest and Acquisitions of Remaining Interest. We required that the deal have a reported final offer price on SDC and filtered out the top and bottom deals' percentile when sorted by their offer premium in order to avoid outliers. The offer premium is estimated as the final offer price divided by the target stock price 42 trading days before the announcement day. We removed any offer that is not the first offer within a multibid contest. Deals fall into a multibid contest if bids on the same target are separated by less than 6 months from each other. We also filtered out any deal whose value is less than $10 Million dollar and whose target stock price on day -42 is less than $5. Deal value is brought from SDC. We have also used Target Cumulative Abnomral Return from the beginning of the Runup period till completion day or 126 days after the deal is completed (whichever is shorter) – we termed this variable as CAR-Based-Premium. We require that both target and acquirer firms are public US listed firms with CRSP and Compustat data on both. We divided our sample into All, Non-Cash-Only (Mixed or Stock-Only) and Cash-Only based on the medium of exchange as reported by SDC. Price and Return data is brought from CRSP. For price based runup and markup, we followed Betton et al (2008) by dividing the target stock price 2 days before the announcement day by the target stock price 42 days before the announcement date and the Final Offer Price by the target stock price 2 days before the announcement respectively. For the CAR based runup and markup we estimated them as the CAR over [-42, -2] and [-1, +126] respectively. Size is the logarithm of the firm market cap 42 days before the announcement day. The firm market cap is obtained by multiplying the stock price by the number of shares outstanding (in $Millions). B/M is the ratio of the Book Value of the Firm's equity divided by the Market Value of the Firm 42 days before the announcement. The Book value of the firm's equity is obtained following the approach of Fama and French (1993) by adding the book value of stockholders equity to the balance sheet deferred taxes and investment tax credit and subtracting the book value of preferred share – all data are brought from Compustat. Target (Acquirer) Turnover is estimated as the average of the Volume to Share Outstanding Ratio calculated over the interval spanning 166 days before the announcement to 42 days before the announcement (before the beginning of the runup period). Relying on SDC deals' data we created the following dummy variables: complete – whether the deal was completed successfully or not, Hostile – whether the bidder attitude was hostile or not, Rumor – whether the deal followed a rumor or not, Tender – whether the deal was a tender offer or not, Toehold – whether the bidder had more than 5% ownership of the target at the deal's announcement, and NYSE/AMEX whether the deal is listed on NYSE, AMEX or not. If the target and acquirer share the same four-digit SIC code, the deal is considered a Horizontal deal. Relative size is the ratio of Target to Acquirer size. Firms' SIC codes are obtained from CRSP. Heteroscedasticity consistent white p-value are reported underneath. The *,**,*** indicates significance at 10%, 5%, and 1% respectively.

Deal-Type	All Deals		Non-Cash-Only		Cash-Only	
	1	2	3	4	5	6
Constant	0.17391***	0.13695	0.13561***	0.10337	0.27158***	0.28044
(p-value)	(<.0001)	(0.2382)	(<.0001)	(0.4757)	(<.0001)	(0.1561)
Target CAR [-42,-2]	1.31964***	1.23116***	1.48696***	1.3608**	0.99323***	0.94451***
(p-value)	(<.0001)	(<.0001)	(<.0001)	(<.0001)	(<.0001)	(<.0001)
Q2 x Target CAR [-42,-2]	-0.11754	-0.07826	-0.14593	-0.07758	-0.11577	-0.10668
(p-value)	(0.5044)	(0.6152)	(0.5341)	(0.6943)	(0.5903)	(0.575)
Q3 x Target CAR [-42,-2]	-0.19333	-0.19121	-0.31059	-0.3122	-0.06028	-0.05993
(p-value)	(0.2685)	(0.2255)	(0.1828)	(0.1197)	(0.7732)	(0.7462)
Q3 x Target CAR [-42,-2]	-0.02155	-0.0372	-0.13272	-0.11639	0.04294	0.04113
(p-value)	(0.8992)	(0.8075)	(0.5632)	(0.5496)	(0.8208)	(0.8082)
Target Size		0.01498***		0.01417***		0.01091
(p-value)		(0.0013)		(0.0062)		(0.2167)
Target Turnover		-0.00155*		-0.00238**		0.00375**
(p-value)		(0.0819)		(0.0231)		(0.0392)
Target NYSE/Amex		0.01707		0.01065		0.04108*
(p-value)		(0.2206)		(0.5262)		(0.0865)
Target B/M		0.18869***		0.21935***		0.14618***
(p-value)		(<.0001)		(<.0001)		(0.0012)
Relative Size		-0.55377***		-0.58158***		-0.43371***
(p-value)		(<.0001)		(<.0001)		(0.002)
Toehold Exist		-0.02001		-0.01269		-0.04464
(p-value)		(0.4915)		(0.7567)		(0.2554)
Horizontal		0.02149		0.0284*		0.00269
(p-value)		(0.1171)		(0.078)		(0.9183)
Tender Offer		0.05351***		0.02329		0.07544***
(p-value)		(0.0068)		(0.5731)		(0.0003)
Cash Bid		0.04819***				
(p-value)		(0.0008)				
Hostile		0.19836***		0.19062***		0.14981***
(p-value)		(<.0001)		(<.0001)		(0.0037)
Multiple Bidders		0.12158***		0.10631***		0.13988***
(p-value)		(<.0001)		(0.0004)		(0.0003)
Rumor		-0.11022***		-0.10112***		-0.10027***
(p-value)		(<.0001)		(0.0014)		(0.0064)
Complete		0.21023***		0.24504***		0.08167**
(p-value)		(<.0001)		(<.0001)		(0.0298)
Adj-R^2	0.3336	0.4201	0.3735	0.4469	0.2326	0.3305
Industry Dummies	No	Yes	No	Yes	No	Yes
Number of Cases	3705	3705	2591	2591	1114	1114

Table 4-88 Cross-sectional Regression of Premium (Final Offer Price / P-42 - 1) on Target Runup (P-2 / P-42 - 1]) and Runup Multiplied by Baker and Wurgler Sentiment Index (BW) Quartiles – Testing Markup Pricing

The below table shows the results of the cross-sectional regressions of Premium (Final Offer Price / P-42 - 1) on Target Runup (P-2 / P-42 - 1]) and the Runup multiplied by the sentiment quartile dummies. The Cumulative Abnormal Return (CAR) is estimated as sum of the Abnormal Returns (AR) over the specified period. The AR is calculated as the difference between the realized return of the firm's stock and the expected return. The expected return is obtained using the market model ($r_{i,t} = \alpha + \beta\, r_{m,t}$). This latter is estimated using daily returns spanning 253 trading days before the announcement day to 43 days before the announcement day. CRSP Value weighted index was used as a proxy for the market. The Baker and Wurgler Sentiment Index (BW) associated with the deal are brought from professor Wurgler Website. For every deal, we estimated a sentiment measure that is equal to the weighted average sentiment index levels that are available during the deal's runup period. This latter spans 42 days before the announcement to 2 days before the announcement. The quartile cutoffs are estimated as per the sentiment original index spanning the period of our analysis: November 1981 till October 2015. Mergers and Acquisitions deals are downloaded from SDC. We limited our sample to Mergers, Acquisitions of Majority Interest and Acquisitions of Remaining Interest. We required that the deal have a reported final offer price on SDC and filtered out the top and bottom deals' percentile when sorted by their offer premium in order to avoid outliers. The offer premium is estimated as the final offer price divided by the target stock price 42 trading days before the announcement day. We removed any offer that is not the first offer within a multibid contest. Deals fall into a multibid contest if bids on the same target are separated by less than 6 months from each other. We also filtered out any deal whose value is less than $10 Million dollar and whose target stock price on day -42 is less than $5. Deal value is brought from SDC. We have also used Target Cumulative Abnomral Return from the beginning of the Runup period till completion day or 126 days after the deal is completed (whichever is shorter) – we termed this variable as CAR-Based-Premium. We require that both target and acquirer firms are public US listed firms with CRSP and Compustat data on both. We divided our sample into All, Non-Cash-Only (Mixed or Stock-Only) and Cash-Only based on the medium of exchange as reported by SDC. Price and Return data is brought from CRSP. For price based runup and markup, we followed Betton et al (2008) by dividing the target stock price 2 days before the announcement day by the target stock price 42 days before the announcement date and the Final Offer Price by the target stock price 2 days before the announcement respectively. For the CAR based runup and markup we estimated them as the CAR over [-42, -2] and [-1, +126] respectively. Size is the logarithm of the firm market cap 42 days before the announcement day. The firm market cap is obtained by multiplying the stock price by the number of shares outstanding (in $Millions). B/M is the ratio of the Book Value of the Firm`s equity divided by the Market Value of the Firm 42 days before the announcement. The Book value of the firm's equity is obtained following the approach of Fama and French (1993) by adding the book value of stockholders equity to the balance sheet deferred taxes and investment tax credit and subtracting the book value of preferred share – all data are brought from Compustat. Target (Acquirer) Turnover is estimated as the average of the Volume to Share Outstanding Ratio calculated over the interval spanning 166 days before the announcement to 42 days before the announcement (before the beginning of the runup period). Relying on SDC deals' data we created the following dummy variables: complete – whether the deal was completed successfully or not, Hostile – whether the bidder attitude was hostile or not, Rumor – whether the deal followed a rumor or not, Tender – whether the deal was a tender offer or not, Toehold – whether the bidder had more than 5% ownership of the target at the deal's announcement, and NYSE/AMEX whether the deal is listed on NYSE, AMEX or not. If the target and acquirer share the same four-digit SIC code, the deal is considered a Horizontal deal. Relative size is the ratio of Target to Acquirer size. Firms' SIC codes are obtained from CRSP. Heteroscedasticity consistent white p-value are reported underneath. The *,**,*** indicates significance at 10%, 5%, and 1% respectively.

Deal-Type	All Deals		Non-Cash-Only		Cash-Only	
	1	2	3	4	5	6
Constant	0.3231***	1.05724***	0.30425***	0.90586***	0.37184***	1.22029***
(p-value)	(<.0001)	(<.0001)	(<.0001)	(0.0001)	(<.0001)	(<.0001)
Target Runup	1.13277***	1.0823***	1.06151***	1.0245***	1.19243***	1.11368***
(p-value)	(<.0001)	(<.0001)	(<.0001)	(<.0001)	(<.0001)	(<.0001)
Q2 x Target Runup]	-0.01476	0.01427	0.12089	0.15234	-0.22026	-0.19486
(p-value)	(0.9129)	(0.9158)	(0.4688)	(0.3538)	(0.3241)	(0.3319)
Q3 x Target Runup	-0.18957	-0.14749	-0.06535	-0.06053	-0.47684**	-0.43811*
(p-value)	(0.1501)	(0.2395)	(0.6855)	(0.6988)	(0.0303)	(0.0615)
Q3 x Target Runup	-0.09812	-0.09624	-0.01886	-0.02329	-0.20882	-0.18088
(p-value)	(0.4483)	(0.451)	(0.9058)	(0.8852)	(0.3367)	(0.3598)
Target Size		-0.01946*		-0.01262		-0.03562*
(p-value)		(0.0727)		(0.2588)		(0.0992)
Target Turnover		0.00114		0.00080138		0.00309**
(p-value)		(0.1782)		(0.3967)		(0.0351)
Target NYSE/Amex		0.05536*		0.03924		0.09607
(p-value)		(0.0552)		(0.1709)		(0.1449)
Target B/M		0.07211***		0.09755***		0.04737
(p-value)		(0.0051)		(0.0001)		(0.2994)
Relative Size		-0.44927***		-0.54917***		-0.20168
(p-value)		(0.0001)		(<.0001)		(0.4305)
Toehold Exist		-0.08505***		-0.07319**		-0.09312**
(p-value)		(0.0002)		(0.0155)		(0.022)
Horizontal		-0.00756		-0.00113		-0.03404
(p-value)		(0.7092)		(0.9582)		(0.4667)
Tender Offer		0.07166***		0.0794*		0.06478**
(p-value)		(0.0044)		(0.0635)		(0.0167)
Cash Bid		-0.00941				
(p-value)		(0.4959)				
Hostile		0.1038***		0.09059*		0.10486**
(p-value)		(0.0064)		(0.0794)		(0.0334)
Multiple Bidders		0.06043*		0.06602		0.03239
(p-value)		(0.0907)		(0.1923)		(0.4361)
Rumor		-0.06757**		-0.04321		-0.10642***
(p-value)		(0.0285)		(0.3287)		(0.0001)
Complete		-0.01114		-0.01799		0.01246
(p-value)		(0.6693)		(0.5905)		(0.7255)
Adj-R^2	0.1991	0.2395	0.2197	0.2658	0.1524	0.1677
Industry Dummies	No	Yes	No	Yes	No	Yes
Number of Cases	3705	3705	2591	2591	1114	1114

5 CHAPTER FIVE

Conclusion

This thesis examines mergers and acquisitions from three different angles. In the first essay (Chapter Two) we estimate the average of the implied volatility (AIV) and the volatility of the implied volatility (VIV) for both targets and bidders. We use AIV and VIV as a proxy for risk and uncertainty about risk and show that these measures can in part, explain the choice of the medium of exchange, bidder firm investors' reaction to a deal announcement as well the chances that the deal will be completed successfully. Also, we analyze the behavior of the implied volatilities of target and acquirer firms and show that target implied volatility approaches the acquirers' implied volatility for stock or mixed offers and drops to a much lower level for cash-only offers. The results of this paper suggest future research on the ability of AIV and VIV to predict the future long-term performance of the newly merged firm.

In the second essay (Chapter Three), we show that the idiosyncratic volatility puzzle is stronger in periods of higher market and acquisition activities. The idiosyncratic puzzle refers to the negative relationship between stocks' idiosyncratic volatility and next month return (Ang et al., 2006). We hypothesize that a firm undergoing a merger and acquisition will go through structural uncertainty which will be captured by the idiosyncratic volatility since it is more firm-specific than market-wide. Also, previous literature establishes a relationship between mergers and acquisitions clustering (merger waves) and stock overpricing (Shleifer and Vishney, 2003; Rhodes-Kropf and Viswanathan, 2003). This leads us to conclude that in periods of high merger and acquisition activities, the idiosyncratic volatility puzzle is stronger than in periods of low merger and acquisition activities boosted by the target and acquirer specific uncertainty and the accompanying market-wide overvaluations. Our findings confirm our hypothesis. The results of our tests vary across the different merger waves we have identified. It would be interesting for future research to investigate how the particularity of each merger wave affects the idiosyncratic volatility puzzle and whether the puzzle is stronger for a specific industry undergoing technological changes that are leading to increased levels of merger and acquisition activities.

In the third essay, we examine whether the different parties involved in a merger and acquisition deal behave differently in periods of high investors' sentiment versus periods of low investors' sentiment. We show that periods of high sentiment (Baker and Wurgler, 2006; Baker

and Wu, 2012) are associated with higher chances of stock or mixed offers, lower bidder announcement reactions and higher target bargaining power for stock or mixed offers but higher synergy for cash-only offers. Our results can be interpreted within the context of possible overpricing: in periods of higher market sentiment there is a higher chance that bidder firms' stock is overpriced. Consequently, the bidder firm will try to build on this possible overvaluation and opt for a stock or mixed offer. When the bidder investors receive this overvaluation signal, they react accordingly, and we observe a more pronounced drop in the bidder stock return around the announcement for stock (mixed) offers occurring in high sentiment periods. Also, target firms know that they might be paid with an overvalued bidder stock and bargain more. Bidder firms themselves may also pay cash for an overvalued target stock. As such, they exert all their due diligence to make sure the deal is profitable. This results in higher synergy for cash-only offers in periods of higher market sentiment.

In a related setting, we also show that target runup is higher for periods of higher investor sentiment. The target runup is explained by the literature (Schwert, 1996; King, 2012) as the increase in the target stock price due to information about the deal being leaked to the market or possibly to the increase in the standalone target value. In both cases, the runup is the result of a positive signal about the target firms. We argue that optimistic investors will overreact to this positive news in periods of high market sentiment. Our findings support this argument: there a positive relationship between target runup and investor sentiment. What is surprising is that this higher target runup does not translate into a higher premium. It appears that bidder firms know that the higher runup during high sentiment periods is simply an overreaction and they do not take it into full consideration while pricing the deal. Our results highlight the importance of market aggregate sentiment on different aspects of mergers and acquisitions.