Executive Compensation and Corporate acquisitions in China

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ABSTRACT

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This paper examines 259 completed merger and acquisition (M&A) deals undertaken by Chinese firms listed on either the Shanghai or Shenzhen Stock Exchanges between 2005 and 2010. Using comprehensive financial and accounting data, augmented by unique data on executive compensation, we attempt to investigate how executive compensation relates to corporate acquisition decisions in acquiring firms in China. We find that the acquiring firms gain significantly positive abnormal returns around the announcement of M&As. We also find that the stock price of acquiring firms following acquisition announcements statistically outperforms the average market return over a three year period. The salary in cash of the top-three executives differs greatly across the acquiring firms. The overall level of managerial ownership in the acquiring firms is low. There are some observable patterns in the relations between the short-term cumulative abnormal returns (CARs) of the acquiring firms and the executive salary and/or ownership. While the level of executive ownership has no statistically significant influence on the CARs, executive salary is significantly negatively related to the CARs of the acquiring firms, particularly those in the higher salary sample.

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1. Introduction

Mergers and acquisitions (M&As) have been playing an important role in the creation of shareholder wealth. As significant and long-term investments a company makes, M&A activities provide a unique insight into how managers make investment decisions strategically to create firm value. Meanwhile, M&A activities have the potential to exacerbate the agency conflicts between managers and shareholders. M&As are thus hotly debated research topics in studies of relation between managers' personal incentives and their investment decisions.

For a long time M&A activity remained primarily limited to developed markets such as the United States and the United Kingdom; however, they are now taking place in countries all over the world including several emerging markets. In the U.S., M&As continue to take place over time either on a small scale or periodically on great magnitude. Six waves of M&As have been identified, with the first one in the early 1900s and the latest ending in 2008. Understandably, major M&A theories and empirical studies are largely based on M&A activities in developed markets. In recent years, however, the number of M&A activities has risen dramatically in developing countries such as China, India, Russia and South Africa. Not only as investment targets of developed markets, these emerging economies continue to experience large and intensely aggressive M&As domestically and abroad as bidders. Meanwhile, M&As of emerging markets have been the subject of intense research interest, allowing the classical theories

of M&As to be re-analyzed and tested in quite different contexts. In our paper, we study how managerial decisions on M&As are affected by managerial compensation structure and ownership and the consequent impact on shareholder wealth in Chinese market.

The Chinese M&A market has emerged in the last two decades and China has been experiencing a spate of M&A activity especially since 2005. The deregulation of the financial services sector and the development of new financial markets, particularly the restructuring of state-owned enterprises (SOEs) accelerated the growth of Chinese M&A market in the last ten years. Compared with its counterparts in developed countries, China has quite different and unique economic environment. SOEs have been the dominant form of Chinese enterprise for a long time. During the past two decades, SOEs were transformed significantly along with transition of Chinese economy from a planned to a market-oriented one. One result of this transformation has been the progressive increase in the listing of SOEs on the stock exchanges. By the end of 2007, more than 75% of the listed firms on the two thriving stock exchanges in China, Shanghai and Shenzhen Stock Exchanges, were SOEs. In recent years, more and more Chinese SOEs have gone public and transformed into modern shareholding firms through M&As. The large-scale involvement of SOEs in M&As has in a way created an M&A explosion in China. During the financial crisis that hit the world in 2008, the volume of global M&A transactions dropped by approximately 30% to US$2.89 trillion. However, the volume of Chinese M&A transactions set a record high of US$167 billion, with about US$49 billion that involved SOEs. According to National Statistics, the Chinese economy was the most prominent among high-growth international economic entities in 2008 due to the involvement in the M&A market.

Since the economic environment in China differs greatly from developed countries, the motives, characteristics and wealth effects of M&As in the Chinese market would be different from those in developed markets. A better understanding of M&A activities in China is necessary for the fast growing financial market. We focus our study on the efficiency of managerial M&A decisions in Chinese contexts. Although managers as agents for shareholders are perceived to make decisions in line with shareholder wealth maximization, managers could make decisions which diverge from the interest of shareholders to maximize managers' own utility. Executive compensation could be designed to give incentives for managers to pursue the interests of shareholders. Previous studies on pay-performance link suggest that incentive compensation helps in aligning the interests of managers with those of shareholders. Managers tend to make decisions effectively and improve firm performance with compensation packages of high pay-performance sensitivity. While most academic work on executive compensation has been concentrated on a few developed countries, there is an increasing need to study how firms in developing countries, especially with transition economies, compensate their executives to provide efficient managerial incentives.

Executive compensation mechanism in Chinese firms has evolved in the past two decades. The "yearly salary system" since 1992 allows wage budget to be linked to firms' economic performance, introducing profit-oriented incentives to employees. Executives' compensation in the "yearly salary system" consists of two parts: a fixed component (base salary) that is paid monthly and depends on both the average wage for ordinary employees and firm size; and, a variable component (risk salary) that is paid at the end of a year and linked to firm performance in the year. The "yearly salary system", which is

like a typical cash compensation package in Western firms, is considered as a key incentive mechanism for top management in Chinese firms. Moreover, Chinese listed firms were allowed to adopt stock option incentives in September 2006. Equity-based compensation began to serve as long-term incentives for managers in Chinese listed firms. By 2010, approximately 250 of 1725 listed Chinese firms offered stock option incentives. Although stock option incentives are not widespread in China, stock options are a common form of incentive and an important part of executive compensation in high-tech companies. In general, cash compensation appears to be the most dominant form of executive compensation while equity-based compensation may weight differently in Chinese listed firms. The unique ownership structure and compensation system have important effects on pay-performance link in Chinese firms.

In our paper, we explore how executive compensation is related to managerial M&A decisions and post-acquisition performance in Chinese acquiring firms on the premise that incentive compensation could align the interests of managers with those of shareholders. Moreover, we examine how such a relation is influenced by various characteristics of firms and M&A transactions. We limit our study to acquiring firms listed on the Shenzhen and Shanghai Stock Exchanges for the period from 2005 to 2010. We classify the acquiring firms into subgroups by their size, industry and ownership structure; we also classify the M&A transactions by method of payment and industry relatedness. We then examine the short-term and long-term stock performance of the acquiring firms around and after M&As. We undertake cross-sectional analysis to investigate the link between post-acquisition performance and executive compensation in the acquiring firms.

This paper is organized as follows. The following section reviews the related literature. Section 3 describes the methodology and dataset. Section 4 provides the empirical results and Section 5 concludes.

2. Literature review

2.1. Theories of Mergers and Acquisitions

There is a wealth of literature on the relevance of M&A activities. A sizeable stream of research investigates the possible motives for firms to engage in M&A activities. The theories dealing with value-maximization motivation suggest that M&A strategy, like any other investment decisions, should be in line with shareholder wealth maximization. Acquiring firms would engage in M&A activity when the added value by an acquisition exceeds the cost of the acquisition. Likewise, target firms would engage in M&A activities with the expectation of gains to shareholders. Positive gains to both acquiring firms and target firms arise from synergy. The total market values of the two firms after M&As is larger than that prior to M&As. Chatterjee (1986) summarizes the possible sources for the value creation and identifies three kinds of synergy values: operational synergy, financial synergy and collusive synergy.

However, plenty of theories and evidence suggests that M&A strategy usually lead to non-value-maximizing investment decisions. According to Roll (1986), managerial hubris could lead to over optimism in evaluating M&A opportunities and thus non-value-maximizing M&A decisions. With excessive self-confidence, managers of acquiring firms would offer higher valuation of the target than the true valuation of the

target. As a result, the net gains of the combined firms are zero since the positive gains to target firms are offset by the negative gains to acquiring firms. Roll (1986) suggests that the hubris hypothesis provides an explanation for the occurrence of non-positive gain M&As documented by a number of empirical studies.

Like other agency problems, due to the separation of ownership and control, managers may pursue their self-interest at the expense of shareholders' welfare in M&A cases. Managerial self-interest can lead to the outcomes of M&A transactions that maximize managers' utility instead of shareholders' value. As Jensen (1986,1988) indicates, managers of firms with large free cash flows may invest the free cash in unprofitable projects such as acquisitions with no benefits rather than pay out dividends to shareholders. On the other hand, Weston, Siu, and Johnson (2001) suggest that risk averse managers are likely to undertake M&As to reduce employment and earnings risk even if the M&A transaction harms shareholders. Understandably, managerial motives would be important determinant for the outcomes of M&A transactions (Zalewski, 2001).

2.2 Empirical Studies: Evidence on Post-acquisition Performance

M&A activities typically cause significant stock price changes when they are announced. A number of empirical studies on the financial effects of M&As have focused on stock returns of acquiring firms and target firms around the announcements of M&A transactions. While most empirical evidence suggests that target firms experience positive abnormal returns around the announcements, the returns to acquiring firms are more complex. Bradley et al. (1988) find significant positive abnormal returns of 0.97%

to acquiring firms using a U.S. sample of 161 tender offers between 1963-1984. Asquith (1983) split a sample 169 tender offers into successful and unsuccessful acquirers and find that successful acquirers earn significant positive abnormal returns of 3.48% and unsuccessful acquirers have insignificant positive abnormal returns of 0.7%, respectively. Moeller et al. (2004) examine a much larger sample of 12,023 acquisitions from 1980 to 2001 and report an equally-weighted abnormal announcement return of 1.1%. They also find that the abnormal announcement return of large acquiring firms is roughly 2% higher than that of small acquiring firms, suggesting a size effect in acquisition announcement returns. Masulis et al. (2007) examine a sample of 3,333 completed acquisitions between 1990 and 2003 and find that the mean CAR over a five-day event window (-2, +2) is 0.215%, significantly different from zero at the 5% level. However, the mean CAR is negative for transactions financed with stock although the mean CAR for transactions financed exclusively with cash is significantly positive, about 0.798%.

On the contrary, there are several studies that report zero or negative abnormal returns for acquiring firms. For example, Jensen and Ruback (1983) find evidence of zero abnormal returns to acquirers, on average. More recently, Bruner (2002) supported this finding using a sample of 130 acquisitions in the 1971-2001 period, showing that abnormal announcement returns of acquiring firms is around zero. Using a sample of 399 U.S. takeovers from 1975 to 1984, Franks et al. (1991) find an insignificant negative return of -1.02% for acquiring firms. Similarly, Mulherin and Boone (2000) examine 138 U.S. acquiring firms in a period from 1990 to 1999 and report negative returns of -0.37%. Kuiper et al. (2002) examine 181 U.S. acquiring firms for a period from 1981 to 1991 and report negative returns of -0.92%.

Several studies also examine the long-term post-acquisition stock returns of acquiring firms, with mixed findings. For example, Haugen and Udell (1972) report positive abnormal returns over a four-year period after acquisitions when examining US mergers consummated in the period 1961 to 1967. Moreover, they find that acquiring firms earn higher returns when the targets are in unrelated industries. Eckbo (1986) also finds positive one-year cumulative average abnormal returns (CAARs) and suggest that firms acquiring diversifying targets outperform those acquiring industry-related targets. However, Agrawal et al. (1992) examine 765 mergers between NYSE acquirers and NYSE/AMEX targets over the period 1955 to 1987 and report significant negative five-year CAARs of about -10%, controlling for firm size and beta. Using 947 U.S. acquisitions during a period from 1970 to 1989, Loughran and Vijh (1997) find a statistically significant loss of -15.9% over a five-year period after acquisitions, controlling for firm size and book to market ratio. Meanwhile, they find that acquirers with M&A deals financed exclusively by cash earn significant positive excess returns of 61.7%, while those with M&As deals financed by stock earn significant negative excess returns of -25%. In the UK cases, Gregory and McCorriston (2005) report a significant abnormal return of −9.36% and −27% for acquiring firms in three years and five years after the announcements. Alexandridis et al. (2006) examine 179 UK takeovers between 1993 and 1998 using both the three-factor Fama and French model and the traditional capital asset pricing model (CAPM) and find a three year abnormal return of about -1%.

Evidence on the accounting performance after M&As tend to be inconclusive since it is hard to choose proper performance measures or proper benchmarks to compare. Meeks (1977) examines the post-acquisition accounting performance of 233 UK

acquirers in 1964-1972 and finds that profitability of acquiring firms increases in the year of M&As but decreases in the following five years. Using 2941 UK acquisitions in 1948-1977, Dickerson et al. (1997) find that acquiring firms' earnings are significantly lower than their earnings prior to the acquisitions and as well lower than the earnings of non-acquirers. Healy et al. (1992) examine the post-acquisition operating performance of the largest 50 U.S. mergers in the 1979-1984 periods and suggest that acquiring firms have higher operating cash flows after mergers than industry benchmarks. Similarly, Andrade et al. (2001) examine about 2000 U.S. mergers between 1973-1998 and find that the operating margins of acquiring firms improve relative to their industry peers. On the hand, Lu (2004) shows significant negative industry-adjusted returns on assets and returns on equity in acquiring firms during several intervals in the six months after the acquisitions by examining 592 U.S. M&A deals between 1978 and 1996.

2.3 Executive Compensation and M&A Decisions

Literature has paid much attention to how managerial compensation and ownership can align actions of managers with the interests of shareholders since Jensen and Meckling (1976). As Morck et al. (1988) suggest, firms would increase firm value by increasing equity-based executive compensation which reduces managers' non-value-maximizing behavior. Jensen and Murphy (1990) indicate that CEOs are given incentive compensation mainly through flow compensation (annual salary, bonus, new equity grants, and other compensation), changes in the value of stock and options held by CEOs and the possibility of a decrease in the market's assessment of the CEO's human capital.

Hall and Liebman (1998) find that "CEO compensation is highly responsive to firm performance" when considering changes in the value of stock and options held by CEOs. The widely cited research concerning executive compensation in China by Li (2001) examines the pay-performance link in Chinese listed firms and finds that there is no significant relation between executive compensation and firm performance, but there is significant relation between executive compensation and firm size, industry sector and firm location. He suggests that the low level of executive stock and option holdings leads to the insensitive pay-performance link in Chinese firms. However, Kato and Long (2005) provide evidence on "statistically significant sensitivities and elasticities of annual cash compensation (salary and bonus) for top executives with respect to shareholder value in China by examining Chinese listed firms in 1998-2002. Moreover, they find that state ownership of Chinese listed firms weakens the pay-performance link.

Restricting the analysis to managerial M&A decisions, few studies of M&As activities examine the relationship between executive compensation (salary, bonus and equity) and post-acquisition performance. Previous studies, for example, Lewellen & Rosenfeld (1985) link management ownership in the firm to managerial M&As decisions and find that abnormal stock returns from M&As is positively related to the percentage of management ownership of the acquiring firms. In a pioneering paper, Datta, Iskandar and Raman (2001) examine managers' equity-based compensation (EBC) and stock price performance around and during a three-year period after the acquisition announcements using 1,719 US acquisitions in 1993-1998. They report a strong positive relationship between EBC and post-acquisition stock performance, controlling acquisition mode, means of payment, managerial ownership, and previous option grants. On the other hand,

Firth (1991) examines the relationship between executive rewards and M&A deals and find executives rewards increase as shareholder value increases after M&As. Bliss and Rosen (2001) investigate the relationship between CEO compensation in acquiring firms and bank mergers. They find that CEO compensation and wealth increase even if the stock price drops after M&As. Using a sample of 327 US M&A deals in 1993-1999, Grinstein and Hribar (2004) find that CEO compensation has no significant relationship with post-acquisition performance.

2.4 Research on Chinese M&A Market

Studies and practices of M&A activities in Chinese market are still limited, compared with those in developed markets. Boateng et al. (2008) examine 27 Chinese cross-border M&A deals taken by firms listed on the Shanghai and Shenzhen Stock Exchanges in 2000–2004. They report positive and significant CARs of 1.32% over (0, +1) period for acquiring firms and suggest that cross-border M&As create value for Chinese acquirers in short term. More recently, Chi et al. (2009) examine 1148 M&As on the Shanghai and Shenzhen Stock Exchanges in 1998-2003 using the market model, the CAPM model and the buy-and-hold method to calculate abnormal returns. They find significant positive abnormal returns in 6 months before and upon the announcements but insignificant abnormal returns in 6 months after the announcements. They conclude that "M&A does not improve the fundamentals of acquiring firms, at least not in the short-run." Moreover, they suggest that higher state ownership has a positive impact on the acquiring firms' performance but pre-acquisition performance of acquiring firms or

industry relatedness between acquirers and target firms is less relevant. Meanwhile, most empirical results show insignificant operating performance after the M&A announcements. By examining sales to asset, return to asset, return to equity and earning per share, Feng and Wu (2001) show that the operating performance of acquiring firms increases one year after the announcements but decreases in the following years. Wang et al. (2001) examine sales' growth, earnings and returns to equity and show similar results. This suggests that the effects of M&As on the operating performance are not material for Chinese acquiring firms. Bhabra and Huang (2003) investigate 437 M&A deals initiated by Chinese listed firms and find significant positive abnormal returns to the acquiring firms in the short term around the M&A announcements.

3. Data

We use Thomson Financial SDC Platinum Merger and Acquisition Database to collect Chinese M&A data between January 2005 and December 2010. We include transactions that are: (1) Chinese domestic bidders listed on Shanghai or Shenzhen Stock Exchanges; (2) M&A deals are identified as a merger or an acquisition of majority interest, or tender offers by SDC; (3) M&A deals are listed as completed with an announcement date and effective date in our sample period; and (4) bidders wholly own the target (100% of the equity) after the completion of M&A transactions. To keep the deals in our sample more homogeneous, we exclude financial institutions due to their differences in capitalization and regulation from others. We also exclude the deals where the bidders are employees, subsidiary or parent company. We only consider bidders

which make an acquisition announcement for a single target on the same date, and thus exclude deals in which bidders make more than one acquisition announcement in one year to reduce any estimation biases resulting from confounding events. Furthermore, we obtain stock price data of acquiring firms and the market return from the website of Shanghai and Shenzhen Stock Exchanges. We obtain accounting data of acquiring firms as well as compensation data of top executives in acquiring firms from *Annual Reports of Listed Companies in China* and the *Statistics Year Book* issued by the Shanghai and Shenzhen Stock Exchanges. We exclude bidders which do not have daily price records at least one year before the acquisition announcement; and those which do not have accounting data and compensation data at the fiscal year end before the acquisition announcement. Finally, we have 259 M&A deals in our full sample. For each M&A deal in our sample, we collect information on the announcement date, the effective date, the means of payment and the value of the transaction from the SDC.

Table 1 presents the distribution of the 259 M&As completed during the period from 2005 to 2010 in China. As shown in Panel A, the number of deals consistently increase from 2005 to 2009, with most M&A deals occurring in 2009; 30.12% of the sample. The full sample is divided into subgroups by the methods of payment, the relatedness of acquiring and target firms, the industry sectors of bidders and the ownership structure of bidders, as shown in Panel B. The methods of payment include Cash-only and Non-cash. Cash refers to M&As paid with 100 percent cash. Others include those financed with equity or assets. An acquiring firm is considered as related to its target if it is in the same industry sector with its target. Otherwise, the acquiring firm is unrelated to its target. According to Wind's industry classification, we categorize the full sample into six

industry groups: Financials, Industrials, Information Technology, Mining & Materials, Wholesales & Retails, and others. As shown in Panel B, 182 out of the 259 acquiring firms, about 70% of the sample, financed their M&A transactions entirely with cash. The data also shows that bidders and their targets are related in more than two-third of the M&A deals. In addition, there are more M&A deals in the industry sectors of Wholesales & Retails and Mining & Materials, accounting for nearly half of the sample. We categorize acquiring firms into SOE and Others by the percentage of government ownership. SOE refers to an acquiring firm in which the government ownership is more than 50 percent of equity. We observe that SOEs only account for about 15% of the full sample and several subsamples. Panel C presents descriptive statistics of deal-specific and firm-specific characteristics. Firm size is measured by acquirers' assets; leverage is measured by the ratio of debt to equity; average profitability is measured by the mean of acquirers' ROA, ROE and profit margin during the three years prior to the M&A announcements. We find that the average transaction value of SOEs is twice as high as that of Non-SOEs. Moreover, SOEs have much greater firm size, almost four times greater than Non-SOEs. Meanwhile, SOEs have higher average profitability and lower leverage ratio than Non-SOEs.

4. Methodology

4.1. Post-acquisition Performance of Acquiring Firms

4.1.1. Announcement Effects

Our paper uses standard event study methodology (Brown & Warner, 1980) to

empirically examine the stock price impact of acquisition announcements. The event study measures the impact of M&As on the value of the firm, by using the abnormal stock return which is the difference between the actual return and the expected return, around the time of an event. The approach is based on the assumption that only the random announcement events affect the abnormal returns occurring on that day. Thus, abnormal stock returns provide a unique method to measure the impact of an announcement on firms' future expected profitability (McWilliams and Siegel, 1997).

We estimate the announcement period returns of acquiring firms based on the market model. The abnormal stock return on day t is calculated by subtracting the return predicted by general market trends on the stock from its actual return on that day, as in the following formula:

$$AR_{it} = R_{it} - (\alpha_i + \beta_i R_{mt}) \qquad (1)$$

Where,

AR_{it}= abnormal return for firm i on day t,

R_{it}= realized return for firm i on day t,

β_i = market model parameter estimates of firm i, and

R_{mt} = daily value-weighted market return on day t.

The date of the event is the announcement date of an acquisition, which is denoted as t = 0. Following Schwert (1996), we estimate the market parameters for each acquirer firm over a 253 trading day period from day -380 to day -127 (i.e.,

approximately one year). Then, we calculate the daily abnormal returns of acquiring firms over the period from day -42 to day 126. The abnormal returns are averaged across all firms on each event day to estimate an average abnormal return (AAR) over the period.

Based on the assumptions that the each day returns are independent and the standard errors are cumulative, accumulating the abnormal returns over a given window $[t_1, t_2]$ provides the cumulative abnormal return (CAR) for each firm:

$$CAR_{i\tau} = \sum AR_{it} \qquad (2)$$

We calculate CARs of acquirer firms over various time windows during a period of 42 days before and 126 days after the announcement of an acquisition. The null hypothesis is that the mean abnormal stock return during the event windows is equal to zero. The statistical significance of CARs is estimated by using the Patell t-statistic (Patell (1976)), assuming cross-sectional independence and time-series independence. Since t-tests are based on strong assumptions about the underlying return distribution, we also perform a nonparametric test, the generalized sign test to ensure the robustness.

4.1.2. Long-term Stock Price Effects

We measure long-term abnormal stock returns of acquiring firms after M&A using the BHAR approach (Barber & Lyon, 1997). BHAR for each acquirer firm is measured as the difference in returns on a sample firm and its benchmark through a buy-

and-hold investment strategy across t days, as the following:

$$BHAR_{i\tau} = \prod_{t=1}^{\tau}[1 + R_{it}] - \prod_{t=1}^{\tau}[1 + E(R_{mt})] \quad (3)$$

Where day t = 1 is the first trading day following the effective date, R_{it} is the return on stock i on day t, $E(R_{it})$ is the expected return in day t. Here, we use the market index, R_{mt}, as the expected return for each acquirer firm.

The BHAR approach adequately measures the returns obtained by an investment strategy. It interprets whether sample firms earn abnormal returns over a particular horizon of analysis. Since distribution of BHRs around firm-specific events is skewed over long horizons, we use the bootstrap method to conduct significance tests.

4.1.3. Long-term Accounting Performance

We also examine accounting performance of acquiring firms during a three year period after M&A announcements to further investigate the long-term effects. Moreover, executive bonuses are typically tied to performance measures based on accounting information such as ROE or ROA. Executives usually need to meet objectives of some accounting returns established by the board, and the accounting returns have impact on executive salary and bonus than stock returns (Lambert and Larcker, 1987, 1992). In our study, we examine three financial ratios, *ROA*, *ROE* and *Profit Margin* of acquiring firms from three years before and three years after the year of M&A announcements. The accounting measures deal with the efficiency of management, and thus provide some insights into the prudence of managerial M&A decisions. To examine the changes in

post-acquisition accounting performance, we estimate the "normal performance" as the monthly average *ROA, ROE and Profit Margin* from four years to one year before the announcement year. The abnormal post-acquisition performance is calculated as the difference between the actual performance and the estimated normal performance.

4.2 Executive Compensation in Acquiring Firms

4.2.1. Measures of Executive Compensation

We measure executive compensation of acquiring firms by considering both annual cash compensation and equity-based compensation granted to top three executives. All compensation data are recorded at the end of year before the acquisition announcement. All value variables of compensation are adjusted for inflation using CPI (FY2003=100) and are thus expressed in 2003-constant RMBs.

4.2.2. Factors Influencing Executive Compensation

Executive pay levels are determined by a number of factors, such as executive skill and effort, firm size and competing firms' proposed salaries and firm performance. Based on our hypothesis, executive compensation can effectively align managerial interests with shareholders' interests and have positive influence on corporate takeover decisions. When we examine the influence of executive compensation on acquisition performance, we control for a variety of factors that could influence executive pay levels to ensure that our results are not biased.

Firm size controls for differences in executive pay levels between small and large

firms. Large firms may offer a higher level of base salary to executives since large firms usually have more complex management needs, suggesting a positive relationship between firm size and executive pay. *Industry classification* of a firm may also affect executive pay levels. Executive pay in the same industry sector tends to be at the similar level, but there are usually industry wage differentials in executive compensation probably due to different ability of pay and human capital in different industry sections.

In addition, a firm's *ownership structure* exerts important effects on performance-contingent executive compensation. Especially, ownership structure is less endogenous in the Chinese context and the introduction of different ownership structure is often motivated by political considerations. As mentioned above, state ownership is dominant in Chinese listed firms. Listed firms with large percentage of government shares have less exposure to the market and thus less market discipline on executives. Comparably, privatized listed firms tend to have more effective incentive mechanism. According to a survey conducted by Kato and Long (2005), fully privatized firms tend to focus on profit and stock performance while SOEs often include factors such as occupational safety and health records when they implement the "yearly salary system." Nevertheless, state ownership imply several positive effects on corporate governance. SOEs in China are usually superior to private firms in the level of management and the quality of employee, and they sometimes signal to the market higher certainty of shareholders' wealth. Although state ownership influence is inconclusive, the link between executive compensation and performance varies across firms with different ownership structure. Therefore, we take the proportion of state ownership into consideration in examining the effects of executive compensation on acquisition performance.

4.3. Executive Compensation and Acquisition Abnormal Returns

Based on the premise that incentive compensation aligns the interests of managers with those of shareholders, we examine whether there is a systematic relation between executive compensation and abnormal stock returns around and after M&As. We use an Ordinary Least Square (OLS) regression model to analyze the relation between the CARs and executive compensation, controlling for a variety of variables that characterize the acquiring firms and the deals.

4.3.1. Firm Characteristics and Acquisition Announcement CARs

We first consider the effects of firm characteristics including *firm size*, *industry classification* and *ownership structure* on CARs around M&As. As Bajaj and Vijh (1995) indicate, the market reaction to corporate announcements is larger for small firms than for large firms due to less information produced for stocks of small firms before the announcements. Specifically, we measure firm size using the natural logarithm of the market capitalization one month prior to the announcement. Following Datta, Iskandar-Datta, and Raman (2001), we also include industry dummies based on two-digit SIC codes to account for possible industry effects. As we mentioned above, Chinese listed firms have the ownership structure quite different from their counterparts in Western countries. SOEs remain dominant and the state ownership play an important role in the listed firms. Moreover, most listed firms have a single dominant shareholder whose ownership far exceeds that of the second largest shareholder. Several studies provide

evidence that the ownership structure affects firm performance in China. For example, Chen et al. (2009) suggest that the operating efficiency of Chinese listed companies varies across the type of controlling shareholder. Central government controlled firms perform the best, while privately controlled firms perform worst. Chi et al. (2009) examine the ownership of listed acquiring firms in China and find that strong state ownership influence on acquiring firms has positive effects on market performance. We use a qualitative dummy variable to indicate the proportion of government ownership of acquiring firms.

4.3.2. Deal Characteristics and Acquisition Announcement CARs

Prior research provides evidence on the impacts of deal-related characteristics on CARs around acquisition announcements. We also include deal-related control variables to capture the difference in M&A transactions. The *method of payment* (Cash, stock and mixed offers) for an acquisition transaction is considered as an indicator of the acquirer's confidence in the value of the deal. Cash offers are perceived positively by the market. In deals financed with cash, acquiring firms are more likely to fairly value the targets. Acquiring firms which believe that their stocks are undervalued tend to fund takeover by cash, debt or abandon the deals. Stock offers may convey negative information that the acquiring firms are overvalued (Myers & Majluf, 1984). However, Eckbo et al. (1990) suggest that mixed offer captures both signal effects and expected synergy gain independent of means of payment and thus offer higher abnormal returns to the acquiring firms than the other two payment methods. Travlos (1987) find that acquiring firms using

cash offers gained an insignificant cumulative abnormal return of 0.24%, whereas acquiring firms using stock offers suffer a significant negative loss of 1.47%. Around the M&As announcements. Brown and Ryngaert (1991) support these finding using a larger sample of 268 firms, reporting a 0.06% abnormal return to cash offers, -2.74 % abnormal return to stock offers and 2.48% abnormal return to mixed offers. Hence, we expect that acquiring firms in deals financed with cash out-performance those with all-equity offers around and after the acquisition announcements.

A number of studies investigate the shareholder wealth effects involved in *cross-border M&A* transactions, with mixed findings. Some literature suggests that cross-border M&As enable acquiring firms to obtain valuable and unique resources in the outward market and benefit from the integration of diversification and organizational capacity (Morck & Yeung, 1992; Barney, 1991; Kang, 1993). On the other hand, the complications of cross-border M&A transactions, for example, lack of country and firm specific knowledge of the foreign targets, potentially lead to wrong valuation of the targets, greater acquisitions costs and bid premiums that lead to zero or negative shareholder wealth effects for bidders (Datta & Puia, 1995; Reuer et al., 2004). Currently, cross-border M&As are becoming an important strategic tool for corporate growth in China. Chinese firms are encouraged to seek investment opportunities abroad, and acquiring firms involved in cross-border M&As are provided with prominent capital support and resources. A recent study by Boateng et al. (2008) report significant positive abnormal returns for Chinese acquiring firms involved in cross-border M&As. Therefore, we distinguish between domestic and cross-border M&A transactions to account for the deal-related effects on post-acquisition performance.

Finally, we consider the effects of *relatedness* between acquiring firms and their targets on abnormal return around and after acquisition announcements. M&A transactions in which the acquirer and target firms belong to the same industry are classified as a related or focus-oriented strategy, while others are unrelated or diversification strategies. Empirical evidence on the shareholder wealth effects of relatedness between bidders and targets is inconclusive. Sicherman and Pettway (1992) report that the shareholder wealth of acquiring firms increase in focus-oriented deals by examining 147 US M&A announcements. On the other hand, Morck et al. (1990) examine U.S. deals during the 1975-1987 period and find no significant difference between the abnormal return in focus-oriented deals and abnormal return in diversification deals. Although diversification might benefit acquiring firms by increasing market power and efficiently allocating risk capital in the long term, acquiring firms in diversification deals require more information to value targets in unrelated industry and suffer from inefficient valuation arising from potential information asymmetry. Takeovers in the related industry are assumed to be more efficient and increase average shareholder wealth for acquiring firms (Travlos, 1987; Eckbo and Thorburn, 2009).

5. Empirical Results

In this section, we first present descriptive statistics of executives' compensation of the acquiring firms. Then we examine the short-term stock returns around M&A announcements, the long-term trends in the stock performance and accounting performance of the acquiring firms after M&A announcements. More importantly, we investigate the influence of executive compensation one year before M&A announcements on stock performance and accounting performance of the acquiring firms. Finally, we undertake cross-sectional regressions analysis for executive compensation and for CARs over (-1, 0) and (-1, +1) windows.

Table 2 presents compensation characteristics of top executives in acquiring firms of our sample. Panel A provides information on annual cash income of executives one year prior to the M&A announcements and the executives' ownership at year-end preceding the M&A announcements. Cash income of executives includes annual salary, bonus and other annual compensation paid to executives in cash. The mean cash income is 280.76 thousand Yuan and the median is 174.2 thousand Yuan, with the maximum of 2427.42 thousand Yuan and the minimum of 17.14 thousand Yuan. The level of cash income varies greatly across the acquiring firms in our sample. Moreover, it shows that executives' cash income of SOEs is more than that of Non-SOEs, as expected since SOEs are larger than the Non-SOEs. Managerial ownership refers to the percentage of equity owned by top executives in the acquiring firms. The mean managerial ownership is 4.6% and the median is 0. The results show that the overall level of managerial ownership in the acquiring firms is low, and more than half of the acquiring firms do not offer their executives shares of stock. Obviously, the mean managerial ownership in SOEs, 0.04%,

is much smaller than the mean managerial ownership, 5.41%, in Non-SOEs. Panel B presents some firm-specific characteristics categorized by executive compensation. The acquiring firms are categorized into low/high salary groups as well as low/high managerial ownership groups. A firm is categorized in the low salary/managerial ownership group if executive salary/ownership is at or below the median, otherwise the firm is in the high salary/managerial ownership group. We observe that acquiring firms in the low salary group have smaller size, lower leverage and profitability except for profit margin than those in the high salary group. Acquiring firms in the low ownership group have larger size than those in the high ownership group. The profitability of acquiring firms in the low ownership group is slightly lower than that in the high ownership group.

5.1. Abnormal Stock Price Performance Around M&A Announcements

Figure 1 provides a graphical illustration of the cumulative abnormal returns (CARs) within a period of 168 trading days (about eight months), 42 trading days (about two months) before and 126 trading days (about half a year) after M&A announcements. Overall, there is a positive trend of abnormal returns before and a few days after the announcement date. After then, the abnormal returns become negative. Furthermore, we observe a positive AAR of 1.47% on day 0, significant at the 0.1% level. Moreover, we observe that AARs are significantly positive on day -2 at the 1% confidence level and on day 2 at the 0.1% level. From 3 days prior to M&A announcements to 2 days after, AARs are consistently positive, with a sharp price increase on the announcement day.

Table 3 provides information on the average cumulative abnormal returns (CARs) of

acquiring firms over different event windows during the period (-42, +126). From Panel A, we observe a significant positive CAR of 1.76% over the standard (−1, +1) window. The CARs in longer windows, for example, (−10, −1), (−21, −1), (−42, −1) and (0, 10) also show significant gains at the 0.1% level. Overall, CARs of selected windows during the half year after M&A announcements are all positive, but those in longer windows, (0, 42) and (0, 126) are not statistically significant. CAR over the period (-42, +126) also appears positive, significant at the 5% level.

Our results suggest that a M&A announcement brings positive effects on stock price to acquirers in the Chinese market. A steep increase in acquirers' stock returns on the announcement date suggests significant wealth gains for acquirers from the forthcoming M&A transactions. Meanwhile, acquiring firms have already experienced a significant price run-up of approximately 2.83% during the 42 trading days prior to M&A announcements, suggesting that the M&A activities do not hit the market with a surprise. Especially, we observe a positive AAR of 0.68% on day -23, significant at the 0.1% level. The stock price increase prior to M&A announcements may be partially related to the presence of informed traders or a leakage of information about M&A activities to market participants. In sum, it is clear that shareholders of acquiring firms benefit from positive wealth effects of M&As in the short term.

Moreover, we examine the CARs of acquiring firms over different event windows during the period (-42, +126) for subsamples categorized by executive compensation and ownership. We first partition the full sample into a high/low salary group, and then divide each salary group into a high/low ownership category. We examine the difference in mean and median of the CARs between the high and low salary group in Panel B,

between the high and low ownership group in Panel C and between the high salary-high ownership group and the low salary-low ownership group in Panel D. We observe that in general, the selected CARs of acquiring firms in the low level group are larger than those in the high level group, except for the CARs over (-1, 0). Nevertheless, the difference is not statistically significant. Specifically, we observe that the CARs over (-1, 0) is the lowest, 0.6032%, in the low salary and low ownership group than those in the other groups. However, the CARs over (-1, +1) is the lowest, 1.32%, in the high salary and high ownership group. Furthermore, we find that AARs on the announcement day, day 0, are higher in the high salary group than in the low salary group and as well higher in the high ownership group than in the low ownership group. On the other hand, AARs on day -1 and day +1 follow an opposite pattern: they are higher in the low salary/ownership group than in the high salary/ownership group.

5.2. Long-term Post-acquisition Stock Price Performance of Acquiring Firms

In this section, we examine the stock performance of acquiring firms during three years after M&A announcements. Table 4 presents the three-year post-acquisition buy-and-hold returns (BHARs) of acquiring firms, the market index in matched holding period and differences between them. Similarly, we categorize the full sample into subgroups by executive compensation and ownership. We report the results for the full sample, the high/low salary group and the high/low ownership group in Panel A; for the low salary-low ownership group, the low salary-high ownership group, the high salary-low ownership group and the high salary-high ownership group in Panel B. As shown in Panel A, the three-year BHARs of acquiring firms is significantly positive, 41.35%, for

the full sample. The three-year BHARs for the high/low salary group and the high/low ownership group are also positive, significant at 0.01 confidence level. The three-year BHARs of acquiring firms in the low salary group is the highest, 55.20%, twice that of acquiring firms in the high salary group. Moreover, we observe that the three-year BHARs of acquiring firms in the high ownership group is higher than that of acquiring firms in the low ownership group, but the difference is not statistically significant. As shown in Panel B, the three-year BHARs of acquiring firms in the low salary-high ownership group is the highest, 58.69%, while that of acquiring firms in the high salary-low ownership group is the lowest among the four subgroups. While comparing the BHARs of acquiring firms in the low salary-low ownership group with those in the high salary- high ownership group, we do not find any significant difference. Overall, we find that the acquiring firms in our sample noticeably outperform the average stock market over the three years following the M&A announcement. It suggests that shareholders in the Chinese acquiring firms have wealth gains in the long term. Especially, the acquiring firms which offer a low level of salary but a high level equity to their executives tend to perform best in the long term. It implies that SOEs, whose executives usually have more annual cash income but less ownership, do not operate efficiently as non-SOEs.

5.3. Long-term Post-acquisition Accounting Performance of Acquiring Firms

As defined earlier, the estimation of expected accounting performance is captured by the average ROA, ROE and Profit Margin from four years to one year before M&A announcements. Thus, we can examine whether actual ROA, ROE and Profit Margin

after M&A announcements are significantly different from the expected level. Table 5 presents the pre- and post-acquisition accounting performance of acquiring firms and the difference tests between them for the full sample and subsamples. The second and third column of Panel A shows the three-year average accounting performance before and after M&A announcements. The average ROA, ROE and Profit Margin after M&A announcements are all higher than the expected although the difference is only statistically significant for ROA. We report one-year average ROA, ROE and Profit Margin during the consecutive three years after M&A announcements. It shows that ROA and Profit Margin are significantly higher than the expected in one year after M&A announcements. ROE is higher than the expected, significant at 5% level, in the second and the third year after M&A announcements.

Panel B and C presents the difference analysis between the pre- and post-acquisition accounting performance of acquiring firms for subsamples categorized by executive compensation and ownership. We observe that post-acquisition ROA and Profit Margin significantly outperform those before M&As in the low salary group. In the high ownership group, post-acquisition Profit Margin significantly outperforms that before M&As. On the other hand, post-acquisition ROA, ROE and Profit Margin are lower than those before M&As in the high salary group albeit the difference is not statistically significant. There is no significant difference between pre- and post-acquisition ROA, ROE and Profit Margin in the low ownership group. While comparing the abnormal accounting performance between the high and low salary group, we find that the abnormal ROA in the low salary group is significantly higher than that in the high salary

group. There is no significant difference of abnormal accounting performance between the high and low ownership group. As shown in Panel C, we partition the full sample into high/low salary groups and report the comparison of pre- and post-acquisition accounting performance for high/low ownership subsamples in each salary group. We observe that post-acquisition ROA, ROE and Profit Margin outperform those before M&As in the low salary group while the difference is significant except for that of Profit Margin in the high ownership group. On the other hand, in the high salary group, all the differences are not statistically significant while post-acquisition ROA underperform in each ownership group and post-acquisition ROE underperform in the high ownership group. We also compare the abnormal accounting performance of acquiring firms in the low salary-low ownership group with that of acquiring firms in the high salary-high ownership group. We observe that the abnormal ROA and ROE in the low salary-low ownership group are significantly higher than those in the high salary-high ownership group. To sum up, the results show significant better post-acquisition ROA and ROE for the low salary group and significant better post-acquisition Profit Margin for the low ownership group in the low salary group.

5.4. Cross-sectional Regression Analysis of CARs

In this section, we estimate cross-sectional regressions of CARs over (-1, 0) and over (-1, +1), respectively, against executive compensation and a variety of variables that characterize the M&A deals and the acquiring firms. The regression analysis allows us to examine the relation between executive compensation and bidders' stock performance

around M&A announcement, controlling the deal- and firm-specific variables. The following three regression models are estimated:

$$CAR_i = a0 + a1*logasset_i + a2*lev_i + a3*paym_i + a4*diff\_ind_i + a5*ownship_i + a6*ROA_i +$$

$$a7*SOE\_dummy_i + e_i \qquad (4)$$

$$CAR_i = a0 + a1*salary_i + a2*lev_i + a3*paym_i + a4*diff\_ind_i + a5*ownship_i + a6*ROA_i +$$

$$a7*SOE\_dummy_i + e_i \qquad (5)$$

$$CAR_i = a0 + a1*salary_i/logasset_i + a2*lev_i + a3*paym_i + a4*diff\_ind_i + a5*ownship_i + a6*ROA_i + a7*SOE\_dummy_i + e_i \qquad (6)$$

Where,

CAR_i = Cumulative abnormal return of the acquiring firms during the (-1, 0) or (-1, +1) event window,

$Logasset_i$ = Natural logarithm of asset size of the acquiring firms at the year-end preceding M&A announcements,

Lev_i = Debt-to-equtiy ratio of the acquiring firms at the year-end preceding M&A announcement,

ROA_i = Return-to-asset of the acquiring firms at the year-end preceding M&A

announcement,

$Paym_{mi}$ = Dummies for the methods of payment for M&A transactions (m = 1: Pay in cash only; 0: Others),

$Diff\_ind_{ni}$ = Dummies for relatedness in industry sectors of bidders and targets (n = 1: Bidder and target belong to the same industry; 0: Others),

SOE_dummy_{ki} = SOE dummies (k = 1: SOE; 0: Others),

$Salary_i$ = Cash income of the top-three executives in the acquiring firms during the year prior to M&A announcement,

$Ownship_i$ = Ownership of the top-three executives in the acquiring firms at the year-end preceding M&A announcement,

$Slogasset_i$ = Calculated as dividing Salary by Logasset.

With the three models, we do regression analysis of the CARs for 1) the full sample as well as the eight subgroups categorized by executives' salary and ownership. They are 2) the high salary group, 3) the low salary group 4) the high ownership group, 5) the low ownership group, 6) the high salary and high ownership group, 7) the high salary and low ownership group, 8) the low salary and high ownership group, and 9) the low salary and low ownership group. We present the results for regressions of CARs over the (-1, 0) and (-1, 1) in the nine groups through Panel A to Panel I in Table 6 using each of the models.

For Model 1, we regress the CARs on executive ownership, controlling the deal- and firm-specific variables. We observe that executive ownership does not have significant

influence on the CARs over (-1, 0) or (-1, +1) for the full sample and the subsamples. For CARs over (-1, 0), the coefficient of the ownership is negative for all the group except for the high salary and low ownership group, as shown in Panel G. For CARs over (-1, +1), the coefficient of the ownership is negative for all the groups except for the low ownership group (Panel E) and the high salary and low ownership group (Panel G). Specifically, as shown in Panel G, the ownership is positively related to the three day CARs, significant at 0.1 confidence level. The results suggest that for the acquiring firms in which the executive ownership is relatively low, an increase in the proportion of managerial ownership may lead to better stock performance around M&A announcements. For the acquiring firms in which the executive ownership is relatively high, a higher level of managerial ownership may imply worse stock returns around M&A announcements, albeit the negative relationship is not statistically significant. A positive relationship between executive ownership and CARs around M&A announcement is more likely for acquiring firms with a low level of managerial ownership but a high level of salary.

In addition, we observe that there is noticeable relationship between the method of payment and the CARs. The dummy variable, Payment is significantly inversely related to the CARs, indicating the acquiring firms in deals financed with 100 percent cash experience worse stock performance than the acquiring firms in deals financed partially with or without cash around M&A announcements. Contrary to previous research, we find that all-cash deals in M&A lead to a significant loss in stock returns of the acquiring firms in Chinese market. It seems that the cash offers are not positively perceived by the market. On the other hand, as mentioned above, 70% of the acquiring firms in our sample

finance their deals entirely with cash. All-cash deals are more common in Chinese market and convey less valuable information, per se. Another variable, ROA, shows consistently positive relationship with the CARs in all the groups, significant for the full sample and the low salary group, suggesting that better accounting performance in the preceding year indicates higher stock returns around M&A announcements.

For Model 2, we regress the CARs on executive salary and ownership, controlling the deal- and firm-specific variables. Similarly, we observe that executive ownership have no significant influence on the CARs over (-1, 0) or (-1, +1). As for executive salary, we observe a negative relationship between executive salary and the CARs over (-1, +1) in the high salary group (Panel B) and the high salary-low ownership group (Panel G), significant at 0.1 confidence level. In the other groups, there is no significant relationship between executive salary and the CARs over (-1, 0) or (-1, +1). Moreover, in the low salary-low ownership group, the coefficient of executive salary appears positive for the CARs over (-1, +1) (Panel I).

Once again, it is shown that the method of payment is significantly negatively related to the CARs. Meanwhile, it is shown that ROA has a positive effect on the CARs, which is significant for the full sample and the low salary group. The dummy variable, Diff_ind, identifying the relatedness between bidders and targets, is positively related to the CARs of the acquiring firms offering a relatively higher level of executive salary, as shown in Panel B, F and G. In the other groups, the coefficient of Diff_ind is negative.

For model 3, we regress the CARs on executive ownership and the variable, Slogasset, defined as dividing executive salary by Logasset, controlling the deal- and

firm-specific variables. The results suggest that neither executive ownership nor Slogasset has significant effects on the CARs for all the groups. The coefficient of Slogasset is positive except in the low salary-low ownership group (Panel I). The coefficient of executive ownership is positive in the low ownership (Panel E) and the high salary-low ownership group (Panel H), while it is negative in the other groups.

Furthermore, we do regressions of the CARs over (-1, 0) and (-1, +1) for the SOE group and non-SOE group, using the following three regression model:

$$CAR_i=a0+a1*logasset_i+a2*lev_i+a3*paym_i+a4*diff\_ind_i+a5*ownship_i+a6*ROA_i+ e_i$$

(7)

$$CAR_i=a0+a1*salary_i+a2*lev_i+a3*paym_i+a4*diff\_ind_i+a5*ownship_i+a6*ROA_i+ e_i$$

(8)

$$CAR_i=a0+a1*salary_i/logasset_i+a2*lev_i+a3*paym_i+a4*diff\_ind_i+a5*ownship_i+a6*ROA_i+ e_i$$ (9)

The models are similar to the previous three models except that we omit the variable, SOE_dummy. The results are presented in Table 7. We observe that the executive ownership has a positive effect on the CARs over (-1, 0) in the SOE group, as shown in Panel A; the executive ownership has an negative effect on the CARs over (-1, 0) in the non-SOE group, as shown in Panel B. As for the CARs over (-1, +1), the executive ownership has a negative effect in both groups execept CARs for SOE calculated by model 3. However, all the relations are not statistically significant. For all the three models, the coefficient of executive salary appears negative in both groups. On the other

hand, when looking at the results from the model 5, we find that executive salary is significantly negatively related to the CARs in the SOE group, as shown in Panel A and C. Similarly, there is significant negative relation between the variable, Slogasset, and the CARs for SOEs. It suggests that higher payoff to executives does not lead to better firm performance in the Chinese government-owned firms.

6. Conclusions

In this paper, we examine the effects of Chinese M&As on the acquiring firms' stock and accounting performance and how the acquiring firms' executive compensation can affect the performance using a sample of 259 completed M&A transactions from 2005 to 2010 in the Chinese market. We observe significant increases in stock returns of the acquiring firms around the M&A announcements. As for the long-term post-acquisition performance of the acquiring firms, we observe significantly positive three-year BHARs with the market index serving as a benchmark. The accounting performance, measured by ROA and ROE, also improves noticeably during a period of three years after the M&A announcements. The executive salary and ownership of the acquiring firms, on the other hand, have no statistically significant influence on the short-term CARs despite some observable patterns in their relation.

Consistent with some previous research on the Chinese M&A market (Boateng et al., 2008; Chi et al., 2009), we find that M&A deals have positive and significant impacts on the short-term acquirers' CARs around their announcements, suggesting short-term wealth gains for the acquirers' shareholders. The CARs are positively related to the

acquirers' ROA one year before the M&As. The CARs are also significantly related to the method of payment for M&A deals. However, in contrast to most Western evidence, the acquiring firms financing their M&A deals wholly with cash do not outperform their counterparts in the Chinese market.

We mainly focus on the executive compensation of the acquiring firms in our sample and its effects on the firms' stock returns around M&A announcements. We observe that the proportion of managerial ownership in the acquiring firms is low, and more than half of the acquiring firms do not offer their executives shares of stock. Meanwhile, the acquiring firms owned by the Chinese government pay a much higher level of salary to their executives and have a lower level of managerial ownership.

Furthermore, we examine the effects of executive compensation on the CARs over (-1, 0) and (-1, +1) in the full sample and the subsample categorized by executive salary and ownership. Overall, the level of executive ownership has no significant influence on the CARs. Executive salary is significantly negatively related to the CARs for the high salary groups and the high salary-low ownership group, but there is no significant relation between executive salary and the CARs for the other groups. Although not statistically significant, the results imply that an increase in the proportion of managerial ownership may lead to better stock performance around M&A announcements for the acquiring firms with a low level of managerial ownership but a high level of salary.

Our study provides evidence on the influence of merger and acquisitions on the stock performance and accounting performance of the acquiring firms in the Chinese

market. More importantly, we investigate the characteristics of executive compensation in the acquiring firms and how executive compensation can affect managerial decisions in M&A transactions. Our findings have some implications for improving the efficiency of merger and acquisitions. They also indicate a lack of motivation in executive compensation in Chinese firms, especially state-owned firms, suggesting a need for a more efficient link between executive compensation and firm performance.

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Table 1: Distribution and Descriptive Statistics of Merges and Acquisitions

The table consists of 259 Merges and Acquisitions completed during the period from 2005 to 2010 in China. The acquiring firms are listed in the SDC database and have executive compensation data in the Chinese Wind's database. The acquiring firms are Chinese domestic firms and 100 percent own the target firms after the M&A transactions. The full sample is divided into several subgroups by the methods of payment, the relatedness of acquiring and target firms, the industry sectors of bidders and the ownership structure of bidders. Cash only refers to M&A deals financed with 100 percent cash. Non-Cash refers to M&A deals partially or wholly financed with equity. An acquiring firm is considered as related to its target if it is in the same industry sector with its targets. Otherwise, the acquiring firm is unrelated to its target. SOE refers to an acquiring firm government ownership more than 50 percent. The information on acquirers' industry sector, ownership structure and accounting data is obtained from the Chinese Wind's database. Firm size is measured by acquirers' assets; leverage is measured by the ratio of debt to equity; Average profitability is measured by the mean of acquirers' ROA, ROE and profit margin during three years prior to the M&A announcements

Panel A: Distribution of Merger and Acquisitions by Year (2005-2010)

Year	Number of Acquisitions	% of Sample	Average Deal Value (in Millions RMB)
2005	8	3.09	145.22
2006	25	9.65	389.63
2007	38	14.67	393.06
2008	59	22.78	396.55
2009	78	30.12	400.29
2010	51	19.69	403.63
Total	259	100	1554.1

Panel B: Distribution of Mergers and Acquisitions by Year and Deal Characteristics

			Year				
	2005	**2006**	**2007**	**2008**	**2009**	**2010**	**Total**
Method of Payment							
Cash-Only	8	17	28	46	50	33	182
Non-Cash	0	8	10	13	28	18	77
Total	8	25	38	59	78	51	259
Industry Relatedness							
Related	5	17	29	38	57	33	179
Unrelated	3	8	9	21	21	18	80
Total	8	25	38	59	78	51	259
Bidders' Industry Sector							
Construction	0	5	10	8	17	3	43
Industrials	4	6	6	9	12	11	48
Information Technology	1	2	1	2	4	6	16
Mining&Materials	1	6	8	18	18	14	65
Wholesales&Retails	2	6	8	19	18	14	67
Others	0	0	5	3	9	3	20
Total	8	25	38	59	78	51	259
Bidders' Ownership Structure							
SOE	0	3	7	13	11	5	39
Non-SOE	8	22	31	46	67	46	220
Total	8	25	38	59	78	51	259

Panel C: Descriptive Statistics of Deal-Specific and Firm-Specific Characteristics

(in Millions RMB)

	Number of Obs.	Transaction Value	Firm Size	Leverage	Average Profitability (%)		
					ROA	ROE	Profit Margin
Full Sample	259	1554.1	8463.55	1.59	4.22	8.24	8.65
Cash Only	182	437.63	9782.09	1.86	4.55	8.47	5.59
Non-Cash	77	4314.27	5347.02	0.96	3.39	7.66	16.48
SOE	39	2024.98	26809.92	1.22	8.22	18.22	11.7
Non-SOE	220	1474.89	5211.24	1.66	3.55	6.57	8.14

Table 2: Compensation Characteristics of Top Executives in Acquiring Firms

The table consists of 259 Merges and Acquisitions completed during the period from 2005 to 2010 in China. The acquiring firms are listed in the SDC database and have executive compensation data in the Chinese Wind's database. Cash Income includes annual salary, bonus and other annual compensation paid to executives in cash. Cash Income and Managerial Ownership are recorded at the year-end preceding the M&A announcements. The full sample is divided into two subsamples by the ownership structure of acquiring firms. SOE refers to an acquiring firm government ownership more than 50 percent. The acquiring firms are categorized into low/high salary groups as well as low/high managerial ownership groups. A firm is categorized in the low salary/managerial ownership group if executive salary/ownership is at or below the median, otherwise the firm is in the high salary/managerial ownership group. The information on acquirers' ownership structure and accounting data is obtained from the Chinese Wind's database. Firm size is measured by acquirers' assets; Leverage is measured by the ratio of debt to equity (total debt divided by total equity); Average profitability is measured by the mean of acquirers' ROA, ROE and profit margin during three years prior to the M&A announcements.

Panel A: Executive Compensation in Acquiring Firms

	Number of Obs.	Mean	Std.	Maximum	Minimum	Median
Cash Income(In Thousands RMB)						
Full Sample	259	280.76	318.2	2427.42	17.14	174.2
SOE	39	426.22	547.72	2427.42	38.3	265.12
Non-SOE	220	254.97	250.59	1615.33	17.14	160.73
Managerial Ownership (%)						
Full Sample	259	4.6	13.72	75.38	0	0
SOE	39	0.04	0.25	1.54	0	0
Non-SOE	220	5.41	14.75	75.38	0	0.01

Panel B: Firm-Specific Characteristics Categorized by Executive Compensation

	Firm Size	Leverage	Average Profitability (%)		
	(in Millions RMB)		ROA	ROE	Profit Margin
Cash Income					
Low Salary	2220.09	1.16	2.08	3.76	9.05
High Salary	14755.42	2.03	6.66	13.31	8.2
Managerial Ownership (%)					
Low Ownership	11701.53	1.41	3.82	7.61	5.71
High Ownership	5200.48	1.78	4.6	8.84	11.42

Table 3 Average cumulative abnormal returns (CARs) of acquiring firms

This table presents the CARs of acquiring firms over 18 event windows during a period from 42 days prior to and 126 days after M&A announcements for our full sample. We estimate the CARs of acquiring firms based on the market model with a 253 trading day estimation period from day -380 to day -127 prior to M&A announcements. The acquiring firms are categorized into low/high salary groups as well as low/high managerial ownership groups. A firm is categorized in the low salary/managerial ownership group if executive salary/ownership is at or below the median, otherwise the firm is in the high salary/managerial ownership group. We report the CARs for the full sample in Panel A; the CARs for low and high salary group in Panel B; the CARs for the low and high ownership group in Panel C; and the CARs for the low salary-low ownership group and the high salary-high ownership group in Panel D. We also report the mean and median difference between the subsamples categorized by executive compensation.

Panel A

Day	N	Mean Cumulative Abnormal Return	Precision Weighted CAAR	Positive: Negative	Patell Z	Generalized Sign Z
(-42,-1)	232	2.83%	3.75%	136:96>>>	3.347***	4.546***
(-21,-1)	197	1.73%	2.36%	106:91>>	3.127**	2.827**
(-10,-1)	183	1.21%	1.51%	87:96	2.903**	1.017
(-5,-1)	178	0.68%	0.91%	86:92	2.478*	1.211
(-2,-1)	170	0.52%	0.68%	80:90	2.962**	0.853
(-1,0)	232	1.47%	0.94%	133:99>>>	3.580***	4.149***
(-1,+1)	235	1.76%	1.26%	133:102>>>	3.997***	3.950***
(-2,+2)	239	2.68%	2.43%	138:101>>>	6.267***	4.340***
(-5,+5)	242	2.52%	2.61%	128:114>>	4.499***	2.847**
(-10,+10)	243	3.40%	3.72%	131:112>>	4.694***	3.172**
(0,+1)	234	1.75%	1.10%	126:108>>	3.986***	3.093**
(0,+2)	236	2.34%	1.75%	131:105>>>	5.526***	3.621***
(0,+5)	238	2.06%	1.70%	124:114>>	3.754***	2.577**
(0,+10)	240	2.52%	2.21%	122:118>	3.698***	2.192*
(0,+21)	241	2.17%	1.94%	117:124	2.292*	1.482
(0,+42)	243	1.60%	1.56%	120:123)	1.267	1.750$
(0,+126)	244	5.04%	2.14%	125:119>	1.052	2.335*
(-42,+126)	244	7.73%	5.89%	126:118>	2.420*	2.464*

Panel B

CAR	HS			LS			Diff. in Mean		Diff. in Median	
	N	Mean	Median	N	Mean	Median	Diff_Test_T	P-value	Diff_Test Z	P-value
(-42,-1)	116	0.0317***	0.0188	116	0.0248**	0.0398	-0.2913	0.7711	-0.0610	0.9516
(-21,-1)	102	0.0247**	0.0171	95	0.0093	-0.0066	-0.8582	0.3918	-1.2730	0.2030
(-10,-1)	95	0.0131*	0.0074	88	0.0110*	-0.0084	-0.1559	0.8763	-1.1560	0.2475
(-5,-1)	91	0.0049	-0.0003	87	0.0087	-0.0009	0.3590	0.7200	0.4030	0.6869
(-2,-1)	87	0.0029	-0.0058	83	0.0076	0.0012	0.6505	0.5163	0.7560	0.4497
(-1,0)	120	0.0157***	0.0070	112	0.0136**	0.0026	-0.2173	0.8282	-0.5210	0.6026
(-1,+1)	121	0.0160***	0.0063	114	0.0193***	0.0014	0.2916	0.7709	-0.3800	0.7038
(-2,+2)	121	0.0207**	0.0146	118	0.0331***	0.0059	0.9191	0.3590	0.0060	0.9955
(-5,+5)	121	0.0217**	0.0075	121	0.0287***	0.0060	0.3748	0.7082	-0.1220	0.9028
(-10,+10)	121	0.0212**	0.0079	122	0.0467***	0.0152	1.1020	0.2716	0.7780	0.4368
(0,+1)	121	0.0159***	0.0063	113	0.0191***	0.0004	0.2939	0.7691	-0.5770	0.5640
(0,+2)	121	0.0186***	0.0087	115	0.0285***	0.0014	0.7629	0.4463	-0.0850	0.9324
(0,+5)	121	0.0180***	0.0151	117	0.0232***	-0.0052	0.2882	0.7734	-0.6110	0.5411
(0,+10)	121	0.0109	-0.0041	119	0.0397***	0.0058	1.3700	0.1720	1.2130	0.2250
(0,+21)	121	0.0013	-0.0294	120	0.0422***	0.0245	1.7074	0.0891	2.1010	0.0356
(0,+42)	121	-0.0032	-0.0188	122	0.0350	0.0135	1.3003	0.1947	1.2610	0.2072
(0,+126)	121	-0.0383	-0.0430	123	0.1376	0.0517	1.9273	0.0551	2.0510	0.0403
(-42,+126)	121	-0.0079	-0.0056	123	0.1610	0.0368	1.7918	0.0744	1.4740	0.1405

Panel C

	HO			LO		Diff. in Mean		Diff. in Median	
CAR	N	Mean	Median	N	Mean	Median	Diff_Test	P-value	Diff_Test	P-value
(-42,-1)	112	0.0172	0.0357	120	0.0386***	0.0336	0.8957	0.3714	0.1140	0.9096
(-21,-1)	97	0.0090	0.0129	100	0.0253**	0.0063	0.9042	0.3670	0.4320	0.6654
(-10,-1)	90	0.0048	-0.0132	93	0.0192**	0.0004	1.0821	0.2807	1.4070	0.1595
(-5,-1)	87	0.0027	-0.0009	91	0.0106	0.0024	0.7520	0.4530	0.5780	0.5635
(-2,-1)	83	0.0000	-0.0036	87	0.0102	0.0011	1.4147	0.1590	1.3760	0.1687
(-1,0)	113	0.0202***	0.0026	119	0.0094	0.0049	-1.1566	0.2486	-0.1110	0.9120
(-1,+1)	115	0.0166***	0.0009	120	0.0186***	0.0102	0.1778	0.8590	0.9640	0.3352
(-2,+2)	116	0.0222***	0.0052	123	0.0312***	0.0173	0.6695	0.5038	1.0450	0.2962
(-5,+5)	117	0.0209***	0.0013	125	0.0292***	0.0119	0.4426	0.6585	0.5280	0.5973
(-10,+10)	117	0.0224**	0.0151	126	0.0448***	0.0070	0.9693	0.3334	0.6430	0.5203
(0,+1)	115	0.0183***	0.0038	119	0.0167***	0.0038	-0.1462	0.8839	0.2420	0.8085
(0,+2)	116	0.0222***	0.0074	120	0.0246***	0.0052	0.1859	0.8527	0.0670	0.9468
(0,+5)	117	0.0189***	0.0119	121	0.0221***	0.0020	0.1787	0.8583	0.0440	0.9647
(0,+10)	117	0.0187**	0.0058	123	0.0314***	-0.0041	0.6053	0.5456	0.1870	0.8517
(0,+21)	117	0.0128	-0.0044	124	0.0301**	-0.0145	0.7169	0.4741	0.2940	0.7688
(0,+42)	118	0.0187	0.0123	125	0.0135	-0.0245	-0.1770	0.8597	-0.3270	0.7438
(0,+126)	118	0.0902***	0.0440	126	0.0131	-0.0099	-0.8396	0.4020	-0.4540	0.6500
(-42,+126)	118	0.1066	0.0451	126	0.0498	-0.0117	-0.5983	0.5502	-0.2830	0.7771

Panel D

		HSHO			LSLO		Diff. in Mean		Diff. in Median	
CAR	N	Mean	Median	N	Mean	Median	Diff_Test	P-value	Diff_Test	P-value
(-42,-1)	59	0.0443***	0.0470	63	0.0565***	0.0409	-0.3493	0.7275	0.0280	0.9775
(-21,-1)	51	0.0253**	0.0145	49	0.0265**	-0.0078	-0.0424	0.9662	-0.6520	0.5147
(-10,-1)	46	0.0076	0.0023	44	0.0202***	-0.0022	-0.6227	0.5351	0.1610	0.8718
(-5,-1)	44	0.0025	-0.0003	44	0.0144**	0.0033	-0.7575	0.4508	0.6590	0.5097
(-2,-1)	42	-0.0008	-0.0044	42	0.0144***	0.0082	-1.3466	0.1818	1.4760	0.1399
(-1,0)	60	0.0187***	0.0034	59	0.0060	0.0016	0.9446	0.3468	-0.4250	0.6707
(-1,+1)	61	0.0132***	0.0020	60	0.0183***	0.0048	-0.3424	0.7326	0.4720	0.6371
(-2,+2)	61	0.0194***	0.0146	63	0.0400***	0.0192	-1.1638	0.2468	0.7920	0.4282
(-5,+5)	61	0.0285***	0.0187	65	0.0425***	0.0234	-0.6028	0.5478	0.3250	0.7455
(-10,+10)	61	0.0230***	0.0264	66	0.0679***	0.0430	-1.4974	0.1368	1.0810	0.2797
(0,+1)	61	0.0164***	0.0072	59	0.0179***	0.0021	-0.1090	0.9134	-0.1860	0.8522
(0,+2)	61	0.0200***	0.0138	60	0.0320***	0.0026	-0.7101	0.4791	0.0570	0.9545
(0,+5)	61	0.0267***	0.0198	61	0.0349***	-0.0013	-0.3586	0.7205	-0.3000	0.7645
(0,+10)	61	0.0172**	0.0245	63	0.0571***	0.0233	-1.4307	0.1551	1.0470	0.2951
(0,+21)	61	0.0052	-0.0183	64	0.0607***	0.0555	-1.7274	0.0866	1.6300	0.1031
(0,+42)	61	0.0126	0.0168	65	0.0435***	0.0383	-0.7926	0.4295	0.8080	0.4191
(0,+126)	61	0.0031	0.0391	66	0.0981***	0.0713	-1.4284	0.1557	1.0370	0.2995
(-42,+126)	61	0.0459	0.0628	66	0.1520***	0.1041	-1.3905	0.1669	0.7380	0.4603

Table 4 Three-year BHAR of acquiring firms after M&As

This table presents three-year BHAR of acquiring firms after M&A announcements. BHAR for each acquirer firm is measured as the difference in returns on a sample firm and its benchmark through a buy-and-hold investment strategy. The benchmark here is the three-year BHR on the market index. Since distribution of BHRs around firm-specific events is skewed over long horizons, we use the bootstrap method to conduct significance tests. The acquiring firms are categorized into low/high salary groups as well as low/high managerial ownership groups. We report the results for the full sample, the high/low salary group and the high/low ownership group in Panel A; for the for the low salary-low ownership group, the low salary-high ownership group, the high salary-low ownership group and the high salary-high ownership group in Panel B. We also report the results of difference tests between the subsamples categorized by executive compensation.

Panel A

	Full Sample	Low Salary	High Salary	Test of Diff. (1) vs. (2)	Low Ownership	High Ownership	Test of Diff. (3) vs. (4)
		(1)	(2)	(p-value)	(3)	(4)	(p-value)
Sample Firms' 3-year BHR	0.5477	0.7510	0.3427		0.4677	0.6282	
Matched 3-year BHR	0.1341	0.1990	0.0687		0.1065	0.1620	
Difference	0.4135	0.5520	0.2740	0.0408*	0.3613	0.4662	0.4414
Test of Diff. (p-value)	0.000***	0.000***	0.000***		0.000***	0.000***	

Panel B

	Low Salary		High Salary		
	Low Ownership (1)	High Ownership (2)	Low Ownership (3)	High Ownership (4)	Test of Diff. (1) vs. (4) (p-value)
Sample Firms' 3-year BHR	0.7126	0.7932	0.1991	0.4755	
Matched 3-year BHR	0.1924	0.2062	0.0122	0.1210	
Difference	0.5202	0.5869	0.1869	0.3545	0.3924
Test of Diff. (p-value)	0.000***	0.000***	0.049*	0.000***	

Table 5 Pre- and post-acquisition accounting performance of acquiring firms and the difference tests

This table presents three accounting performance measures, ROA, ROE and Profit Margin of acquiring firms during three years after M&A announcements. ROA is computed as operating profit (EBIT) divided by total assets. ROE is computed as Net Income divided by Shareholder's Equity. Profit Margin is computed as Net Income divided by Revenue. We estimate the "normal performance" as the average ROA, ROE and Profit Margin from four years to one year before the announcement year (pre-Mean). We report the difference between the "normal performance" and the post-acquisition performance during three years after M&A announcements in Panel A. We also report the difference for the subsample categorized as low/high salary groups and low/high managerial ownership groups in Panel B and C. We also report the results of difference tests between the subsamples categorized by executive compensation.

Panel A

Accounting Performance	Pre_Mean	Post_Mean	+1	+2	+3	Test of Diff. (p-value)			
	(1)	(2)	(3)	(4)	(5)	(1) vs. (2)	(1) vs. (3)	(1) vs. (4)	(1) vs. (5)
ROA	0.0422	0.0534	0.0581	0.0487	0.0470	0.0477**	0.0912*	0.1300	0.2135
ROE	0.0824	0.1158	0.1052	0.1195	0.1228	0.5189	0.5156	0.0418**	0.0395**
Profit Margin	0.0865	0.1472	0.2900	0.0313	0.1203	0.3092	0.0886*	0.6444	0.021**

Panel B

		Low Salary (1)	High Salary (2)	Test of Diff. (1) vs. (2) (p-value)	Low Ownership (3)	High Ownership (4)	Test of Diff. (3) vs. (4) (p-value)
ROA	Pre_Mean	0.0208	0.0666		0.0382	0.0460	
	Post_Mean	0.0476	0.0602		0.0478	0.0587	
	Difference	0.0268	-0.0065	0.0031**	0.0097	0.0127	0.7902
	Test of Diff. (p-value)	0.0053***	0.2015		0.1973	0.1350	
ROE	Pre_Mean	0.0376	0.1331		0.0761	0.0884	
	Post_Mean	0.0753	0.1215		0.1211	0.0741	
	Difference	0.0377	-0.0117	0.2741	0.0449	-0.0143	0.1883
	Test of Diff. (p-value)	0.3516	0.4274		0.0641	0.7018	
Profit Margin	Pre_Mean	0.0905	0.0820		0.0571	0.1142	
	Post_Mean	0.2797	0.0201		0.0500	0.2603	
	Difference	0.1892	-0.0619	0.0754	-0.0070	0.1460	0.2787
	Test of Diff. (p-value)	0.0266**	0.5926		0.9521	0.0754*	

Panel C

		Low Salary		High Salary		
		Low Ownership	High Ownership	Low Ownership	High Ownership	Test of Diff. (1) vs. (4) (p-value)
		(1)	(2)	(3)	(4)	
ROA	Pre_Mean	0.0187	0.0229	0.0632	0.0695	
	Post_Mean	0.0383	0.0572	0.0601	0.0602	
	Difference	0.0196	0.0343	-0.0031	-0.0093	0.0307*
	Test of Diff. (p-value)	0.0915*	0.0277**	0.7127	0.1321	
ROE	Pre_Mean	0.0378	0.0373	0.1255	0.1395	
	Post_Mean	0.1098	0.0384	0.1355	0.1098	
	Difference	0.0721	0.0010	0.0100	-0.0297	0.0229*
	Test of Diff. (p-value)	0.0680*	0.9888	0.6575	0.1251	
Profit Margin	Pre_Mean	0.0171	0.1676	0.1084	0.0600	
	Post_Mean	0.1707	0.3942	-0.1051	0.1241	
	Difference	0.1536	0.2266	-0.2136	0.0641	0.2871
	Test of Diff. (p-value)	0.0353**	0.1526	0.3954	0.1225	

Table 6 Cross-sectional regression analysis of the CARs over (-1, 0) and (-1, +1)

for acquiring firms

This table presents the results of cross-sectional regressions of the CARs for acquiring firms using three models. The dependent variable is CARs over (-1, 0) and (-1, +1), regressed against executive compensation and ownership, controlling a variety of firm- and deal- specific variables including leverage, firm size, ROA, SOE indicator, method of payment and relatedness of bidders and targets. The acquiring firms are categorized into low/high salary groups as well as low/high managerial ownership groups. We report the results for the full sample in Panel A; for the high salary group in Panel B; the low salary group in Panel C; for the high ownership group in Panel D; the low ownership group in Panel E; for the high salary- high ownership group in Panel F; for the high salary- low ownership group in Panel G; for the low salary- high ownership group in Panel H; and for the low salary- low ownership group in Panel I.

Panel A   Full sample

Variable	CAR(-1,0)			CAR(-1,1)		
	Model 1	Model 2	Model 3	Model 1	Model 2	Model 3
_cons	3.881	5.968	6.078	10.294	7.710	7.879
	(0.229)	(0.000)	(0.000)	(0.006)	(0.000)	(0.000)
leverage	-0.312	-0.252	-0.255	-0.453	-0.502	-0.511
	(0.205)	(0.284)	(0.278)	(0.112)	(0.064)	(0.06)
paym	-4.643	-4.403	-4.388	-5.626	-5.501	-5.514
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
diff_ind	-1.492	-1.337	-1.342	-1.752	-1.716	-1.750
	(0.171)	(0.218)	(0.216)	(0.161)	(0.167)	(0.159)
soe_dummy	-1.273	-0.819	-0.853	-0.500	-0.443	-0.572
	(0.403)	(0.584)	(0.566)	(0.772)	(0.794)	(0.734)
roa	0.109	0.126	0.128	0.146	0.144	0.145
	(0.094)	(0.047)	(0.045)	(0.052)	(0.049)	(0.049)
logasset	0.659			-0.932		
	(0.501)			(0.405)		
salary		-0.112			-0.247	
		(0.489)			(0.184)	
slogasset			-0.575			-1.076
			(0.443)			(0.212)
ownership	-0.042	-0.048	-0.047	-0.059	-0.053	-0.050
	(0.309)	(0.231)	(0.241)	(0.216)	(0.257)	(0.278)
N	210	210	210	213	213	213
R^2	0.093	0.093	0.094	0.120	0.125	0.124
Adjusted R^2	0.062	0.062	0.062	0.090	0.095	0.094

Panel B   HS

Variable	CAR(-1,0)			CAR(-1,1)		
	Model 1	Model 2	Model 3	Model 1	Model 2	Model 3
_cons	8.457	5.308	5.720	15.648	4.629	5.203
	(0.115)	(0.025)	(0.018)	(0.005)	(0.054)	(0.035)
leverage	-0.077	-0.228	-0.271	-0.023	-0.523	-0.589
	(0.890)	(0.656)	(0.596)	(0.968)	(0.322)	(0.267)
paym	-4.078	-3.721	-3.627	-2.915	-2.573	-2.500
	(0.030)	(0.050)	(0.058)	(0.118)	(0.181)	(0.198)
diff_ind	0.765	0.817	0.823	2.721	2.210	2.158
	(0.662)	(0.632)	(0.628)	(0.128)	(0.210)	(0.220)
roa	0.057	0.053	0.052	0.068	0.026	0.022
	(0.660)	(0.676)	(0.682)	(0.607)	(0.840)	(0.866)
soe_dummy	-0.291	-0.428	-0.614	-0.140	-1.021	-1.341
	(0.884)	(0.824)	(0.748)	(0.945)	(0.606)	(0.497)
logasset	-1.131			-3.763		
	(0.476)			(0.021)		
salary		-0.246			-0.410	
		(0.238)			(0.058)	
slogasset			-1.284			-1.953
			(0.213)			(0.068)
ownership	-0.038	-0.031	-0.029	-0.068	-0.032	-0.028
	(0.530)	(0.594)	(0.618)	(0.268)	(0.589)	(0.639)
N	103	103	103	104	104	104
R^2	0.070	0.079	0.080	0.117	0.101	0.099
Adjusted R^2	0.002	0.011	0.013	0.053	0.036	0.033

Panel C   LS

Variable	CAR(-1,0)			CAR(-1,1)		
	Model 1	Model 2	Model 3	Model 1	Model 2	Model 3
_cons	0.437	8.252	9.077	5.995	11.092	11.489
	(0.938)	(0.001)	(0.000)	(0.393)	(0.000)	(0.000)
leverage	-0.458	-0.353	-0.356	-0.696	-0.627	-0.628
	(0.094)	(0.190)	(0.181)	(0.044)	(0.064)	(0.061)
paym	-4.842	-4.542	-4.653	-7.307	-7.107	-7.159
	(0.002)	(0.003)	(0.002)	(0.000)	(0.000)	(0.000)
diff_ind	-3.159	-3.233	-3.168	-4.825	-4.846	-4.806
	(0.033)	(0.030)	(0.033)	(0.009)	(0.009)	(0.009)
soe_dummy	0.129	0.161	0.164	0.184	0.204	0.205
	(0.093)	(0.038)	(0.032)	(0.057)	(0.036)	(0.033)
roa	-2.243	-2.008	-2.075	-0.123	-0.080	-0.132
	(0.385)	(0.438)	(0.421)	(0.968)	(0.979)	(0.966)
logasset	2.230			1.522		
	(0.212)			(0.494)		
salary		-1.129			-0.542	
		(0.520)			(0.801)	
slogasset			-6.019			-2.909
			(0.275)			(0.667)
ownership	-0.076	-0.083	-0.074	-0.086	-0.091	-0.087
	(0.200)	(0.168)	(0.218)	(0.249)	(0.222)	(0.247)
N	107	107	107	109	109	109
R^2	0.170	0.160	0.167	0.216	0.213	0.214
Adjusted R^2	0.111	0.101	0.108	0.162	0.159	0.160

Panel D　　　　HO

Variable	CAR(-1,0)			CAR(-1,1)		
	Model 1	Model 2	Model 3	Model 1	Model 2	Model 3
_cons	6.448	9.138	9.221	12.951	9.964	10.069
	(0.282)	(0.000)	(0.000)	(0.049)	(0.000)	(0.000)
leverage	-0.067	0.024	0.017	-0.087	-0.170	-0.186
	(0.875)	(0.950)	(0.966)	(0.853)	(0.690)	(0.662)
paym	-7.912	-7.744	-7.724	-8.953	-8.794	-8.792
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
diff_ind	-2.570	-2.340	-2.329	-3.174	-3.070	-3.091
	(0.123)	(0.167)	(0.167)	(0.083)	(0.098)	(0.094)
roa	0.113	0.132	0.133	0.198	0.192	0.192
	(0.211)	(0.133)	(0.130)	(0.048)	(0.047)	(0.047)
soe_dummy	-3.739	-3.548	-3.518	-1.693	-1.782	-1.744
	(0.241)	(0.264)	(0.268)	(0.628)	(0.608)	(0.616)
logasset	0.846			-1.048		
	(0.648)			(0.602)		
salary		-0.119			-0.237	
		(0.745)			(0.553)	
slogasset			-0.560			-0.949
			(0.698)			(0.549)
ownership	-0.056	-0.063	-0.062	-0.060	-0.053	-0.051
	(0.272)	(0.194)	(0.199)	(0.281)	(0.317)	(0.333)
N	109	109	109	111	111	111
R^2	0.191	0.190	0.191	0.206	0.207	0.207
Adjusted R^2	0.135	0.134	0.135	0.152	0.153	0.153

Panel E   LO

Variable	CAR(-1,0)			CAR(-1,1)		
	Model 1	Model 2	Model 3	Model 1	Model 2	Model 3
_cons	1.909	1.261	1.388	8.219	3.596	3.780
	(0.556)	(0.426)	(0.389)	(0.055)	(0.090)	(0.080)
leverage	-0.742	-0.745	-0.747	-0.852	-0.918	-0.924
	(0.006)	(0.005)	(0.005)	(0.017)	(0.009)	(0.009)
paym	0.692	0.817	0.777	-0.460	-0.644	-0.726
	(0.624)	(0.555)	(0.575)	(0.807)	(0.728)	(0.696)
diff_ind	-0.076	-0.107	-0.141	0.178	-0.002	-0.063
	(0.953)	(0.933)	(0.912)	(0.915)	(0.999)	(0.970)
roa	0.108	0.114	0.113	0.082	0.066	0.063
	(0.240)	(0.204)	(0.210)	(0.504)	(0.584)	(0.603)
soe_dummy	0.158	0.387	0.275	0.207	0.036	-0.164
	(0.918)	(0.797)	(0.854)	(0.918)	(0.985)	(0.933)
logasset	-0.289			-1.704		
	(0.766)			(0.185)		
salary		-0.162			-0.267	
		(0.267)			(0.169)	
slogasset			-0.689			-1.070
			(0.340)			(0.266)
ownership	-202.949	-250.070	-248.761	314.972	163.670	168.305
	(0.713)	(0.646)	(0.649)	(0.668)	(0.823)	(0.818)
N	101	101	101	102	102	102
R^2	0.107	0.118	0.115	0.105	0.107	0.100
Adjusted R^2	0.040	0.052	0.049	0.039	0.040	0.033

Panel F   HSHO

Variable	CAR(-1,0)			CAR(-1,1)		
	Model 1	Model 2	Model 3	Model 1	Model 2	Model 3
_cons	4.574	8.901	9.188	14.081	5.534	5.719
	(0.654)	(0.022)	(0.022)	(0.140)	(0.116)	(0.117)
leverage	-0.293	-0.135	-0.186	0.181	-0.254	-0.311
	(0.723)	(0.847)	(0.792)	(0.812)	(0.698)	(0.639)
paym	-8.299	-7.570	-7.529	-7.158	-6.670	-6.788
	(0.004)	(0.010)	(0.011)	(0.006)	(0.014)	(0.013)
diff_ind	-0.448	0.403	0.367	2.429	2.289	2.085
	(0.875)	(0.887)	(0.896)	(0.362)	(0.389)	(0.428)
soe_dummy	-3.825	-3.999	-3.966	-1.187	-1.601	-1.485
	(0.314)	(0.295)	(0.298)	(0.736)	(0.652)	(0.676)
roa	0.026	0.047	0.043	0.208	0.176	0.170
	(0.894)	(0.810)	(0.825)	(0.260)	(0.332)	(0.349)
logasset	1.274			-3.053		
	(0.688)			(0.295)		
salary		-0.294			-0.457	
		(0.576)			(0.353)	
slogasset			-1.251			-1.537
			(0.558)			(0.441)
ownership	-0.034	-0.053	-0.050	-0.059	-0.036	-0.031
	(0.652)	(0.454)	(0.475)	(0.411)	(0.582)	(0.639)
N	56	56	56	57	57	57
R^2	0.184	0.187	0.187	0.225	0.222	0.217
Adjusted R^2	0.065	0.068	0.069	0.115	0.111	0.106

Panel G   HSLO

Variable	CAR(-1,0)			CAR(-1,1)		
	Model 1	Model 2	Model 3	Model 1	Model 2	Model 3
_cons	8.996	0.088	0.622	13.202	-1.694	-1.062
	(0.129)	(0.978)	(0.846)	(0.053)	(0.650)	(0.780)
leverage	0.377	-0.080	-0.129	0.490	-0.299	-0.361
	(0.664)	(0.923)	(0.877)	(0.622)	(0.761)	(0.715)
paym	2.230	2.591	2.620	5.250	5.576	5.588
	(0.350)	(0.287)	(0.285)	(0.058)	(0.058)	(0.060)
diff_ind	1.592	1.157	1.118	3.338	2.412	2.347
	(0.420)	(0.551)	(0.566)	(0.143)	(0.299)	(0.315)
soe_dummy	1.991	1.235	0.902	0.990	-0.419	-0.837
	(0.353)	(0.552)	(0.663)	(0.685)	(0.865)	(0.734)
roa	0.031	-0.016	-0.016	-0.082	-0.178	-0.179
	(0.846)	(0.917)	(0.921)	(0.657)	(0.342)	(0.343)
logasset	-3.028			-5.006		
	(0.065)			(0.009)		
salary		-0.318			-0.396	
		(0.093)			(0.079)	
slogasset			-1.595			-1.933
			(0.111)			(0.105)
ownership	140.979	-79.555	-105.494	1695.886	1412.888	1388.247
	(0.864)	(0.924)	(0.900)	(0.077)	(0.161)	(0.173)
N	47	47	47	47	47	47
R^2	0.107	0.093	0.087	0.282	0.209	0.200
Adjusted R^2	-0.054	-0.070	-0.077	0.153	0.067	0.056

Panel H   LSHO

Variable	CAR(-1,0)			CAR(-1,1)		
	Model 1	Model 2	Model 3	Model 1	Model 2	Model 3
_cons	13.188	13.822	13.756	21.359	16.739	16.456
	(0.204)	(0.002)	(0.002)	(0.095)	(0.002)	(0.003)
leverage	-0.107	-0.008	-0.039	-0.432	-0.427	-0.460
	(0.838)	(0.987)	(0.939)	(0.499)	(0.501)	(0.464)
paym	-7.076	-7.372	-7.327	-9.286	-9.443	-9.389
	(0.005)	(0.003)	(0.004)	(0.003)	(0.002)	(0.002)
diff_ind	-5.080	-4.430	-4.223	-8.099	-7.272	-7.148
	(0.035)	(0.064)	(0.084)	(0.007)	(0.015)	(0.020)
soe_dummy	-4.507	-3.514	-3.583	-3.682	-2.936	-3.057
	(0.580)	(0.665)	(0.659)	(0.712)	(0.770)	(0.761)
roa	0.152	0.204	0.196	0.238	0.263	0.252
	(0.167)	(0.091)	(0.094)	(0.080)	(0.077)	(0.080)
logasset	-0.877			-2.358		
	(0.778)			(0.536)		
salary		-3.632			-3.115	
		(0.321)			(0.476)	
slogasset			-11.733			-9.271
			(0.327)			(0.517)
ownership	-0.110	-0.090	-0.080	-0.122	-0.095	-0.088
	(0.153)	(0.225)	(0.296)	(0.194)	(0.296)	(0.347)
N	53	53	53	54	54	54
R^2	0.247	0.263	0.262	0.291	0.293	0.292
Adjusted R^2	0.130	0.148	0.147	0.184	0.186	0.184

Panel I   LSLO

Variable	CAR(-1,0)			CAR(-1,1)		
	Model 1	Model 2	Model 3	Model 1	Model 2	Model 3
_cons	-4.110	1.800	2.234	-1.045	4.706	4.569
	(0.489)	(0.501)	(0.436)	(0.898)	(0.197)	(0.243)
leverage	-0.845	-0.819	-0.823	-0.935	-0.903	-0.900
	(0.004)	(0.005)	(0.005)	(0.019)	(0.024)	(0.024)
paym	-0.956	-0.055	-0.128	-4.353	-3.501	-3.396
	(0.627)	(0.976)	(0.943)	(0.115)	(0.169)	(0.178)
diff_ind	-0.470	-0.249	-0.294	-1.256	-0.949	-0.907
	(0.795)	(0.890)	(0.871)	(0.607)	(0.695)	(0.708)
soe_dummy	-1.615	-1.093	-1.058	0.056	0.309	0.335
	(0.511)	(0.660)	(0.668)	(0.986)	(0.924)	(0.917)
roa	0.175	0.177	0.171	0.163	0.182	0.184
	(0.131)	(0.136)	(0.154)	(0.313)	(0.270)	(0.268)
logasset	2.025			2.399		
	(0.330)			(0.406)		
salary		-0.523			0.741	
		(0.778)			(0.770)	
slogasset			-2.646			2.349
			(0.646)			(0.766)
ownership	-469.477	-464.190	-489.033	-777.350	-670.967	-668.508
	(0.554)	(0.567)	(0.546)	(0.484)	(0.552)	(0.554)
N	54	54	54	55	55	55
R^2	0.246	0.232	0.234	0.225	0.214	0.215
Adjusted R^2	0.131	0.115	0.117	0.109	0.097	0.098

Table 7 Cross-sectional regression analysis of the CARs for SOE/Non-SOE groups

This table presents the results of cross-sectional regressions of the CARs using three models for the SOE and Non-SOE subsample. The dependent variable is CARs over (-1, 0) and (-1, +1), regressed against executive compensation and ownership, controlling a variety of firm- and deal- specific variables including leverage, firm size, ROA, method of payment and relatedness of bidders and targets. We report the results of CARs for the SOE group in Panel A; the results of CARs for the Non-SOE group in Panel B.

Panel A   SOE

Variable	CAR(-1,0)			CAR(-1,1)		
	Model 1	Model 2	Model 3	Model 1	Model 2	Model 3
_cons	1.808	-1.397	-1.053	13.213	-1.409	-0.909
	(0.758)	(0.698)	(0.770)	(0.042)	(0.731)	(0.823)
leverage	-2.694	-3.053	-3.155	-3.187	-4.131	-4.321
	(0.025)	(0.008)	(0.007)	(0.018)	(0.003)	(0.002)
paym	4.225	4.961	5.100	8.254	7.754	8.038
	(0.082)	(0.029)	(0.026)	(0.004)	(0.006)	(0.005)
diff_ind	3.620	4.070	4.033	6.061	4.854	4.912
	(0.212)	(0.126)	(0.128)	(0.053)	(0.104)	(0.098)
roa	0.031	0.018	0.013	0.013	0.009	0.000
	(0.839)	(0.898)	(0.925)	(0.939)	(0.958)	(1.000)
logasset	-1.043			-4.970		
	(0.488)			(0.006)		
salary		-0.279			-0.509	
		(0.064)			(0.007)	
slogasset			-1.527			-2.813
			(0.061)			(0.006)
ownership	0.908	21.389	46.074	-113.231	-30.920	18.368
	(0.995)	(0.885)	(0.757)	(0.517)	(0.859)	(0.916)
N	29	29	29	29	29	29
R^2	0.402	0.479	0.481	0.573	0.566	0.574
Adjusted R^2	0.239	0.336	0.339	0.461	0.453	0.462

Panel B　　　　NON-SOE

Variable	CAR(-1,0)			CAR(-1,1)		
	Model 1	Model 2	Model 3	Model 1	Model 2	Model 3
_cons	4.341	6.935	7.032	9.956	8.954	9.004
	(0.257)	0.000	0.000	(0.023)	0.000	0.000
leverage	-0.224	-0.147	-0.154	-0.361	-0.362	-0.377
	(0.387)	(0.548)	(0.529)	(0.220)	(0.195)	(0.176)
paym	-5.722	-5.524	-5.522	-7.241	-7.105	-7.135
	0.000					
diff_ind	-1.661	-1.541	-1.544	-2.010	-1.931	-1.957
	(0.154)	(0.186)	(0.185)	(0.129)	(0.144)	(0.139)
roa	0.096	0.123	0.123	0.125	0.136	0.132
	(0.183)	(0.080)	(0.079)	(0.128)	(0.089)	(0.097)
logasset	0.762			-0.455		
	(0.509)			(0.727)		
salary		-0.175			-0.292	
		(0.471)			(0.288)	
slogasset			-0.760			-1.024
			(0.441)			(0.361)
ownership	-0.040	-0.049	-0.047	-0.054	-0.053	-0.050
	(0.348)	(0.239)	(0.254)	(0.267)	(0.263)	(0.289)
N	181	181	181	181	181	181
R^2	0.119	0.119	0.120	0.155	0.159	0.158
Adjusted R^2	0.088	0.089	0.089	0.126	0.131	0.129

Figure 1 cumulative average abnormal returns (CAARs)

This graph shows the CAARs of acquiring firms over a period from 42 days prior to and 126 days after M&A announcements. We estimate the abnormal returns of acquiring firms based on the market model with a 253 trading day estimation period from day -380 to day -127 prior to M&A announcements.

Cumulative Average Abnormal Return