# An Empirical Investigation of Cross-border Acquisitions between Canada and the United Kingdom

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# ABSTRACT

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This study provides empirical evidence that during the period 1985-2005 cross-border bidders from both Canada and the United Kingdom earned higher announcement returns than domestic bidders. This cross-border excess return persists after controlling for industry effects, toeholds, payment methods and the effect of macro-economic conditions in the target country. Toeholds can explain the excess return for both cross-border and domestic bidders while it isn't associated with higher cross-border bidder gains. The horizontal factor weakly explains the cross-border excess returns. The cash method of payment cannot explain the observed excess gains for cross-border bidders over domestic bidders even though cross-border bidders generate higher gains than domestic bidder when both use cash. Better economic conditions in the target country are associated with higher returns of cross-border bidders. Further, the multinomial model indicates that British firms in the material industry are more likely to acquire foreign rather than domestic targets. Large Canadian firms prefer cross-border acquisitions. If the bidder or their industry have previous merger and acquisition experience in the U.S. market, the acquirer is more likely to acquire a U.S. firm than a domestic or other foreign firm.

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## 1. Introduction

The acquisition of a foreign firm is one of the fastest methods of entering a foreign market. As a result of globalization, there has been a surge of cross-border takeover activity throughout the world in last two decades. A great deal of research has been carried out on cross-border acquisitions. [1] However, there has been relatively little examining the choice a bidder makes between a domestic target and the location of the foreign target. Research on Canadian cross-border acquisitions has tended to focus on U.S. as the partner country – either U.S. target or U.S. bidder (see Eckbo and Thorburn (2000)). In this paper, we extend the existing literature by focusing on the domestic / foreign target decision for two specific countries – Canada and the United Kingdom. The extension to U.K. allows us to examine the cross-border decision where the target country is different (compared to U.S.) but the language and culture are similar. By comparing our results to the more common Canada-US cross-border study, we can improve our understanding of which factors are common to cross-border acquisitions in general and which factors are specific to the target country. The ultimate objective is to develop an understanding of the systematic factors driving cross-border acquirer wealth gains.

Europe edges out the United States as the largest acquirer of Canadian companies and more than one third of Canadian foreign acquisitions take place in U.K. attracted by factors such as labor cost, infrastructure and financial incentives.[2] Just as London prevails over other European financial markets, U.K. dominates as Europe's largest source of

[1] See Harris and Ravenscraft (1991), Shaked, Michel and McClain (1991), Cebenoyan, Papaioannou, and Travlos (1992), Eckbo and Thorburn (2000),Chatterjee and Aw (2000).
[2] See Blass, Anthony, 1994, Investment in the UK: an open invitation.

foreign takeovers of Canadian firms. Other factors that favor Canadian acquirers in the U.K. include a similar culture and language.

Recent empirical research on takeover activities of U.S. firms shows that the shareholders of bidding firms lose a small but significant amount at the announcement of a cross-border acquisition bid (see Chatterjee and Aw (2000), Moeller and Schlingemann (2004)). If bidder does not appear to gain, their motivation for participating in cross-border takeover activity is of interest.

This paper contributes to the literature in several ways. First, we determine if the pattern of wealth gains observed in the US data is consistent with the experience of Canadian and U.S. bidders. Second, what are the motivations for the cross-border acquisitions between Canada and U.K.? Do these motivations differ between Canadian and U.K. bidders? Given the differences in the nature of the economies, we expect Canadian and U.K. bidders to have different reasons for a cross-border acquisition versus a domestic acquisition. Finally, to refine the examination of the domestic / foreign target choice, we examine the factors that affect the probability of cross-border acquisitions between Canada and U.K.

To address above issues, we begin by assessing the differences in bidder wealth gains between cross-border and domestic acquisitions in Canada and U.K. during the period 1985-2005, by comparing the bidder's abnormal returns in acquisitions of foreign and domestic targets. Our empirical results reveal that while firms making cross-border acquisitions generate higher abnormal returns than firms making domestic acquisitions, these differences are not significant. This result is consistent with Teborbi (2005), but is

in contrast to the findings of studies conducted on U.S. bidders (e.g. Moeller and Schlingemann (2004)).

In addition, we test if this wealth gain difference persists once we control for other factors driving wealth gains such as size, payment method, tax, toehold, and macro-economic conditions. Our study not only provides insights into any difference in bidder shareholders' benefits within Canada and U.K. via the comparison of cross-border transactions to domestic takeovers, but also compares the cross-border acquisition effect on bidder's gains between Canada and U.K.

Based on the stock performance measure and cross-sectional regression analysis, we estimate a multinomial logit model to estimate the relative probability of cross-border acquisitions for Canadian and British bidder firms and to evaluate the possible drivers of cross-border M&A activity. Further, we examine if these drivers differ between domestic and cross-border transactions.

The remainder of the paper is organized as follows. Section 2 reviews the existing literature in this area. Section 3 describes the sample selection, hypotheses and reports the wealth effect for alternative measures of excess returns. In section 4, we apply the multinomial logit models and report the univariate and logistic estimation analysis. Section 5 concludes the paper.

## 2. Literature Review

Previous studies have generally focus on either domestic acquisitions or cross-border acquisitions. This section briefly reviews research on cross-border acquisition in Canada, U.K. and U.S., and domestic acquisition in Canada and U.K.

In terms of cross-border acquisition studies, there has been limited literature describing cross-border M&A activities between U.K. and U.S. or between Canada and U.S., and little research exists on cross-border acquisitions between Canada and the U.K. In the Canadian context, a recent study by Eckbo and Thorburn (2000) find that Canadian bidders acquiring domestic targets generate significantly positive and higher gains than foreign bidders acquiring Canadian targets during the period 1964-1983. Teborbi (2005) investigates cross-border M&As in Canada and finds that cross-border bidders earn, upon announcement, significantly higher abnormal returns than domestic bidders. Consistent with our findings, Teborbi (2005) does not find any evidence that cross-border acquisitions are motivated by differential taxes and exchange rates.

Several studies investigate cross-border bidder gains either in the U.K. or in the U.S. For example, Chatterjee and Aw (2000) compare the post-takeover performance of U.K. bidders acquiring domestic and foreign targets between 1991 and 1996, and find that the shareholders of the acquirer have poorer performance after cross-border transactions than after domestic takeovers. Cebenoyan, Papaioannou, and Travlos (1992) investigate the wealth effects of foreign acquisitions for the U.S. bidders, and explain observed differences in excess returns of foreign and domestic takeover bids by considering the intensity of foreign acquisitions in the industries of the U.S. target firms. Moeller and Schlingemann (2005) compare the stock price and operating performance of U.S. firms making domestic and cross-border acquisitions. They conclude that cross-border bidders generate economically and statistically significant lower gains than domestic bidders.

In general, studies investigate the nature of cross-border takeovers through the target stock price reaction. These studies show that the wealth gains to targets in foreign

takeovers are positive and significant. When the wealth gains of targets in foreign and domestic takeovers are compared, foreign takeovers are found to generate significantly higher targets wealth gains. For example, Harris and Ravenscraft (1991), Shaked, Michel and McClain (1991) examine the wealth consequences of foreign takeovers of U.S. firms. Moreover, there is little conclusive evidence as to which factors explain the differences between the wealth gains of target firms in foreign and domestic takeovers.

Kang (1991) and Conn and Connell (1990) measure both bidder and target shareholder wealth gains in cross-border takeovers. Kang (1991) examines Japanese bidders acquiring U.S. targets and finds significant wealth gains for both Japanese bidders and U.S. targets. Conn and Connell (1990) examine shareholder gains to both target and bidder firms in takeovers between U.K. and U.S. and find no conclusive evidence on gains or losses to bidders.

All the studies discussed thus far focus on the measurement of stock performance, whereas Vasconcellos, Madura and Kish (1990) provide an empirical examination of the frequency of cross-border acquisition activity between U.S and U.K. as a function of several explanatory variables including exchange rates, price-earning ratios, and stock prices in both counties, to explain why non-U.S. firms have increased their acquisitions of American firms while American firms decreased their foreign acquisition activity in recent years.

In contrast to many studies of U.S. domestic acquisitions, Eckbo (1986) finds that Canadian domestic acquisitions were associated with significant gains to shareholders of both bidder and target firms. Eckbo and Thorburn (2000) report significantly positive announcement abnormal return for Canadian domestic bidders. In general, studies of U.K.

bidders experienced negative post-bid returns in domestic takeover (see for example: Firth (1980), Barnes (1984), Franks and Harris (1989), Limmack (1991), Higson and Elliot (1998), Kennedy and Limmack (1996), Gregory (1997)).

In sum, most of the existing literature focuses on testing whether cross-border transactions are either value creating, value neutral or value destroying. Our study measures the differential shareholder wealth of cross-border bidders to domestic bidders within Canada and the U.K., and compares the takeover activities between these two countries. Furthermore, this study is one of the first to attempt to estimate the probability of cross-border decision using a multinomial logit model. In general, probability estimation has focused on the target side (the probability of being acquired) but relatively little has been done on estimating the probability that a firm will acquire. For example, Palepu (1986) predicts probability of takeover targets by a binary logit model. Betton and Eckbo (2000) construct a multinomial logit model to capture the possible outcomes of the takeover bids in sequential auctions.

## 3. Bidders Wealth Effect in Cross-border and Domestic Transactions

### 3.1 Stock Price Performance

#### 3.1.1 Sample Selection

The cross-border acquisition samples are drawn from the Securities Data Corporation (SDC) database. The cross-border sample contains 79 transactions for Canadian firms acquiring U.K. firms and 60 transactions for U.K. firms acquiring Canadian firms, using the following criteria:

i) The merger bid occurs between Jan 1, 1985 and Dec 31, 2005, the transaction is completed, the Canadian bidders are listed in the Toronto Stock Exchange and the U.K. bidders are listed in the London Stock Exchange.

ii) There is sufficient (as defined in following subsection) stock return data to perform the event study analysis.

To obtain the domestic acquisitions for the purpose of comparison, we use the above criteria to obtain the domestic transactions during the same period. Then, we match the first 3 digits of both the target and bidder's Primary SIC Code of cross-border acquisitions with the first 3 digits of target and bidder firms' Primary SIC Code of domestic acquisitions in the same announcement year. [3] The resulting comparison domestic sample contains 121 Canadian domestic acquisitions and 38 U.K. domestic acquisitions. The sample statistics are reported in Table 1. Panel A presents an overview of the annual distribution for cross-border and domestic takeovers respectively. In Panel A, we see that the frequency of Canadian bidders acquiring U.K. targets has increased since 1997, while the frequency of U.K. bidders acquiring Canadian targets began increasing two years later. Panel B summarizes the industrial distribution of acquisitions in the sample and shows that the majority of Canadian cross-border bidders are high-tech companies while the majority of U.K. bidders are material and industry related firms.

For Toronto-listed Canadian firms, the daily stock returns are obtained from Canadian Financial Markets Research Centre (CFMRC).[4] For London-listed U.K. firms, the daily stock returns are from the Bloomberg database.

[3] If there is no matching transaction in the same year, the previous and following year are used.
[4] Both CFMRC and SDC give data on dead and surviving firms, so there is no survivorship bias for sample selection.

### 3.1.2 Measurement of Wealth Effect

The standard event study method is used to estimate the announcement wealth effects for the bidder firms. For any company $j$, the abnormal return is defined by the market model as follow:

$$AR_{jt} = R_{jt} - (\alpha_j + \beta_j R_{mt})$$

where $R_{jt}$ is the realized return on day t, $\alpha$ and $\beta$ are estimated by regressing the individual firm return $R_{jt}$ on the market return $R_{mt}$, for the 200 day period ending 21 days before the acquisition announcement. [5] We require that at least 150 days of trading data in the 200 day estimation period. $R_{mt}$ refers to the CFMRC value-weighted index for the Canadian sample, and FTSE all share index for the U.K. sample.

We compute the cumulative abnormal returns between any two dates $T_1$ and $T_2$ as

$$CAR_j = \sum_{t=T_1}^{T_2} AR_{jt}$$

We use five different window lengths to measure CAR values. For daily returns, the event window cumulates from day -20 to day +20.

A *Patell test* [6] is used for standardized abnormal test in the study. Under the null hypothesis, each $AR_{jt}$ has mean zero and variance $\sigma^2_{AR_{jt}}$. The standardized abnormal return is then $SAR_{jt} = \frac{A_{jt}}{s_{A_{jt}}}$, where $s_{A_{jt}}$ is the standard error of the market model regression,

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[5] There 39 out of 298 transactions involve a second announcement during the estimation period of previous announcement, the normal return is calculated as $R_{jt} = \alpha_{1j} + \beta_{1j} R_{mt} + \alpha_{2j} D + \beta_{2j} DR_{mt}$, where D is a dummy variable taking value of 1 during the period from one day before first announcement to 21 days before the second announcement. Thus, the abnormal return for second announcement is calculated as $AR_{jt} = R_{jt} - \left[(\alpha_{1j} + \alpha_{2j}) + (\beta_{1j} + \beta_{2j}) R_{mt}\right]$.

[6] See Patell (1976).

and $s_{A_{jt}} = \frac{1}{M_j - 2}\sum_{1}^{M_j} e^2$ ( $M_j$ is the number of observations). $s_{A_{jt}}$ follows a Student's t distribution with degree of freedom $M_j - 2$. The sum of the $SAR_{jt}$ across the sample is $TSAR_t = \sum_{j=1}^{N} SAR_{jt}$ . The expected value of $TSAR_t$ is zero, and the variance is $Q_t = \sum_{j=1}^{N} \frac{M_j - 2}{M_j - 4}$. The test statistic for the null hypothesis that $CAR_{T_1,T_2} = 0$ for individual firm is $Z^j_{T_1,T_2} = \frac{1}{\sqrt{Q^j_{T_1,T_2}}} \sum_{t=T_1}^{T_2} SAR_{jt}$ , and $Q^j_{T_1,T_2} = (T_2 - T_1 + 1)\frac{M_j - 2}{M_j - 4}$. The in-sample test statistic is $Z_{T_1,T_2} = \frac{1}{\sqrt{N}} \sum_{j=1}^{N} Z^j_{T_1,T_2}$ .

### 3.1.3 Cumulative Abnormal Stock Return

Based on the existing literature, we expect that cross-border bidders will under perform domestic bidders both in Canada and the United Kingdom. As a result of information asymmetries, domestic bidders are expected to have a better understanding of their market than foreign bidders, and this superior knowledge helps them to select better acquisitions and to have lower risk of overpaying than foreigners and thus decreases the risk of takeover (Eckbo and Thorburn 2000).

From Table 2, we report the results for five different announcement event windows and find that cross-border bidders perform better than domestic bidders in all event windows, not supporting our hypothesis and inconsistent with the results in the existing literature (see Moeller and Schlingemann (2005), and Eckbo and Thorburn (2000)). We observe that Canadian cross-border bidders earn positive abnormal returns in the short

and long announcement periods and U.K. cross-border bidders earn positive abnormal returns within (-10,10) event window. These results are inconsistent with the existing literature's findings of zero bidder gains (see e.g. Schwert (1996) and Travlos (1987)).

For British bidders, domestic takeovers generate both lower abnormal returns and fewer positive abnormal returns than cross-border takeovers. However, for Canadian bidders, even though the average abnormal returns are lower for domestic bidders, there are more deals that generate positive abnormal returns for bidders than cross-border, which implies the positive cross-border abnormal returns must be significantly higher than the domestic positive abnormal returns.

### 3.2 Cross-sectional Analysis

Using cross-sectional regressions, we test whether the positive cross-border returns continue to hold after controlling for other factors which may affect bidder returns. The Cumulative Abnormal Return for the (-1, 1) period surrounding the announcement day is the dependent variable in each regression model.

#### 3.2.1 Hypothesis

We hypothesize that the following factors may affect the bidder wealth effect thereby helping to explain the observed positive abnormal return for the cross-border bidders. These factors are:

**A. Size Effect**

Shareholder wealth is related to the relative size of the bidding and target firms. Relatively large bidding firms earn lower abnormal returns for the same expected

synergy gains. The relative size is measured by the ratio of the value of the transaction to the market value of the bidder equity.

Asquith et al (1983) argue that the cumulative abnormal returns are significantly greater when the target firm is larger. In general, U.K. companies have higher equity market value than Canadian companies. Thus, the size effect may explain the Canadian bidders' superior returns in cross-border acquisitions, compared to U.K bidder firms that acquire Canadian firms. In addition, this effect also holds if Canadian bidders gain more in domestic acquisitions than cross-border bidders.

**B. Industry Competition**

A horizontal transaction between the bidder and the target is assumed to increase the average gains for bidders (Eckbo and Thorburn (2000), Travlos (1987), and Asquith, Bruner, and Mullins (1987)). If domestic acquisitions involve more horizontal transactions than cross-border acquisitions, this hypothesis is rejected.

**C. Payment Method**

The method of payment in takeovers has been suggested to be important source of gains (see Travlos (1987), Myers and Majluf (1984)). We expect that cumulative abnormal returns surrounding the announcement of cash acquisition offers will exceed those of non-cash offers (including all stock offers and cash and stock mixed offers). Based on the Myers and Majluf (1984) model, bidder managers will prefer a cash offer if they believe that their firm is undervalued, while a common stock exchange offer will be preferred if the firm is supposed to be overvalued. Therefore, the bidder's choice of payment method reflects private information about their firm's valuation. Because of the increased asymmetric information for foreign bidders relative to domestic bidders, stock

offers convey more negative information, causing the bidder to lose around the announcement date (Travlos 1987).

**D. Toehold**

Bidder's toehold (pre-offer ownership stake in the target) is expected to be positively related to bidder gains due to the prior knowledge of the target. The evidence on the effect of toeholds on bidder gains is limited in existing studies (see Betton and Eckbo (2000)).

**E. Target Country Economics**

Bidder gains may also depend on the macro-economic situation in the target country. Cross-border acquisitions are encouraged by factors that are not available in the home market, for example, a bidder may use a cross-border acquisition as a way to enter a more rapidly growing economy. These factors include relative GDP increase, relative interest rates, exchange rates, and corporate income tax rates. Relatively higher GDP growth and lower relative interest rates will encourage foreign acquisition. Exchange rates also play an important role in the decision-making process, according to the existing literature. Froot and Stein (1989) offer sophisticated arguments on the role of the foreign exchange value of the dollar on foreign direct investment. Harris and Ravenscraft (1991) find a significant foreign exchange effect on the wealth gains generated by foreign takeovers. It is often argued that a cheap dollar makes the purchase of domestic firms less expensive to foreign bidders and thus enables them to outbid domestic bidders. In addition, relatively lower corporate tax rates will also encourage cross-border transactions, because the lower tax rate will benefit the bidder after the acquisition.

### 3.2.2 Sample Description and Independent Variables

We report the takeover characteristics of the sample in Table 3. Table 3 shows that cross-border bidders more often use cash as the form of payment, and fewer involve horizontal transactions. The relative size, measured by the ratio of transaction value to bidder equity value, for cross-border transactions is greater than the relative size of domestic transactions. Bidder characteristics variables are obtained from SDC, and the macro-economic data are from Datastream. The independent variable definitions are summarized in Table 4.

### 3.2.3 Empirical Result

Our results demonstrate that cross-border bidders out-perform domestic bidders around the acquisition announcement for transaction occurring between 1985 and 2005. In this subsection we examine alternative explanations for the observed bidder returns. In each regression model, the dependent variable is the average cumulative abnormal return for the period (-1, 1) surrounding the acquisition announcement day.

Table 5 reports the results of these cross-sectional regressions. We examine variables for both cross-border and domestic acquisitions in Canada and U.K., using cross-border transaction and country dummy variable to measure the effect of target type and bidder country. Since the relative exchange rate is only meaningful for cross-border acquisitions, we isolate cross-border transactions in model 3, while the other seven models include both cross-border and domestic transactions. The results of model 3 indicate that U.K. bidders perform better than Canadian bidders, and the toehold is significantly positively associated with bidder gains. However, it is not clear from this analysis whether the toehold increases the cross-border bidder gains.

Model 2 shows that bidder gains are qualitatively higher in cross-border acquisitions (0.0086) relative to in domestic acquisitions (-0.0005). When we include transaction characteristics in model 4 and target macro-economic variables in model 1, the coefficient on the cross-border dummy is still positive, but insignificant. The toehold and cash payment method variables have signs that are consistent with the existing literature. Consistent with Martin (1996), Travlos (1987) and Asquith, et al. (1987), bidders earn higher gains in cash transactions than in non-cash transactions. However, the negative coefficient of the cash variable in model 3 implies that cash payment is not associated with higher cross-border gains. The coefficient of the toehold variable indicates that the toehold is positively related to the bidder returns, which is consistent with our hypothesis. In contrast to the finding of Travlos (1987) and Asquith, Bruner, and Mullins (1987), we find that bidder returns in related transactions are lower than bidder returns in unrelated transactions. Furthermore, bidder gains are insignificantly increasing in the relative size of the transaction. The three macro-economic variables explain bidder gains weakly.

In order to measure the effects of horizontal, toehold and payment method, we include interaction terms between these variables and the cross-border dummy in Table 6. The coefficient on the interaction term between cross-border dummy and horizontal is not significantly different from zero, indicating that the effects of horizontal is not significantly different between cross-border and domestic takeovers. In addition, the coefficient on the interaction term between cash payment and cross-border dummy is significantly negative, indicating that domestic bidders gain more in cash payment transactions than cross-border bidders who use cash. Furthermore, the significant positive coefficient on the interaction term between toehold and cross-border dummy implies that

the toehold has a stronger effect in cross-border transactions than in domestic transactions. In other words, cross-border bidders have higher returns than domestic bidders when both transactions involve a toehold.

In sum, our results indicate that cross-border bidders perform better than domestic bidders after we control for several explanatory factors. The toehold can explain the abnormal returns for cross-border bidders; the horizontal factor and macro-economics variables weakly explain the cross-border abnormal returns, and cash payment cannot explain abnormal returns for cross-border bidders.

### 3.3 Determinants of the Cross-border Wealth Effect

In previous subsection, we show that, on average, cross-border bidders outperform domestic bidders in Canada and the United Kingdom even after controlling for size, payment method, toehold, horizontal factor and macro-economic factors. In this section, we refine our analysis of the source of cross-border gains by using a matched sample approach.

#### 3.3.1 Hypothesis

i) Payment method: cross-border bidders who prefer to pay cash for acquisitions earn higher abnormal returns than domestic bidders who prefer cash payments. To the extent that foreign target are more difficult to evaluate by stock one would expect bidders to prefer cash as the method of payment. Thus, cash payment may explain the excess return for cross-border bidders.

ii) Corporate tax effect: if the target country's corporate tax rate is higher than the bidder country's tax rate, the cross-border excess return will be lower. Manzon et

al (1994) argue that the effective tax rate on the income from a new foreign acquisition is a function of both the target tax rate and the tax status of the acquiring firm. To the extent that the tax factor affects the profitability of a cross-border acquisition, they should be reflected in the bidder's abnormal returns.

iii) Toehold, defined as the bidder's pre-offer ownership stake in the target, partly affects the stock price of bidder and target. We propose that the prior acquisition stake lowers the excess return of cross-border bidder, because the increase of stake is not a surprise for stock holders.

iv) Macro-economic conditions: if the bidder country's economy is growing faster than the target's, the excess return will be larger. In particular, higher target country GDP growth, lower target country interest rates, and the appreciation of the home currency will favor the cross-border bidders.

### 3.3.2 Sample Selection

Our sample is based on the sample described in section 3.1. The dependent variable is the difference between the CARs of a cross-border bidder and the matched domestic (matched by the first 3 digit of primary SIC code with the cross-border's SIC code in the same announcement year) bidder. When there is more than one matching domestic bidder, the cross-border bidder's CAR is compared to the average CAR of the portfolio of matching domestic bidders. This results a sample of 50 matched transactions[7], but only 38 of them contain all the necessary independent variables.[8] Our final sample description is summarized in Table 7.

[7] Half of the sample has multiple matching domestic transactions.
[8] 12 out of 50 observations don't contain TAXEFFECT variable values.

Independent variables are listed in Table 8. The effective corporate tax rate is a function of both the target tax rate and the tax status of the acquiring firm. They should be reflected in the abnormal stock returns to bidders around the acquisition announcement. Following Manzon et al (1994), we define TAXEFFECT as:

$$TAXEFFECT = \frac{TransactionValue}{EquityValue} \ (Target\ Tax\ Rate - Bidder\ Tax\ Rate)$$

Since the dependent variable is the difference in CARs between cross-border and domestic bidders, we use two dummy variables to measure the effect of the payment method. The first dummy measures whether the cross-border and domestic transactions have the same payment method while the second dummy measures whether the cross-border bidder pays cash. Combining these two dummy variables, we can capture all situations and determine the effect of cash payment.

The macro-economic variables are the difference between the values observed in the target and bidder countries, based on previous year data. We use DGDP and DINTEREST to present the independent variables, in order to distinguish them from analysis in other subsections.

### 3.3.3 Empirical Results

Cross-sectional regression results are reported in Table 9. The dependent variable is the difference in CAR (-5, 5) between cross-border and matched domestic transactions in each regression model. The (-5, 5) window is chosen for analysis because the paired t-test indicates that the difference between the cross-border and domestic is more significant for this event window.

Table 9 indicates that the corporate tax difference between bidder and target country cannot significantly explain the cross-border excess return due to the fact that the coefficient on the tax effect is not significantly different from zero. The toehold is negatively related to cross-border excess return which is inconsistent with our previous result reported in Table 6. The positive coefficient on the country dummy in Model 6 implies that Canadian cross-border bidders earn higher abnormal than U.K. cross-border bidders. The coefficients on the exchange rate and interest rate support our hypothesis and are consistent with previous results while the GDP variable appears quite different. The Tables 9 indicates that if the economic conditions in the bidder country are better than the target country's, the cross- border acquirer's excess return will be higher, which is inconsistent with the results in Table 5 and Table 6.[9]

Payment method dummy 1 and dummy 2 provide detailed information about the effect comparison of cash payments between different bidders. Dummy 1 equals 1 when cross-border and domestic transactions use different payment methods, and dummy 2 equal 1 when cash is used by the cross-border bidder. From model 6, we obtain several results:

a) When dummy 1 = 0, and dummy 2 = 1, cross-border cash payment bidder has 1.1 percent higher return than domestic cash payment bidder.

b) When dummy 1 = 0, and dummy 2 = 0, cross-border non-cash payment bidder has 4.5 percent higher return than domestic non-cash payment bidder.

c) When dummy 1 = 1, and dummy 2 = 1, cross-border cash payment bidder has 1.3 percent higher return than domestic non-cash payment bidder.

[9] We use target country's GDP for regression in Table 5 and Table 6, while use bidder GDP minus target GDP for regression in Table 9. Therefore, they should have opposite signs.

d) When dummy 1 = 1, and dummy 2 = 0, cross-border non-cash payment bidder has 0.2 percent higher return than domestic cash payment bidder.

Overall, if cash is chosen as the payment method, the excess return of the bidder will be higher than in non-cash transactions. Meanwhile, the cross-border bidder generates higher gains than the domestic bidder when both of them use cash. Since the cross-border bidders earn 0.9 percent higher return in cash payment transaction than in non-cash payment transaction, while the domestic bidders earn 4.3 percent higher return in cash payment transaction than in non-cash payment transaction. This result supports our previous analysis in Table 6 that domestic bidders earn higher abnormal returns in cash payment transactions than in non-cash payment transactions compared to cross-border bidders.

In short, the cross-sectional regression results in this subsection show different signs for the toehold and GDP, but confirm the effect of cash payment, interest rates and foreign exchange rates. The weak effect of tax effect is consistent with our previous analysis.

## 4. Multinomial Logistic Estimation for Cross-border Acquisitions

### 4.1 Methodology

In order to estimate the probability that a Canadian bidder acquires British targets and the probability that a British bidder acquires Canadian targets, we estimate a multinomial logit model, in which bidder characteristics and macroeconomic conditions are estimation parameters for cross-border acquisition decision.

The multinomial logit model assumes that the probability of an outcome Y is given by:

$$\Pr(Y = j) = \frac{\exp(x_i \beta_j)}{1 + \sum_{j=1}^{J} \exp(x_i \beta_m)} \quad \text{for j = 1, 2, .....J}$$

$$\text{And } \Pr(Y = 1) = \frac{1}{1 + \sum_{j=1}^{J} \exp(x_i \beta_m)}$$

In this model, each $\beta_j$ is a vector of dimension equal to the number of independent variables and can be estimated by maximum likelihood. The multinomial logit model can also be expressed in terms of the log odds of any two outcomes as:

$$\ln\left[\frac{\Pr(Y_i = j | x_i}{\Pr(Y_i = m | x_i}\right] = x_i'(\beta_j - \beta_m)$$

The difference, $\beta_j - \beta_m$, is the effect of independent variable, $x$, on the log odds of outcome $j$ versus outcome $m$. The p-value on such a coefficient provides a test of the hypothesis that the independent variable affects the probability of each outcome relative to the base case ($J$=1).

### 4.2 Sample Selection for Multinomial Logit Estimation

In this section, Canadian bidders are categorized into three groups: Canadian domestic bidders, Canadian cross-border bidders who acquire British targets, and Canadian cross-border bidders who acquire American targets. Similarly, British bidders are also divided into three groups: domestic bidders, cross-border bidders who acquire Canadian targets, and cross-border bidders who acquire American targets. We limit the categories because U.S. is a frequent target country both for Canadian and British firms,

and we are primarily interested in explaining the choice between U.S. and U.K., as well as between American and Canadian firms. [10]

Our sample is from the Securities Data Corporation (SDC) database. The criteria for sample selection are:

i) The acquisition announcement is between Jan 1, 1985 and Dec 31, 2005, the transaction is completed, the Canadian bidders are listed in the Toronto Stock Exchange and the U.K. bidders are listed in the London Stock Exchange.

ii) There is sufficient data for independent variables.

Finally, we obtain 97 transactions for Canadian bidders acquiring British targets, and 80 transactions where British bidders acquire Canadian targets. Then, we match the domestic acquisitions and U.S. target acquisitions by the first 3 digit primary SIC code to cross-border transactions between Canada and U.K. This criteria result in 79 transactions for Canadian bidders acquiring American targets and 203 Canadian domestic transactions, 25 cross-border transactions for British bidders acquiring American targets and 63 British domestic transactions. [11]

The independent variable definition and our hypothesis are:

1. MA experience dummy: equals 1 when this firm had similar merger and acquisition experience (has acquired in the same target country) in previous 5 years. We hypothesize that previous acquisition experience encourages bidders to acquire more foreign targets.

[10] In fact, a category of Canadian bidder who acquire target in other countries, except U.K., U.S., and Canada, should be included in the multinomial logit model, the probability of these four outcomes adds to 1. In our study, we omit this category for two reasons: One is that the number of bidders in this category is small compared to U.K. and U.S. target, the other is that the difficulty of collecting data because countries are distributed diversely.

[11] Before the matching process, data from SDC show 1294 transactions of Canadian bidders acquire American targets and 3800 Canadian domestic transactions, 2006 transactions of British bidders acquiring American targets and 10650 British domestic transactions.

2. Industry dummy: equals 1 when at least one other acquisition was announced in the same target region (U.K., domestic, or others) in the firm's four-digit SIC industry during the previous year. Our hypothesis is based on the 'economics disturbance theory' proposed by Gort (1969), which suggests that acquisitions cluster by industry. Gort argues that mergers are caused by valuation differentials among market participants which are triggered by economic shocks like changes in technology, industry structure, and the regulatory environment.
3. Material dummy: equals 1 when the bidder firm is in the raw material or energy and power industry sector. If raw material and energy are limited in the home country, it is more likely for these firms to acquire foreign targets.
4. Toehold dummy: equals 1 when the bidder firm owns a toehold in the target before the announcement of the acquisition. We hypothesize that toeholds are more likely to be associated with cross-border acquisitions due to the increased informational asymmetries in foreign acquisitions.
5. LnSize: the natural logarithm of the bidder's total assets. The likelihood of cross-border acquisition increases with the size of the firm. Since the transaction costs are associated with acquiring a firm. As these costs are expected to be higher for cross-border than domestic acquisitions, we expect larger firms to be more likely to acquire foreign firms.
6. Market-to-book Ratio: the ratio of the market value of the common equity of the bidder divided by its book value one year prior to the announcement. Our hypothesis is that high market-to-book firms are more likely to acquire foreign target.

7. GDP: defined as the target countrys annual GDP growth in the previous year. Fast GDP growth implies a boom, which will encourage foreign bidders to directly invest in the country.
8. Interest rate: defined as the annual change in the target country's 3-month Treasury bill rate over the previous year. Lower relative interest rate will encourage foreign acquisitions because the low rate will reduce their cost of borrowing foreign funds.
9. Exchange rate: the annual change in the target country's foreign exchange rate (bidder currency / target currency) over the previous year. A cheap dollar makes the purchase of firms less expensive to foreign bidders, thus it is more likely for these bidders to acquire home targets.

The first four variables are acquisition related factors; variables 5 and 6 are bidder characteristics; variables 7-9 measure economic condition changes in the bidder and target country. Variable definitions are summarized in Table 10 and the univariate comparison of variables 1-6 are reported in Table 11. The results in Table 11 indicate that domestic transactions occurred more often when the bidder has previous similar M&A experience or there had been an acquisition in the bidder industry, which is not as we expected. One possible reason is that domestic transaction sample size is quite large relative to the cross-border acquisition sample. We can see a clear pattern for British bidder's industry by looking at the material dummy. A higher proportion of British cross-border bidders are material related (raw material, energy and power sector) companies than found in the domestic U.K. market. In addition, when British firms acquire in North American more material related bidders prefer Canada. Therefore, we expect to see a

positive coefficient sign on the material dummy only for U.K. bidders, but not for Canadian bidders. Furthermore, we cannot clearly see the relationship between toeholds and the probability of cross-border acquisitions. This is not surprising given our cross-sectional regression results show an insignificant negative relationship for cross-border transactions.

In terms of the market-to-book ratio and size variables, larger and higher market-to-book firms are more likely to be involved in cross-border takeover activities. This pattern holds in Canada and U.K.

The comparison of the three macro-economic variables for different target categories is also reported in Table 11. For Canadian bidders, GDP and interest rate do not have a significant impact on the choice of foreign target. For British bidders, the GDP increase in the foreign country will encourage British firms to acquire a cross-border target in that country. However, interest rates do not have a clear effect on the cross-border and domestic acquisition choice. The pattern of foreign exchange rate is not clear for either Canada or U.K.

In sum, only the market-to-book and size appear to add information for cross-border acquisition decisions. MA experience and industry show some effect, but have opposite signs to our expectation. The material variable is only significant for British bidders. The toehold doesn't exhibit a clear pattern in our logistic estimation model. The three economic variables, GDP, interest rate and foreign exchange, show weak effects on acquisition decisions for our estimation model.

### 4.3 Multinomial Logit Model Results

We estimate the multinomial logit model for Canadian and British bidders, respectively. Following the approach of Jagannathan, Stephens and Weisbach (2000), we present 6 sets of results in Table 12.[12] The coefficients reported in Table 12 are estimates of the log-odds ratios between each category and the base case (domestic acquisitions). Panel A indicates the effects on the Canadian bidders' choice between a U.K. target and a U.S. target while Panel B shows the effects on British bidder's choice between Canadian and U.S. targets. Based on this table, we divide our analysis into three parts: comparison of cross-border acquisition decision; comparison of cross-border acquisition to domestic acquisition; and comparison between Canadian bidders and British bidders.

#### 4.3.1 Comparison of Cross-border Acquisition choice

Panel A of Table 12 summarizes the determinants of the Canadian bidders' choice between the acquisition of either a British target or an American target. Our results indicate that:

i) When Canadian bidders make the cross-border acquisition choice between British and American targets, they are more likely to go to U.S. than U.K.: if the Canadian bidders have previous M&A experience in target country (the coefficient -0.4823 is greater than -0.7931); If the 4-digit industry of Canadian bidders have previous

[12] If all estimation variables are included in logit model, the maximum likelihood estimate function may not converge. Thus, we drop several variables in final model. Toehold dummy variables have different estimation power for different bidders; we include it in Canadian bidder regression, but drop it in U.K. bidder regression. As the foreign exchange rate is only applicable for cross-border acquisition estimation, we did not report the results of multinomial logit estimation including exchange rate variable here, and only report the univariate comparison.

M&A experience in target country, (the coefficient -0.1772 is greater than -3.2654); the GDP increase in the U.S. (the coefficient 0.3391 is greater than -0.2204).

ii) Canadian cross-border bidders are more likely to go to U.K. than U.S.: if they are in a material related industry (the coefficient -1.3136 is greater than -2.3817); if they have toehold in the target firm (the coefficient 0.2307 is greater than -1.847); if they are larger (the coefficient 0.5801 is greater than 0.2503); if the target country's interest rate increase (the coefficient 0.00652 is greater than -0.033).

In addition, panel B of Table 12 summarizes the probability estimation results for the cross-border acquisition choice of British bidders:

i) When British bidders make cross-border acquisition decision between Canadian and American targets, they are more likely to acquire U.S. targets than Canadian: if they have previous M&A experience in target country (the coefficient -0.6047 is greater than -4.4794); if the 4-digit industry of the bidder has previous M&A experience in the target country, (the coefficient -1.3511 is greater than -4.805); the target country's GDP increases (the coefficient -0.0284 is greater than -0.1089).

ii) British cross-border bidders are more likely to go to Canada than U.S.: if they are in material related industry (the coefficient 4.3127 is greater than 1.274); if they are larger (the coefficient 0.1565 is greater than –0.1642); if they have higher market-to-book ration (the coefficient 0.0017 is greater than 0.0013); and if the target country's GDP increases (the coefficient 0.022 is greater than 0.00964).

We summarize the above results in Table 13. The results demonstrate that the independent variables have similar effects on Canadian bidders and British bidders in their decision to acquire foreign targets. If the acquiring firm or their industry has previous experience in American market, this firm is more likely to acquire an American firm, which implies that the 'economics disturbance theory' proposed by Gort (1969) may apply for acquisitions of American targets. The GDP increase in the U.S. and low risk-free rate in the U.K. and Canada are other motivations for cross-border acquisitions. Cross-border acquisitions between Canada and the U.K. are more likely for companies in the material sector, supporting our hypothesis. Large Canadian bidders prefer British targets relative to American targets, while large British bidders prefer Canadian targets relative to American targets.

### 4.3.2 Comparison of Cross-border Acquisitions to Domestic acquisitions

The signs of the coefficients in Table 12 indicate the probability of cross-border acquisition relative to domestic acquisitions. The MA experience variable show negative sign for both Canadian and British cross-border bidders, implying that if the bidder has previous acquisition in the domestic market, they are more likely to acquire domestic targets, which does not support our hypothesis but is consistent with the univariate analysis in Table 11. Similarly, both Canadian and British cross-border bidders are more likely to acquire domestic targets when their industry has previous similar takeover experience, which is inconsistent with our hypothesis. [13] The material dummy variable

[13] This result may due to the relatively lower frequency of cross-border takeover activities compared to domestic takeover activities.

has opposite sign for Canadian and British bidders. British bidders in the material industry are more likely acquire foreign target, while the Canadian bidder in material industry are more likely acquire domestic target. Large firms prefer cross-border acquisitions, which is consistent with our hypothesis and the univariate analysis. However, high market-to-book ratio Canadian bidders prefer domestic acquisition, which is inconsistent with the univariate results. The signs of GDP and interest rate are ambiguous, implying that they are not effective determinants of the cross-border acquisition decision.

### 4.3.3 Comparison between Canada and the United Kingdom

Overall, the independent variables show different effects on Canadian bidders and British bidders. For example, the MA experience variable has a significant effect on British bidders when they acquire a Canadian target, but is insignificant for other situations. The industry variable significantly affects the cross-border acquisition decision between Canada and the U.K., but is insignificant for an American target. The material variable significantly affects the probability of cross-border acquisition for bidders in both countries, but the different sign between these two countries implies that only British material companies prefer to acquire foreign targets, which is consistent with our hypothesis and the univariate analysis. Size has a significant effect for Canadian bidders, but is insignificant for British bidders.

## 5. Conclusion

This study provides empirical evidence on the market performance of bidders in cross-border transactions between Canada and the United Kingdom, and compares it to domestic transactions after controlling for the bidder and target industry. The cumulative abnormal returns indicate that cross-border bidders have higher announcement returns than domestic bidders in Canada and the U.K. during the period 1985-2005. In addition, Canadian cross-border bidders obtain higher excess return over domestic bidders than British bidders, partly due to the different regulation and greater agency costs (Conn and Connell (1990)).

We analyze the possible factors that may have an effect on bidder wealth, and demonstrate that the cross-border excess return persists even after controlling for industry effects, toeholds, payment methods and the effect of macro-economic conditions in the target country. Toeholds can explain the excess return for both cross-border and domestic bidders; the horizontal factor weakly explains the cross-border excess return; and cash payment does not explain gains for cross-border bidders.

In an attempt to understand the reasons for the cross-border effect on bidder wealth gains, we conduct cross-sectional regressions that measure the effect of several explanatory variables on cross-border bidder excess abnormal returns compared to matching domestic bidders, and find that the toehold isn't associated with higher cross-border bidder gains, but better economic conditions in the target country may increase the abnormal returns of the cross-border bidders. In terms of the payment method, if cash is chosen, the abnormal return of bidders in cash transaction will be higher than non-cash

transactions, and cross-border bidders earn higher gains than domestic bidders when both use cash.

Furthermore, we apply a multinomial logit model to estimate the effect of different explanatory variables on the probability of cross-border acquisitions providing a novel analysis of cross-border takeover activities between Canada and U.K. Our results show that British firms in material industry are more likely to acquire foreign targets. Large Canadian firms prefer cross-border acquisitions. If the acquirer firm or his industry has previous merger and acquisition experience in the U.S. market, the firm is more likely to acquire an American firm. The results from the multinomial logit model are consistent with the univariate analysis.

Finally, this study provides empirical evidence on cross-border bidder wealth gains, and an investigation at this excess return, which may explain the surge of foreign takeovers between Canada and U.K. Within the limitations of sample size, our study only provides a brief analysis for acquirers and fund managers. Future study may focus on the explanatory variables that have a significant association with the bidder's excess return, and the extension of comparing sample to other target countries. Moreover, the multinomial logit model also needs to be improved by including other situations and by adding other variables, which can significantly increase the probability of a cross-border takeover.

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## Table 1 Sample Description

Sample of Canadian and U.K. cross-border and domestic acquisitions completed between 1985 and 2005. The bidder must be listed in Toronto or London Stock Exchange. Domestic transactions have same target and bidder first 3-digit primary SIC code with cross-border transactions and same announcement year. Panel A lists the distribution across announcement years. Panel B lists the main industry distributions of Canadian bidder who acquire U.K. target and U.K. bidder who acquire Canadian target. Data obtained from the Securities Data Corporation.

### Panel A: Annum Distribution

| | Canadian Bidder (n=200) | | | | United Kingdom Bidder (n=98) | | | |
|---|---|---|---|---|---|---|---|---|
| | U.K. target | | Canadian target | | Canadian target | | U.K. target | |
| Year | n | % of 200 | n | % of 200 | n | % of 98 | n | % of 98 |
| 1985 | 1 | 0.50 | 0 | 0.00 | 0 | 0.00 | 0 | 0.00 |
| 1986 | 0 | 0.00 | 0 | 0.00 | 0 | 0.00 | 0 | 0.00 |
| 1987 | 3 | 1.50 | 3 | 1.50 | 0 | 0.00 | 0 | 0.00 |
| 1988 | 2 | 1.00 | 0 | 0.00 | 0 | 0.00 | 0 | 0.00 |
| 1989 | 6 | 3.00 | 0 | 0.00 | 1 | 1.02 | 0 | 0.00 |
| 1990 | 3 | 1.50 | 1 | 0.50 | 1 | 1.02 | 0 | 0.00 |
| 1991 | 2 | 1.00 | 1 | 0.50 | 2 | 2.04 | 0 | 0.00 |
| 1992 | 0 | 0.00 | 1 | 0.50 | 3 | 3.06 | 0 | 0.00 |
| 1993 | 3 | 1.50 | 4 | 2.00 | 1 | 1.02 | 0 | 0.00 |
| 1994 | 1 | 0.50 | 0 | 0.00 | 2 | 2.04 | 1 | 1.02 |
| 1995 | 4 | 2.00 | 12 | 6.00 | 3 | 3.06 | 2 | 2.04 |
| 1996 | 5 | 2.50 | 15 | 7.50 | 3 | 3.06 | 0 | 0.00 |
| 1997 | 8 | 4.00 | 18 | 9.00 | 3 | 3.06 | 2 | 2.04 |
| 1998 | 10 | 5.00 | 4 | 2.00 | 3 | 3.06 | 3 | 3.06 |
| 1999 | 3 | 1.50 | 12 | 6.00 | 6 | 6.12 | 2 | 2.04 |
| 2000 | 9 | 4.50 | 20 | 10.00 | 10 | 10.20 | 10 | 10.20 |
| 2001 | 3 | 1.50 | 6 | 3.00 | 5 | 5.10 | 12 | 12.24 |
| 2002 | 4 | 2.00 | 0 | 0.00 | 2 | 2.04 | 1 | 1.02 |
| 2003 | 3 | 1.50 | 6 | 3.00 | 4 | 4.08 | 0 | 0.00 |
| 2004 | 6 | 3.00 | 18 | 9.00 | 7 | 7.14 | 4 | 4.08 |
| 2005 | 3 | 1.50 | 0 | 0.00 | 4 | 4.08 | 1 | 1.02 |
| Total | 79 | 39.50 | 121 | 60.50 | 60 | 61.22 | 38 | 38.78 |

**Panel B: Industry Distribution**

| | CAN acquire U.K. | | U.K. acquire CAN | |
|---|---|---|---|---|
| Industry | n | % of 79 | n | % of 60 |
| Consumer Products and Services | 1 | 1.27 | 2 | 3.33 |
| Consumer Staples | 0 | 0.00 | 8 | 13.33 |
| Energy and Power | 8 | 10.13 | 8 | 13.33 |
| Financials | 13 | 16.46 | 2 | 3.33 |
| Healthcare | 1 | 1.27 | 2 | 3.33 |
| High Technology | 20 | 25.32 | 3 | 5.00 |
| Industrials | 11 | 13.92 | 14 | 23.33 |
| Materials | 9 | 11.39 | 17 | 28.33 |
| Media and Entertainment | 12 | 15.19 | 3 | 5.00 |
| Real Estate | 1 | 1.27 | 0 | 0.00 |
| Telecommunications | 3 | 3.80 | 1 | 1.67 |
| total | 79 | 100 | 60 | 100 |

## Table 2: Cumulative Announcement Abnormal Returns for Cross-border and Domestic Acquisitions

Cumulative announcement abnormal returns (CAR) for the sample of cross-border and domestic transactions from 1985 to 2005. CAR is calculated as the market-adjusted return over the announcement period (-1,1), (-2,2), (-5,5), (-10,10) and (-20,20). Both the cross-border and matched domestic transactions are obtained from Securities Data Corporation. Daily stock returns for Toronto-listed firms are obtained from Canadian Financial Markets Research Centre (CFMRC). For London-listed U.K. firms, the daily stock returns are from Bloomberg database. Statistical significance of a z-test for the CAR at the 10%, 5%, and 1% level is denoted with *, **, and ***.

| | Canadian Bidder (n=200) | | United Kingdom Bidder (n=98) | |
|---|---|---|---|---|
| | U.K. target (n=79) | Domestic target (n=121) | CAN target (n=60) | Domestic target (n=38) |
| CAR(-1,1) | 0.913% | -0.066% | 1.057% | -0.400% |
| Z | 0.974 | -0.524 | 2.394 *** | -0.662 |
| Median | 0.003 | -0.310% | 0.690% | 0.000% |
| Positive number | 42/79 | 55/121 | 36/60 | 19/38 |
| CAR(-2,2) | 0.757% | -0.388% | 1.043% | 0.683% |
| Z | 0.874 | -1.470 * | 1.662 ** | 0.099 |
| Median | -0.006 | -0.750% | -0.095% | 0.502% |
| Positive number | 36/79 | 55/121 | 29/60 | 22/38 |
| CAR(-5,5) | 3.091% | -0.832% | 0.981% | -2.593% |
| Z | 2.859 *** | -0.682 | 1.139 | -1.623 ** |
| Median | 0.014 | -1.130% | 0.285% | -1.040% |
| Positive number | 46/79 | 52/121 | 31/60 | 18/38 |
| CAR(-10,10) | 2.590% | 0.880% | 1.148% | -5.677% |
| Z | 2.127 ** | 0.164 | 1.389 * | -3.053 *** |
| Median | 0.006 | 0.920% | 0.260% | -3.015% |
| Positive number | 40/79 | 64/121 | 30/60 | 16/38 |
| CAR(-20,20) | 2.114% | -1.154% | -2.299% | -6.534% |
| Z | 1.187 | -0.946 | -0.642 | -1.981 * |
| Median | 0.009 | 0.112% | -2.100% | -3.056% |
| Positive number | 41/79 | 62/121 | 27/60 | 16/38 |

**Table 3 Deal Characteristics of Cross-Border and Domestic Takeovers, 1985-2005**

Deal characteristics for cross-border and domestic takeovers in our sample. Panel A lists the sample weight between Canada and U.K. Panel B lists the payment method for cross-border and domestic transactions. The non-cash deal includes all-stock deal, stock and cash mix deal and deal that didn't disclose the payment method. The horizontal dummy variable in Panel C equals to 1 if the target and bidder have same 2-digit industry. Toehold dummy variable in Panel D equals to 1 if the bidder owns pre-offer stake of the target. The relative size is measured by the value of the transaction (mil) divide to the pre-offer market equity value (mil) of the bidder. The mean and median of this value are listed in Panel E, and the data are obtained from Securities Data Corporation.

| | **Cross-border Takeovers** | **Domestic Takeovers** |
|---|---|---|
| | n=139 | n=159 |
| **Panel A: Bidder Country** | | |
| Canada | 79 (56.83%) | 121(76.10%) |
| United Kingdom | 60 (43.17%) | 38 (23.90%) |
| **Panel B: Payment Method** | | |
| Cash | 38 (27.34%) | 29 (18.24%) |
| Non-cash | 101 (72.66%) | 130 (81.76%) |
| **Panel C: Industry Related** | | |
| Horizontal | 61 (43.88%) | 136 (85.53%) |
| Non-horizontal | 78 (56.12%) | 23 (14.47%) |
| **Panel D: Toehold** | | |
| Toehold | 14 (10.07%) | 13 (8.18%) |
| Non-toehold | 125 (89.93%) | 146 (91.82%) |
| **Panel E: Relative Size** | n=85 | n=99 |
| Mean | 5.897 | 0.725 |
| Median | 0.077 | 0.246 |

## Table 4 Variable Definitions for Cross-Sectional Regression

Definitions of independent variables used in the cross-sectional regression, with the dependent variable CAR (-1,1) for all deals.

| Variables | Definition |
|---|---|
| CROSS | dummy variable taking value of 1 if the takeover is cross-border, 0 otherwise. |
| COUNTRY | dummy variable taking value of 1 when bidder is Canadian firm,0 when bidder is U.K. firm. |
| TOEHOLD | dummy variable taking value of 1 when bidder has target's stake before the takeover, 0 otherwise. |
| HORIZONTAL | dummy variable taking value of 1 when bidder and target are in closely related business, 0 otherwise. |
| CASH | dummy variable taking value of 1 when takeover is 100 percent paid by cash, 0 otherwise. |
| GDP | GDP is defined as target country's annual GDP change in previous year. |
| INTEREST | INTEREST is defined as target country 3-month interest rate in previous year. |
| EXCHANGE | EXCHANGE is defined as target country's foreign exchange rate (bidder currency/target currency) annual change in previous year. |
| TAX | TAX is defined as target country's corporate income tax rate in previous year. |
| LNRESIZE | LNRESIZE is defined as the natural logarithm of proportion of transaction value to bidder's equity value. |

**Table 5: Cross-sectional Analysis of Canadian and U.K. Bidder Gains in Cross-border and Domestic Takeovers**

Cross-sectional regression results where the dependent variable CAR denotes the (-1,1) announcement period return for Canadian bidders who acquire U.K. target and domestic target and U.K. bidders who acquire Canadian target and domestic target. Cross, country, toehold, horizontal and cash are dummy variables. Model 1, 2, 4, 5 have 298 observations, while model 6-8 have only 184 observations, because the variable relative size need the transaction value and equity value of bidder, which are not available for all deals. The dependent variable in Model 3 is CAR (-1,1) only for bidder in cross-border transactions between Canada and U.K., thus the number of observations reduces to 139. Statistical significance of a t-value in parentheses for the coefficient at the 10%, 5%, and 1% level is denoted with *, **, and ***.

| Variable | Expected sign | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|---|
| Intercept | | 0.00379 | -0.00053 | 0.02885 | 0.00515 | 0.00218 | 0.08056 | -3.9E-05 | 0.00974 |
| | | (0.15) | ( -0.11) | (0.34) | (0.51) | (0.09) | (1.74 **) | (-0.01) | (0.71) |
| CROSS | + | 0.00349 | 0.0091 | | 0.00334 | 0.00884 | -0.05429 | 0.00599 | -0.00262 |
| | | (0.43) | (1.30 *) | | (0.42) | (1.20) | ( -1.06) | (0.67) | (-0.26) |
| COUNTRY | + | 0.00265 | | -0.00834 | 0.00253 | | 0.00613 | | 0.000544 |
| | | (0.34) | | (-0.35) | (0.33) | | (0.48) | | (0.06) |
| TOEHOLD | + | 0.0164 | | 0.04294 | 0.01483 | | 0.00716 | | 0.01028 |
| | | (1.30 *) | | (2.50 ***) | (1.19) | | (0.48) | | (0.70) |
| HORIZONTAL | + | -0.01225 | | -0.01235 | -0.01229 | | -0.01225 | | -0.01486 |
| | | (-1.46 *) | | (-1.22) | (-1.49 *) | | ( -1.14) | | (-1.38) |
| CASH | + | 0.00898 | | -0.00555 | 0.00927 | | 0.01198 | | 0.01155 |
| | | (1.03) | | (-0.47) | (1.07) | | (1.16) | | (1.12 *) |
| GDP | + | 0.00725 | | 0.00121 | | 0.00657 | -0.71417 | | |
| | | (0.59) | | (0.08) | | (0.54) | ( -1.76 **) | | |
| INTEREST | - | -0.01074 | | 0.0044 | | -0.00869 | 0.02696 | | |
| | | ( -0.87) | | (0.22) | | ( -0.71) | (1.42 *) | | |
| TAX | - | 0.00302 | | -0.03697 | | -0.00673 | -0.0013 | | |
| | | (0.05) | | (-0.19) | | (-0.11) | ( -0.99) | | |
| EXCHANGE | + | | | 0.01756 | | | | | |
| | | | | (0.33) | | | | | |
| LNRESIZE | + | | | | | | 0.000773 | 0.000272 | 0.00029 |
| | | | | | | | (0.35) | (0.13) | (0.13) |
| R-square | | 0.0272 | 0.0057 | 0.0577 | 0.0245 | 0.0075 | 0.0592 | 0.0025 | 0.0275 |
| F | | 1.01 | 1.68 | 1 | 1.47 | 0.56 | 1.22 | 0.23 | 0.84 |
| obs | | 298 | 298 | 139 | 298 | 298 | 184 | 184 | 184 |

## Table 6: Cross-sectional Analysis of Canadian and U.K. Cross-border Bidder Gains

The dependent variable CAR for the regression in this table denotes the (-1,1) announcement period return for Canadian bidders who acquire U.K. target and domestic target and U.K. bidders who acquire Canadian target and domestic target.. The interaction terms between cross dummy variable and other three dummy variables, horizontal, cash and toehold are computed by multiplying cross dummy variable value and the other three dummy variable value, respectively. (see Harris and Ravenscraft (1991) ). Statistical significance of a t-value in parentheses for the coefficient at the 10%, 5%, and 1% level is denoted with *, **, and ***.

| Variable | 1 | 2 |
|---|---|---|
| **Intercept** | 0.00469 | 0.00458 |
| | (0.18) | (0.34) |
| **CROSS** | 0.00474 | 0.00514 |
| | (0.31) | (0.34) |
| **COUNTRY** | 0.00202 | 0.00193 |
| | (0.26) | (0.25) |
| **TOEHOLD** | -0.01208 | -0.01384 |
| | (-0.66) | (-0.78) |
| **HORIZONTAL** | -0.01199 | -0.01169 |
| | (-0.84) | (-0.84) |
| **CASH** | 0.02439 | 0.02493 |
| | (1.91 **) | (1.98 **) |
| **GDP** | 0.00452 | |
| | (0.37) | |
| **INTEREST** | -0.0056 | |
| | (-0.45) | |
| **TAX** | 0.000106 | |
| | (-0.00) | |
| **CROSS * HORIZONTAL** | 0.000323 | -0.00025 |
| | (0.02) | (-0.01) |
| **CROSS * CASH** | -0.02873 | -0.02951 |
| | (-1.65 **) | (-1.71 **) |
| **CROSS * TOEHOLD** | 0.05407 | 0.05589 |
| | (2.14 **) | (2.26 **) |
| **R-square** | 0.0472 | 0.0465 |
| **F** | 1.29 | 1.76 |
| **observations** | 298 | 298 |

## Table 7: Sample Summary for Cross-border Excess Return Examination

Dependent and independent variables that are used for cross-border excess return examination. Panel A reports the CAR difference between cross-border and matched domestic transactions in Canada and U.K., and the cross-border transactions refer to the acquisition between Canada and U.K. Domestic transactions have same target and bidder first 3-digit primary SIC code with cross-border transactions and same announcement year. The dependent variable is obtained by the CAR of bidder in cross-border transaction minus CAR of bidder in matched domestic transaction. If the number of matched domestic transactions is greater than one, the average CAR for bidders in these transactions is used for calculation. Statistical significance of paired t-value for the difference at the 10%, 5%, and 1% level is denoted with *, **, and ***. Panel B lists the country distribution in this sample and the independent variable univariate statistics. The payment1 dummy variable equals to1 when cross-border and domestic transactions use different payment methods, and payment2 dummy variable equal 1 when the cash is used. Following Manzon et al (1994), we define the independent variable taxeffect as

$$TAXEFFECT = \frac{TransactionValue}{EquityValue} \text{ (Target Tax Rate – Bidder Tax Rate)}$$

**Panel A: Excess return of cross-border over domestic transactions summary**

| | CAR(-1,1) | CAR(-2,2) | CAR(-5,5) | CAR(-10,10) | CAR(-20,20) |
|---|---|---|---|---|---|
| **Mean** | 0.63% | 0.08% | 5.00% | 3.87% | 3.93% |
| **Median** | 0.30% | 0.13% | 4.15% | 3.73% | 1.79% |
| **Variance** | 0.29% | 0.50% | 1.30% | 3.21% | 6.45% |
| **Positive Number** | 26/50 | 26/50 | 33/50 | 28/50 | 26/50 |
| **paired t-test** | 0.83 | 0.08 | 3.10 ** | 1.53 * | 1.10 |

**Panel B: Sample characteristics**

| Bidder Country | Cross-border deal number | Multiple match number | PAYMENT 1=1 | PAYMENT 2=1 | TOEHOLD =1 | TAXEFFECT mean | TAXEFFECT median |
|---|---|---|---|---|---|---|---|
| **CAN** | 31 | 20 | 20(64.52%) | 10(32.26%) | 4(21.77%) | -3.6997 | -0.7868 |
| **UK** | 19 | 5 | 12(63.16%) | 5(26.32%) | 1(0.50%) | 9.6442 | 2.7254 |
| **total** | 50 | 25 | 32(64%) | 15(30%) | 5(3.2%) | 1.2165 | -0.3174 |

## Table 8: Independent Variable Definitions for Cross-border Excess return Explanation

Definition of the independent variables used in the cross-sectional regression for cross-border excess return during the period 1985-2005. The dependent variable is the differential CAR (-5, 5) of bidder in cross-border and matched domestic transactions.

| Variables | Definition | Expected sign |
|---|---|---|
| TAXEFFECT | TAXEFFECT is defined as the difference of corporate income tax rate of the bidder's and target's country multiple by the transaction value and divided to bidder equity value. | - |
| PAYMENT1 | PAYMENT1 is a dummy variable, which is set to 1 when the cross-border transaction and matched domestic ones have different payment methods and 0 when they have same payment method. | + |
| PAYMENT2 | PAYMENT2 is a dummy variable, which is set to 1 when the cross-border transaction is paid by cash and 0 when cross-border transaction is not paid by cash. | + |
| TOEHOLD | TOEHOLD is a dummy variable, which is set to 1 when the cross-border bidder owns toehold prior to takeover announcement and 0 otherwise. | + |
| COUNTRY | COUNTRY is a dummy variable, which is set to 1 when the bidder is Canadian firm and 0 for U.K. firms. | - |
| DGDP | GDP is defined as the difference between bidder country previous year's annual GDP change and target country's. | - |
| DINTEREST | INTEREST is defined as the difference between bidder country 3-month interest rate and target country's in previous year. | + |
| EXCHANGE | EXCHANGE is defined as target country's foreign exchange rate (bidder currency/target currency) annual change in previous year. | - |

**Table 9: Cross-sectional Analysis of Canadian and U.K. Cross-border Bidder's Excess Return**

This table reports the results of cross-sectional regression where the dependent variable denotes dependent variable the differential CAR (-5, 5) of bidder in cross-border and matched domestic transactions. Model 1-4 have 38 observations, while models 5-8 have 50 observations because tax effect is not available for all transactions. Statistical significance of a t-value in parentheses for the coefficient at the 10%, 5%, and 1% level is denoted with*, **, and ***.

| Variable | Expected sign | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|---|
| **Intercept** | | 0.121 | 0.060 | 0.050 | 0.062 | 0.059 | 0.045 | 0.033 | 0.048 |
| | | (2.04 **) | (3.08 ***) | (1.24) | (3.35 ***) | (1.50 *) | (1.51 *) | (1.24) | (1.68 **) |
| **Tax effect** | - | 0.001 | 0.000 | 0.000 | | | | | |
| | | (0.30) | (-0.07) | (0.10) | | | | | |
| **Payment1** | + | -0.020 | | 0.026 | | -0.022 | 0.002 | | -0.017 |
| | | (-0.43) | | (0.58) | | (-0.62) | (0.06) | | (-0.50) |
| **payment2** | + | 0.023 | | -0.020 | | 0.038 | 0.011 | | 0.031 |
| | | (0.53) | | (-0.46) | | (1.02) | (0.32) | | (0.91) |
| **Toehold** | - | -0.026 | | | | -0.026 | | -0.051 | |
| | | ( -0.35) | | | | (-0.41) | | (-0.94) | |
| **Country** | - | -0.080 | | | | -0.011 | | 0.036 | |
| | | (-1.34 *) | | | | (-0.27) | | (1.08) | |
| **Exchange** | + | 0.408 | | | 0.233 | 0.089 | | | 0.080 |
| | | (1.55 *) | | | (1.10) | (1.06) | | | (1.17) |
| **DGDP** | - | 1.958 | | | 0.337 | 1.662 | | | 1.521 |
| | | (0.99) | | | (0.24) | (1.31 *) | | | (1.53 *) |
| **DInterest** | + | 0.110 | | | 0.117 | 0.064 | | | 0.071 |
| | | (1.36 *) | | | (1.60 *) | (1.00) | | | (1.15) |
| **R-square** | | 0.230 | 0.000 | 0.017 | 0.152 | 0.183 | 0.002 | 0.037 | 0.177 |
| **F** | | 1.080 | 0.000 | 0.200 | 2.030 | 1.340 | 0.050 | 0.910 | 1.890 |
| **Observations** | | 38 | 38 | 38 | 38 | 50 | 50 | 50 | 50 |

## Table 10: Independent Variable Definition for Multinomial Analysis

Definition of the independent variables used in the multinomial logit model. The dependent variables are three outcomes for the Canadian bidder and U.K. bidder. Data obtained from the Securities Data Corporation and Datastream.

| Variable | Definition |
|---|---|
| **MA experience** | Dummy variable equals 1 when this firm has similar MA experience (acquire in same target country) in previous 5 years. |
| **Industry** | Dummy variable equals 1 when at least one other acquisition announced in the same target region (UK, domestic, or others) in a firm's four-digit SIC industry during the previous year. |
| **Material** | Dummy variable equals 1 when the bidder firm is in raw material or energy and power industry sector. |
| **Toehold** | Dummy variable equals 1 when the bidder firm owns toehold in the target before the announcement of acquisition. |
| **Lnsize** | The natural logarithm of the bidder's total assets (mil in home currency). |
| **Market-to-Book** | Ratio of the market value of the common equity of a bidder firm to its book value in the fiscal year prior to the takeover. |
| **GDP** | Target country previous year's annual GDP change. |
| **Interest Rate** | Target country 3-month treasury bill rate change in previous year. |
| **Exchange Rate** | Bidder country previous year's foreign exchange rate (bidder currency/target currency)annual change. |

## Table 11: Univariate Comparison of Independent Variables for Different Target Categories

Univariate comparison of cross-border and domestic bidder to different target countries. Panel A reports Canadian bidder and Panel B reports United Kingdom bidder. MA experience, industry, material and toehold are dummy variables.

### Panel A: Canadian Bidder

| Variables | CAN acquire UK n=97 | | CAN acquire US n=79 | | CAN acquire CAN n=203 | |
|---|---|---|---|---|---|---|
| | dummy=1 | % of 97 | dummy=1 | % of 79 | dummy=1 | % of 203 |
| **MA_experience** | 43 | 44.30% | 53 | 67.10% | 142 | 69.95% |
| **Industry** | 21 | 21.65% | 67 | 84.81% | 187 | 92.12% |
| **Material** | 24 | 26.74% | 13 | 16.46% | 138 | 67.98% |
| **Toehold** | 12 | 12.37% | 1 | 1.27% | 25 | 12.31% |
| | Mean | Median | Mean | Median | Mean | Median |
| **Market-to-Book** | 204.78 | 59.04 | 146.93 | 51.65 | 107.31 | 42.45 |
| **Lnsize** | 6.57 | 6.62 | 5.99 | 5.56 | 5.43 | 5.45 |
| **GDP** | 3.05% | 3.04% | 6.57% | 6.62% | 5.43% | 5.45% |
| **Interest Rate** | 5.28% | 1.24% | -7.98% | -2.84% | 7.29% | 4.08% |
| **Exchange Rate** | 4.09% | 3.54% | 0.58% | 0.15% | | |

### Panel B: U.K. Bidder

| Variables | UK acquire CAN n=80 | | UK acquire US n=25 | | UK acquire UK n=63 | |
|---|---|---|---|---|---|---|
| | dummy=1 | % of 80 | dummy=1 | % of 25 | dummy=1 | % of 63 |
| **MA_experience** | 14 | 17.50% | 16 | 64.00% | 44 | 69.84% |
| **Industry** | 9 | 11.25% | 16 | 64.00% | 53 | 84.13% |
| **Material** | 24 | 30.00% | 2 | 8.00% | 2 | 3.17% |
| **Toehold** | 7 | 8.75% | 0 | 0.00% | 5 | 7.94% |
| | Mean | Median | Mean | Median | Mean | Median |
| **Market-to-Book** | 504.95 | 178.41 | 296.08 | 87.58 | 185.49 | 76.11 |
| **Lnsize** | 5.99 | 6.46 | 5.15 | 4.62 | 4.97 | 4.91 |
| **GDP** | 3.78% | 4.23% | 3.62% | 3.66% | 3.47% | 3.10% |
| **Interest Rate** | 9.33% | 13.20% | 6.52% | 21.00% | 4.69% | 1.24% |
| **Exchange Rate** | -0.91% | -2.23% | 2.06% | 2.39% | | |

## Table 12: Multinomial Logit Estimation Model

The results from the estimation of a multinomial logit model of the bidder's choice between the three target countries. The p-value on each coefficient provides a test of the hypothesis that the independent variable affects the probability of each outcome. Panel A lists the situation from a Canadian bidder perspective. Each column provides the parameter estimates obtained from the log-odds ratios. The first column compares the Canadian bidder's acquisition of a U.K. target to Canadian bidder's acquisition of a U.S. target and Canadian domestic bidder. The second column compares Canadian bidder's acquisition of a U.S. target to Canadian bidder's acquisition of a U.K. target and Canadian domestic bidder. The third column compares the Canadian domestic bidder to the cross-border bidder. Panel B lists the same set of situations from a British bidder's perspective. All independent variables are the same as defined in Table 10. There are 8 independent variables in Panel A and 7 independent variables in Panel B because more variables cause the maximum likelihood estimate function to fail to converge.

**Panel A: Canadian bidder**

| | CAN acquire UK | | CAN acquire US | | CAN acquire CAN | |
|---|---|---|---|---|---|---|
| | Coefficient | p-value | Coefficient | p-value | Coefficient | p-value |
| **CAN acquire UK** | | | | | | |
| Intercept | | | -1.741 | 0.0554 | 0.3459 | 0.6652 |
| MA_experience | | | 0.3108 | 0.4848 | 0.7931 | 0.0476 |
| Industry | | | 3.0882 | 0.0000 | 3.2654 | 0.0000 |
| Material | | | -1.0681 | 0.0327 | 1.3136 | 0.0011 |
| Toehold | | | -2.0778 | 0.0682 | -0.2307 | 0.6768 |
| MtoB | | | 0.00113 | 0.16 | 0.00125 | 0.0953 |
| Lnsize | | | -0.3298 | 0.0115 | -0.5801 | 0.0000 |
| GDP | | | 0.5595 | 0.0056 | 0.2204 | 0.2284 |
| Interest_rate | | | -0.0395 | 0.0000 | -0.00652 | 0.3919 |
| **CAN acquire US** | | | | | | |
| Intercept | 1.741 | 0.0554 | | | 2.0869 | 0.0076 |
| MA_experience | -0.3108 | 0.4848 | | | 0.4823 | 0.1958 |
| Industry | -3.0882 | 0.0000 | | | 0.1772 | 0.7126 |
| Material | 1.0681 | 0.0327 | | | 2.3817 | 0.0000 |
| Toehold | 2.0778 | 0.0682 | | | 1.847 | 0.089 |
| MtoB | -0.00113 | 0.16 | | | 0.00012 | 0.8913 |
| Lnsize | 0.3298 | 0.0115 | | | -0.2503 | 0.0268 |
| GDP | -0.5595 | 0.0056 | | | -0.3391 | 0.0216 |
| Interest_rate | 0.0395 | 0.0000 | | | 0.033 | 0.0000 |
| **CAN acquire CAN** | | | | | | |
| Intercept | -0.3459 | 0.6652 | -2.0869 | 0.0076 | | |
| MA_experience | -0.7931 | 0.0476 | -0.4823 | 0.1958 | | |
| Industry | -3.2654 | 0.0000 | -0.1772 | 0.7126 | | |
| Material | -1.3136 | 0.0011 | -2.3817 | 0.0000 | | |
| Toehold | 0.2307 | 0.6768 | -1.847 | 0.089 | | |
| MtoB | -0.00125 | 0.0953 | -0.00012 | 0.8913 | | |
| Lnsize | 0.5801 | 0.0000 | 0.2503 | 0.0268 | | |
| GDP | -0.2204 | 0.2284 | 0.3391 | 0.0216 | | |
| Interest_rate | 0.00652 | 0.3919 | -0.033 | 0.0000 | | |

**Panel B: U.K. bidder**

| | UK acquire CAN | | UK acquire US | | UK acquire UK | |
|---|---|---|---|---|---|---|
| | Coefficient | p-value | Coefficient | p-value | Coefficient | p-value |
| **UK acquire CAN** | | | | | | |
| Intercept | | | -1.6808 | 0.3244 | -2.6894 | 0.1186 |
| MA_experience | | | 3.8747 | 0.0000 | 4.4794 | 0.0000 |
| Industry | | | 3.4539 | 0.0000 | 4.805 | 0.0000 |
| Material | | | -3.0386 | 0.0083 | -4.3127 | 0.0006 |
| MtoB | | | -0.0004 | 0.5259 | -0.0017 | 0.0750 |
| Lnsize | | | -0.3207 | 0.1285 | -0.1565 | 0.4689 |
| GDP | | | 0.0805 | 0.7929 | 0.1089 | 0.7160 |
| Interest_rate | | | -0.0124 | 0.4107 | -0.022 | 0.1347 |
| **UK acquire US** | | | | | | |
| Intercept | 1.6808 | 0.3244 | | | -1.0086 | 0.5079 |
| MA_experience | -3.8747 | 0.0000 | | | 0.6047 | 0.2692 |
| Industry | -3.4539 | 0.0000 | | | 1.3511 | 0.0265 |
| Material | 3.0386 | 0.0083 | | | -1.274 | 0.2416 |
| MtoB | 0.0004 | 0.5259 | | | -0.0013 | 0.1578 |
| Lnsize | 0.3207 | 0.1285 | | | 0.1642 | 0.3732 |
| GDP | -0.0805 | 0.7929 | | | 0.0284 | 0.914 |
| Interest_rate | 0.0124 | 0.4107 | | | -0.00964 | 0.4702 |
| **UK acquire UK** | | | | | | |
| Intercept | 2.6894 | 0.1186 | 1.0086 | 0.5079 | | |
| MA_experience | -4.4794 | 0.0000 | -0.6047 | 0.2692 | | |
| Industry | -4.805 | 0.0000 | -1.3511 | 0.0265 | | |
| Material | 4.3127 | 0.0006 | 1.274 | 0.2416 | | |
| MtoB | 0.0017 | 0.0750 | 0.0013 | 0.1578 | | |
| Lnsize | 0.1565 | 0.4689 | -0.1642 | 0.3732 | | |
| GDP | -0.1089 | 0.7160 | -0.0284 | 0.914 | | |
| Interest_rate | 0.022 | 0.1347 | 0.00964 | 0.4702 | | |

## Table 13: Multinomial Analysis Summary

Summary of the results from the multinomial logit estimation in Table 12. Part A indicates that the Canadian bidders are more likely to acquire the U.K. target when the bidders are material related, have toehold in target, have larger size, and the interest rate in U.K. increased in the previous year. Part B indicates that the Canadian bidders are more likely to acquire the U.S. target when the bidders have previous similar acquisition in U.K., the bidders' 4-digit industry has similar acquisition in U.K., and the U.S. GDP increased in previous year. Part C indicates that the U.K. bidders are more likely to acquire the Canadian target when the bidders are material related, have higher market-to-book ratio, have larger size, and the Canadian interest rate increased in the previous year. Part D indicates that the U.K. bidders are more likely to acquire the U.S. target when the bidder have previous similar acquisition in U.S., the bidders' 4-digit industry has similar acquisition in U.S., and the U.S. GDP increased in previous year.

| | | more likely UK relative to US $\frac{Prob(UK)}{Prob(US)} > 1$ | | more likely US relative to UK $\frac{Prob(US)}{Prob(UK)} > 1$ |
|---|---|---|---|---|
| CAN bidder | A: | Material<br>Toehold<br>Lnsize<br>Interest_rate | B: | MA_experience<br>Industry<br>GDP |

| | | more likely CAN relative to US $\frac{Prob(CAN)}{Prob(US)} > 1$ | | more likely US relative to CAN $\frac{Prob(US)}{Prob(CAN)} > 1$ |
|---|---|---|---|---|
| UK bidder | C: | Material<br>MtoB<br>Lnsize<br>Interest_rate | D: | MA_experience<br>Industry<br>GDP |