

# Methods of Payments and Cross-Border Acquiring firm Valuation

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## ABSTRACT

*Consistent with the existing literature in U.S. domestic M&As, the methods of payment also seem to convey information about acquiring firm valuation in cross-border acquisitions. Cash-financing is associated with positive wealth gain upon foreign M&A announcements while equity-financing results in insignificant shareholder wealth increase. The fact that equity-financing does not lead to value loss as found in most domestic M&A studies seems to suggest additional wealth effect components associated with international diversification. After controlling for payment methods, the wealth effect determinants of U.S. acquirers in international M&As remain to be internationalization, location, and corporate governance factors. A missing piece in the existing literature of cross-border acquiring firm value gain and a critical complement to the documented determinants in explaining acquiring firm wealth effect appears to be the medium of exchange.*

## INTRODUCTION

Shareholder wealth for firms involved in mergers and acquisitions is one of the most scrutinized areas in finance. U.S. evidence in domestic mergers and acquisitions (M&A) typically reports sizable wealth gains for target firms. Nevertheless, acquirers typically experience negative or negligible, if statically significant, firm value increase surrounding their announcements due to, for instance, agency costs and operational inefficiency (see literature survey by Martin and Sayrak (2003)). Bidders in far less studied international M&As seem to fare slightly better, but empirical results on their wealth gain are still mixed at best. This is somewhat puzzling because International Business theories suggest international diversification benefits stemming from internalization, flexibility, and risk reduction and hence provide justifications for expecting more favorable wealth effects for cross-border acquiring firms. It is unclear why there is such a discrepancy between the theoretical justification and the empirical evidence. One plausible explanation is that a large percentage of bidders use equity to finance their acquisitions. Due to information asymmetry, presumably more severe in international M&As, investors interpret this as a signal that their stocks are overvalued and such a perception subsequently depresses the values of those equities.

A handful of papers examine payment methods and acquiring firm values in U.S. domestic M&As and find some correlation between the two. Whether such a signaling hypothesis holds true in international M&As has not been examined in the literature. This paper will investigate this issue as it might add additional explanatory power to or affect the conclusions of some existing foreign M&A studies. For instance, it is argued that the increasing wealth effect for US cross-border acquiring firms in the 1990s is due to tighter corporate governance and more shareholder friendly corporate policies (e.g., Holmstrom and Kaplan, 2001). If the methods of payment accounts for most of the increasing wealth gain, tighter corporate governance can no longer be credited as the main attribute toward value creation of the acquiring firm in the latest merger wave of global diversification. The considerable wealth gain for U.S. bidders acquiring foreign targets in the 1990s simply might be because the value acquirers outnumber the glamour bidders during the time period. Consequently, the credibility of the notion that the tighter corporate governance in the 1990s, or any other factors for that matter, leads to increasing cross-border acquiring firm value gain requires the methods of payments to be fully taken into account. Moreover, Travlos (1987) has long suggested that the mixed results in previous acquirer valuation studies may be due to the failure of controlling for payment method. As a result, determinants on acquiring firm wealth effects reported in the existing studies such as internalization, corporate governance, firm characteristics, information cost, and location factors should be revisited with the methods of payment fully accounted for.

The rest of the paper is organized as follows. The next section discusses related work in the literature and sets up the hypotheses. Section 3 describes the data and estimating methodology which is followed by the presentation of empirical results. The last section provides a concluding remark.

## LITERATURE REVIEW AND HYPOTHESES

In his theoretical framework, Hansen (1987) presents an asymmetric information hypothesis in which the methods of payment in corporate mergers and acquisitions contain informational value. Consistent with Myers and Majluf (1984), information asymmetry is attributed to bidders' preference for cash (equity) as the medium of exchange in acquisitions when they consider their equity undervalued (overvalued). Markets, therefore, will react more favorably (unfavorably) toward the valuation of acquirers with cash (equity) financing as it is viewed as good (bad) news. Empirical findings in domestic M&As seem largely to support this line of reasoning. It is found that bidders with the highest growth and market value tend to use shares or mixed payments while those with lower growth use cash (e.g., Mackenzie, Kelleher, and Vos, 2000). The evidence in Martin (1996) indicates that the higher the acquirer's growth opportunities, the more likely the acquirer is to finance an acquisition with stock. That is, glamour firms tend to use equity financing while value firms are more likely to finance acquisitions with cash. In examining U.K. evidence of abnormal return performance of acquirers, Sudarsanam, Mahate, and Limmack (2003) find value acquirers outperforming glamour acquirers. Consequently, they posit that glamour firms with overvalued equity exploit their status more frequently by using stocks to finance their acquisitions and value firms tend to finance more with cash. The U.S. evidence in Rau and Vermaelen (1998) similarly shows that the poor post-acquisition performance of acquirers is predominantly caused by low book-to-market glamour firms. The evidence on the cumulative average residuals to shareholders of bidding firms in Wansley, Lane, and Yang (1987), supports the payment method signaling hypothesis as well.

A number of empirical studies in U.S. domestic M&As directly test and find a connection between the methods of payment and acquiring firm valuation. Yook, Gangopadhyay, and McCabe (1999) find that, in the market for corporate control, the existence of information asymmetry may influence the choice of the payment methods (stock versus cash). The finding of a relationship between the payment methods and abnormal bidder returns after controlling for insider trading suggests that the wealth effect of the payment methods is also caused by factors other than the degree of information asymmetry. Han, Suk, and Sung (1998) also confirm that payment methods contain information. The results of Blackburn, Dark, and Hanson (1997) indicate that the market valuation of the acquiring firm's stock is related to both the methods of payment and the acquiring firm's control structure. Moreover, Travlos (1987) finds bidding firms enjoying a positive value increase in cash acquisitions while experiencing a loss in equity-financed acquisitions.

Nonetheless, such line of inquiry has not been investigated for bidders in international mergers and acquisitions, although Biswas, Fraser, and Mahajan (1997) find that, in the acquisition of foreign financial firms, the method of payment significantly affects the abnormal returns for the targets. Given the evidence presented in the domestic M&A studies, it is conceivable that, to a great extent, the methods of payment are related to the cross-border acquiring firm wealth effect. Consequently, this paper hypothesizes that the valuation of the acquiring firms in international M&As is influenced by payment methods as well.

***Hypothesis 1:*** *Given the information asymmetry, especially in international M&As, investors view cash (equity) financing in foreign acquisitions as a sign of the acquirers' stock undervaluation (overvaluation) and, upon the international M&A announcements, respond more (less) favorably toward the valuation of the acquiring firms.*

It is described that in the 1990s, more mergers and acquisitions were motivated by asset buildup or global expansions in an environment emphasizing more shareholder value (e.g., Brigham and Houston, 2001). Innovations in capital markets and governance in the 1990s induced U.S. corporations to pursue shareholder-friendly policies, such as incentive-based executive ownership and compensation plans as well as regulatory changes. In addition, mergers in the 1990s were part of an asset accumulation strategy to take advantage of growth opportunities in new technologies and

global markets while the focus in the 1980s was separating corporate assets from inefficient managers (e.g., Holmstrom and Kaplan, 2001 (pp. 136-139)). Empirically, the evidence in Choi and Tsai (2007) shows significant value gains for U.S. firms acquiring foreign targets in the 1990s, which was vastly different from the results in the studies of international M&As in earlier decades, and they attribute such gains to better corporate governance. However, it is important to note that Travlos (1987) considers the mixed results in the previous studies a consequence of the failure to control for payment methods. Therefore, if *Hypothesis 1* is valid, controlling for payment methods strengthens the plausibility of the aforementioned corporate governance explanation on the acquiring firm wealth effect. The same rationale applies to other explanations on acquiring firm wealth effects reported in the existing studies such as internalization, firm characteristics, information cost, and location factors, although corporate governance is the most critical development and the main focus in the M&As of the 1990s. More importantly, taking into account cross-border acquiring firm wealth effect determinants further validates the importance of the medium of exchange on the acquirers' value gain. They are therefore hypothesized below.

**Hypothesis 2:** *After controlling for the payment methods, corporate governance factors, among many wealth effect determinants reported in the existing literature, remain accountable for the cross-border acquiring firm value gain. Moreover, taking into account these wealth effect determinants validates the critical role the medium of exchange plays in cross-border mergers and acquisitions.*

## DATA AND ESTIMATING METHODOLOGY

The standard event study procedure is used to measure the market-based wealth effect on a sample of 369 foreign acquisitions by U.S. corporations between 1992 and 2000, the so-called 5<sup>th</sup> merger wave. Stock prices and other variables are retrieved from CRSP, the *Standard and Poor's CompuStat North America*, *PDE*, and *ExecuComp* datasets as well as *Compact Disclosure* CDs. The full sample is formed by first including all U.S. firms conducting international mergers and acquisitions, as listed in *Mergers and Acquisitions*, in the initial sample over the period from 1992 to 2000. We then exclude any partial acquisitions, cleanups, or increasing stakes of previous partial acquisitions. The event date,  $t = 0$ , is the date when the news of international acquisitions first appears in the *Wall Street Journal*. Given the publication lag of one day, this means that  $t = -1$  is the day when the firm actually makes an announcement. The acquisition cases that are not reported in the *Wall Street Journal* are eliminated from the sample. To ensure a "clean" sample, free from any confounding effects, acquirers with any major concurrent corporate event occurring within the 15-day period prior to the acquisition announcement also are excluded. The *Wall Street Journal* Index is again consulted for this purpose. Finally, the remaining acquisitions will be retained only if stock prices for the acquirers are available on CRSP tapes. The final sample consists of a total of 369 U.S. acquisitions overseas completed over the period of 1992–2000. Table 1 provides a brief descriptive statistics for the sample.

**Table 1: Descriptive Sample Statistics**

International M&As by U.S. Firms: Number of Cases by Year, Country/Region, and Industry										
Year	1992	1993	1994	1995	1996	1997	1998	1999	2000	Total
<i>Frequency</i>	37	28	37	34	42	42	62	59	28	369
<i>Country/Region</i>	Asia	Africa	Canada	Central/ South America		UK	Western Europe	Eastern Europe	Australia/ New Zealand	<i>Total</i>
<i>Frequency</i>	15	3	54	35	115	116	15	16	369	
<i>Two-Digit SIC</i>	01-09	10-19	20-29	30-39	40-49	50-59	60-69	70-79	80-89	99
<i>Frequency</i>	1	16	83	117	31	27	24	57	11	2
										<i>Total</i>
										369

This study follows the standard event method and uses the U.S. market index in calculating abnormal returns of U.S. acquiring firms. Firm  $i$ 's abnormal return on each trading day  $t$ , ( $AR_{it}$ ) is measured by:

$$AR_{it} = R_{it} - a_i - b_i R_{mt}, \quad (1)$$

where  $R_{it}$  is stock  $i$ 's daily return and  $R_{mt}$  is the return on the equally weighted U.S. market index from the Center for Research in Security Prices (CRSP). The market model parameters,  $a_i$  and  $b_i$ , are estimated by regressing each firm's returns on the market returns over a 200-day interval starting from the 260<sup>th</sup> to 61<sup>st</sup> trading day prior to announcement at day 0. The daily average abnormal return ( $AR_t$ ) for each day  $t$  for the entire sample of  $N$  firms is calculated by:

$$AR_t = \frac{1}{N} \sum_{i=1}^N AR_{it}. \quad (2)$$

For the purpose of calculating Z-statistics, the average standardized abnormal return ( $ASAR_{it}$ ) is computed first as:

$$ASAR_t = \frac{1}{N} \sum_{i=1}^N \frac{AR_{it}}{S_{it}}. \quad (3)$$

$S_{it}$  is the estimated standard deviation for firm  $i$ , obtained by:

$$S_{it} = \left[ S_i^2 \left[ 1 + \frac{1}{L} + \frac{(R_{mt} + \overline{R_m})^2}{\sum_{k=1}^L (R_{mk} - \overline{R_m})^2} \right] \right]^{\frac{1}{2}}, \quad (4)$$

where  $S^2$  is the residual variance for stock  $i$  from the market model regression,  $L$  is the number of observations during the estimation period,  $R_{mk}$  is the return on the market portfolio for the  $k_{th}$  day of the estimation period,  $R_{mt}$  is the return on the market portfolio for day  $t$ , and  $\overline{R_m}$  is the average return of the market portfolio over the estimation period. The Z-statistics are calculated as:

$$Z_t = \sqrt{N} ASAR_t, \quad (5)$$

$$Z_{t_1, t_2} = \frac{\sqrt{N}}{\sqrt{t_2 - t_1 + 1}} \sum_{t_1}^{t_2} ASAR_t. \quad (6)$$

$Z_t$  is used to test whether the average standardized abnormal return is equal to zero, while  $Z_{t_1, t_2}$  tests whether the average cumulative standardized abnormal return over the interval  $t_1$  and  $t_2$  is equal to zero.

## EMPIRICAL RESULTS

Table 2 shows that the method of payment does lead to varying wealth effects for acquirers surrounding the announcements of international M&As. Consistent with most existing domestic M&A studies, the announcement value gains for firms acquiring foreign targets are positive for all cash transactions but much smaller (or even negative) and statistically insignificant for equity only deals. The acquiring firm wealth effects associated with 100%-cash financed cross-border M&As are not only positive and significant at 1%-level but are also near or in most cases more than twice the value gains of the full sample around the announcement date (e.g., AR (-1), AR (0), CAR (-1, 0), and CAR (-1, 1)). On the other hand, shareholder value increases are modest at best (or negative) with no statistical significance for transactions financed by 100%-equity in the same event windows. To obtain more details, Table 2 also presents the wealth effects of mixed payments. Not surprisingly, transactions at least partially paid by cash are favored by investors.

When transactions are financed by multiple mediums such as “some cash” or “cash plus equity”, bidders enjoy a respectable value increase during the aforementioned event intervals, although smaller than those in all cash deals. With the presence of debt (e.g., some debt) or without the presence of any cash payment (e.g., debt plus equity), again, the wealth gains by acquirers are small, negative, or insignificant. Overall, the results of cross-border acquisitions appear to support *hypothesis 1*, the asymmetric information hypothesis in the methods of payment, which is in line with domestic M&A literature. Nonetheless, the fact that non-cash financing of foreign acquisitions does not lead to a significant value loss for acquirers as found in many domestic M&A studies seems to suggest that there exist additional wealth creating components that outweigh negative information effects associated with non-cash payment in international M&As and thus warrant a further investigation, which will be discussed below.

**Table 2: Abnormal Returns (AR) and Cumulative Abnormal Returns (CAR) for US Acquirers in International Mergers and Acquisitions by Payment Methods**

This table shows results for sample groups based on the methods of payments by US acquirers. The results for acquiring firms include daily average abnormal returns (AR) and their corresponding Z-values (in parenthesis) surrounding announcement day and cumulative abnormal returns (CAR) and their corresponding Z-values (in parenthesis) for the specific intervals based upon the standard event study methodology using domestic market model.

Event Day/ Interval	Full Sample (N=369)	Acquisition Payment Methods					
		Cash Only (N=62)	Some Cash (N=120)	Equity Only (N=61)	Cash plus Equity (N=149)	Some Debt (N=38)	Debt plus Equity (N=67)
<i>Daily Abnormal Return (%)</i>							
AR (-5)	-0.1432 (-1.5555)	-0.303 (-0.7681)	-0.359* (-1.6703)	0.454 (0.3010)	0.045 (-0.6865)	-0.341 (-1.5672)	0.356 (0.05618)
AR (-4)	-0.1315 (-0.0544)	0.141 (0.2783)	0.135 (0.9902)	-0.527 (-0.7300)	-0.103 (-0.0627)	-0.124 (0.8873)	-0.425 (-0.5212)
AR (-3)	-0.0160 (0.1376)	-0.173 (-0.9257)	0.059 (0.1037)	-0.281 (-0.1780)	-0.050 (-0.1632)	0.008 (0.3455)	-0.212 (-0.1254)
AR (-2)	-0.0089 (-0.6251)	-0.611** (-2.3229)	-0.510*** (-2.6081)	0.855 (0.9821)	-0.022 (-1.3492)	-0.168 (-0.6474)	0.755 (0.9720)
AR (-1)	0.7728*** (4.3363)	1.220*** (3.9666)	0.855*** (3.9451)	0.542 (0.2860)	0.904*** (3.9020)	-0.065 (-0.4856)	0.567 (0.4331)
AR (0)	0.3070*** (2.7817)	1.125*** (5.0156)	0.934*** (4.9851)	0.256 (-0.4926)	0.710*** (3.6800)	0.318 (0.1952)	0.135 (-0.9125)
AR (+1)	-0.2493 (-0.8158)	-0.473* (-1.7845)	-0.464** (-2.0675)	-1.230** (-2.109)	-0.88*** (-2.8942)	0.490 (0.3882)	-1.038* (-1.6923)
AR (+2)	-0.4227* (-1.8187)	-0.005 (0.7068)	-0.035 (0.9353)	-1.235** (-2.1016)	-0.613 (-1.0503)	0.288 (1.1880)	-1.049* (-1.7603)
AR (+3)	-0.0348 (0.6904)	0.020 (1.0425)	0.204* (1.7812)	-0.477 (-0.782)	-0.210 (0.3315)	0.466 (0.8292)	-0.547 (-1.2135)
AR (+4)	0.0898 (0.7584)	0.016 (-0.1364)	0.070 (0.4673)	0.310 (0.7154)	0.2760 (0.7841)	0.179 (1.1569)	0.365 (0.9942)
AR (+5)	0.1530 (1.0445)	-0.104 (-0.8207)	-0.114 (-1.2516)	0.1163 (0.3175)	0.1063 (-0.2221)	-0.0034 (-0.7493)	0.218 (0.7224)
<i>Cumulative Abnormal Return (%)</i>							
CAR (-1, 0)	1.080*** (5.0332)	2.345*** (6.3513)	1.789*** (6.315)	0.799 (-0.146)	1.614*** (5.3613)	0.253 (-0.2053)	0.702 (-0.3360)
CAR (-1, 1)	0.830*** (3.6386)	1.871*** (4.1556)	1.325*** (3.962)	-0.431 (-1.3369)	0.738*** (2.7065)	0.744 (0.0565)	-0.336 (-1.2539)

“Some Cash” refers to acquisition deals in which payments are made partially with cash. “Cash plus Equity” are acquisition deals in which payments are made with cash, equity, or both. “Some Debt” refers to acquisitions in which partial payments are made with debt or debt assumption. “Debt plus Equity” are deals in which payments are made with debt and/or equity (but not 100% equity).

\*\*\* Denotes significance at the 1%-level. \*\* Denotes significance at the 5%-level. \* Denotes significance at the 10%-level.

Unlike the negative, small or insignificant acquirer wealth gain found in international M&As in the 1970s or 1980s, the present study reports significant positive gains in the 1990s as shown in the full sample results in Table 2. Such drastic difference has been attributed to the changes related to corporate governance in the 1990s (e.g., Holmstrom and Kaplan, 2001, and Choi and Tsai, 2007). Nonetheless, not taking payment methods into account does cast a shred of doubt on such conclusions (e.g., Travlos, 1987). Consequently, similar determinants tested in Choi and Tsai (2007)

are reexamined here. In addition to payment methods, the explanatory variables include acquirers' degree of foreign involvement and foreign presence (foreign sales and assets), corporate governance (management ownership and shareholder protections), and internalization (R&D). The variables in target firm relatedness, book to market ratio, acquiring firm size, and whether acquirers in manufacturing industries also serve as additional control variables. Table 3 provides definitions of these variables as well. Table 3 shows that, after controlling for payment methods, the results generally do not change much from the aforementioned study. Moreover, cash payment is positively related to acquirer wealth gains in a statistically significant sense while non-cash payments are negative and insignificant. Again, *hypothesis 1* is reaffirmed and the results also support *hypothesis 2*. The argument in the previous section that additional wealth effect determinants are relevant is validated in foreign M&As. However, internalization posited by the OLI theory in the International Business literature is not among them as its typical measure, R&D, fails to show any significance. The dominating wealth effect determinants appear to be a corporate governance factor (significant managerial ownership variable) as well as the need for FDIs (significant foreign sales variable) and the degree of foreign presence (significant foreign assets variable). The opposite signs between foreign sales and foreign assets may seem odd at first. However, they are consistent with the notion that the market appears to value acquiring firms more highly with more need for and more gains from foreign direct investments (hence, positive foreign sales variable) as well as firms with more room for and more gains from globalization through foreign M&As (hence, negative foreign assets variable). Also, the wealth effect for larger acquiring firms suggests that they are considered to be more likely to succeed in globalization.

**Table 3: Methods of Payments and Firm Characteristic Determinants of Shareholder Wealth for U.S. Acquiring Firms**

This table performs cross-sectional regressions of shareholder value measured by CAR (-1, 0). All firm-specific variables other than dummies are annual averages over the five-year period prior to international acquisitions. *Foreign sales* are foreign sales over total sales of the firm. *Foreign assets* are foreign assets over total assets of the firm. *Management Ownership* is the percentage of equity of the firm owned by top five executives. *Shareholder protections* is a dummy variable, equal to 1 if the target is in a common law country and 0 otherwise. *R&D* is R&D expenditure over total assets of the firm. *R&D times Foreign sales* is an interaction variable between R&D and foreign sales. *Target is in related industry* is a dummy variable, equal to 1 if the target is in a different industry from that of acquirer based on the two digit SIC codes, and 0 otherwise. *Book to market* is book value of equity divided by the market value of equity in t-1 for firm. *Firm size* is total sales of the firm in natural logarithm. *Manufacturing* is a dummy variable, equal to 1 if the acquirer is in a manufacturing industry, and 0 otherwise. The *t* statistics are in parentheses.

Variables	Model					
	1	2	3	4	5	6
<i>Intercept</i>	-3.22 (-1.34)	-4.13* (-1.70)	-3.20 (-1.29)	-3.93 (-1.62)	-3.48 (-1.39)	-3.71 (-1.48)
<i>Cash Only</i>	2.38** (2.48)					
<i>Some Cash</i>		1.42* (1.80)				
<i>Equity Only</i>			-2.16 (-1.47)			
<i>Cash Plus Equity</i>				1.48 (1.64)		
<i>Some Debt</i>					-0.78 (-0.66)	
<i>Debt Plus Equity</i>						-0.23 (-0.22)
<i>Foreign sales</i>	0.08*** (2.66)	0.09*** (2.76)	0.09*** (2.93)	0.08** (2.61)	0.09*** (2.79)	0.09*** (2.80)
<i>Foreign assets</i>	-8.50** (-2.35)	-9.17** (-2.49)	-10.00*** (-2.67)	-8.16** (-2.18)	-8.94** (-2.38)	-9.11** (-2.42)
<i>Management Ownership</i>	18.95** (2.32)	19.39** (2.33)	20.13** (2.39)	17.32** (2.06)	18.230** (2.15)	18.91** (2.23)
<i>Shareholder protections</i>	0.14 (0.18)	0.39 (0.48)	0.84 (1.06)	0.18 (0.21)	0.63 (0.79)	0.67 (0.84)

<i>R&amp;D</i>	-0.0023 (-0.83)	-0.0022 (-0.78)	-0.0014 (-0.50)	-0.0025 (-0.86)	-0.0018 (-0.62)	-0.0018 (-0.62)
<i>R&amp;D times Foreign sales</i>	0.00006 (0.74)	0.00006 (0.72)	0.00004 (0.47)	0.00007 (0.80)	0.00005 (0.59)	0.00005 (0.58)
<i>Target is in related industry</i>	-1.01 (-1.38)	-1.09 (-1.44)	-0.80 (-1.07)	-0.96 (-1.28)	-0.74 (-0.97)	-0.80 (-1.04)
<i>Book to market</i>	2.20 (1.54)	1.89 (1.31)	1.71 (1.17)	2.41 (1.63)	2.13 (1.42)	1.98 (1.34)
<i>Firm size</i>	0.37 (1.48)	0.47* (1.86)	0.41 (1.62)	0.43* (1.71)	0.41 (1.59)	0.44* (1.68)
<i>Manufacturing</i>	-0.20 (-0.20)	0.06 (0.06)	-0.09 (-0.09)	-0.11 (-0.11)	-0.11 (-0.11)	-0.15 (-0.01)
<i>F statistics</i>	2.37**	2.05**	1.93**	1.99**	1.74*	1.69*
<i>R<sup>2</sup> (%)</i>	24.14	21.55	20.55	21.06	18.89	18.51
<i>R<sup>2</sup>-adj.(%)</i>	13.96	11.02	9.90	10.47	8.01	7.58

\*\*\* Denotes significance at the 1%-level. \*\* Denotes significance at the 5%-level. \* Denotes significance at the 10%-level.

It is also documented in the existing literature that there is a variation of acquiring firm value gains with target countries (e.g., Kiyamaz, 2003; Tsai, 2007) and it seems appropriate to control for location factors as well. Table 4 shows the results of additional tests on payment methods after controlling for information costs and location factors (as well as most of the firm characteristic measures included in Table 3). These information cost and location variables are similar to those tested in Tsai (2007) and Buch and DeLong (2004) who find significant influence of information costs and regulations on cross-border bank mergers. The results on medium of exchange remain largely the same. Clearly, the importance of payment methods is not affected by information costs or target locations. Across all models in Table 4, firm characteristics still play a critical role in cross-border acquiring firm wealth effect as discussed in the paragraph above. On the other hand, after controlling for payment methods, the evidence on information costs and location factors also remain very similar to what is found in the existing study (e.g., Tsai, 2007). Information cost and the similarity of the target country legal system do not matter much, while unfavorable conditions in target country regulations significantly hinder acquirers' the wealth gain. Specifically, countries with more stable legal and political systems in place, as measured by ICRG Law and Order rating, are clearly favored by the market due to better protections on foreign investments. The imposition of capital controls and the failure of effective enforcement, as indicated by the significant and negative coefficient on the Black Market Premium variable, show that the market prefers the free flow of international capital and well-developed financial markets in target countries. Similarly, the target country Freedom House ratings also show positive impact of freedom on acquiring firm value gain.

**Table 4: Methods of Payments, Firm Characteristics, and Location Determinants of Shareholder Wealth for U.S. Acquiring Firms**

This table performs cross-sectional regressions of shareholder value measured by CAR (-1, 0). All firm-specific variables other than dummies are annual averages over the five-year period prior to international acquisitions. *Management Ownership* is the percentage of equity of the firm owned by top five executives. *Management stock options* is the average executives stock option ratios granted to top five executives relative to total compensation using the Black-Scholes model. *Target is in related industry* is a dummy variable, equal to 1 if the target is in a different industry from that of acquirer based on the two digit SIC codes, and 0 otherwise. *Foreign sales* are foreign sales over total sales of the firm. *Foreign assets* are foreign assets over total assets of the firm. *Book to market* is book value of equity divided by the market value of equity in t-1 for firm. *Firm size* is total sales of the firm in natural logarithm. *Manufacturing* is a dummy variable, equal to 1 if the acquirer is in a manufacturing industry, and 0 otherwise. *Developing country* is a dummy variable, equal to 1 if the target is in a developing country, and 0 otherwise. *Same law* is a dummy variable, equal to 1 if the same legal system prevails in the target and acquirer country, 0 otherwise. *Distance* is the natural log of miles between the center of the target country and the center of the home country; a measure of information cost. *Law and Order* is the target country ICRG Law and Order rating. *Freedom* is the target country Freedom House ratings. *Black Market Premium* is the logarithm of (1+black market premium) for the target country. The above three measures are obtained from World Bank and Dollar and Kraay (2003). The *t* statistics are in parentheses.

Variables	Model					
	1	2	3	4	5	6
<i>Intercept</i>	-21.65** (-2.16)	-23.20** (-2.37)	-24.23** (-2.44)	-23.65** (-2.36)	-23.15** (-2.28)	-24.62** (-2.42)
<i>Cash Only</i>	1.84* (1.93)					

<i>Some Cash</i>		1.90**				
		(2.35)				
<i>Equity Only</i>			-1.99			
			(-1.53)			
<i>Cash Plus Equity</i>				1.02		
				(1.22)		
<i>Some Debt</i>					-1.26	
					(-1.03)	
<i>Debt Plus Equity</i>						-0.26
						(-0.23)
<i>Management Ownership</i>	16.62***	17.67***	17.79***	16.58***	16.22***	16.78***
	(3.27)	(3.50)	(3.46)	(3.22)	(3.12)	(3.19)
<i>Management Stock Options</i>	2.13	2.31	2.33	1.52	1.46	1.73
	(1.22)	(1.33)	(1.30)	(0.86)	(0.82)	(0.98)
<i>Target is in Related Industry</i>	0.14	0.08	0.28	0.08	0.17	0.18
	(0.19)	(0.11)	(0.40)	(0.12)	(0.23)	(0.25)
<i>Foreign Sales</i>	0.07**	0.07***	0.08**	0.07**	0.07**	0.07**
	(2.17)	(2.31)	(2.40)	(2.07)	(2.08)	(2.14)
<i>Foreign Assets</i>	-5.79	-5.61	-6.46*	-5.89	-6.48*	-6.27
	(-1.51)	(-1.48)	(-1.68)	(-1.52)	(-1.67)	(-1.61)
<i>Book to Market</i>	2.03	2.06	1.71	2.02	1.80	1.79
	(1.22)	(1.25)	(1.02)	(1.20)	(1.07)	(1.06)
<i>Firm Size</i>	0.26	0.28	0.30	0.34	0.34	0.36
	(1.02)	(1.13)	(1.15)	(1.33)	(1.33)	(1.39)
<i>Manufacturing</i>	0.74	0.64	0.72	0.84	0.86	0.90
	(0.92)	(0.79)	(0.88)	(1.03)	(1.05)	(1.09)
<i>Developing country</i>	0.18	0.17	0.32	0.17	0.19	0.26
	(0.13)	(0.12)	(0.24)	(0.12)	(0.14)	(0.19)
<i>Same Law</i>	-0.70	-0.68	-0.02	-0.54	-0.22	-1.67
	(-0.78)	(-0.78)	(-0.02)	(-0.59)	(-0.25)	(-0.19)
<i>Distance</i>	0.58	0.80	0.87	0.82	0.77	0.91
	(0.71)	(1.01)	(1.09)	(1.02)	(0.93)	(1.09)
<i>Law and Order</i>	1.51**	1.35*	1.55**	1.45*	1.56**	1.52**
	(2.02)	(1.83)	(2.06)	(1.92)	(2.07)	(1.99)
<i>Freedom</i>	4.58**	4.59**	4.41**	4.53**	4.39**	4.45**
	(2.45)	(2.47)	(2.34)	(2.39)	(2.31)	(2.34)
<i>Black Market Premium</i>	-10.43**	-10.72**	-10.85**	-10.61**	-10.42**	-10.74**
	(-2.52)	(-2.62)	(-2.61)	(-2.54)	(-2.48)	(-2.54)
<i>F statistics</i>	2.69***	2.85***	2.57***	2.49***	2.45***	2.36***
<i>R<sup>2</sup> (%)</i>	28.16	29.34	27.20	26.61	26.31	25.59
<i>R<sup>2</sup>-adj.(%)</i>	17.70	19.05	16.60	15.92	15.57	14.75

\*\*\* Denotes significance at the 1%-level. \*\* Denotes significance at the 5%-level. \* Denotes significance at the 10%-level.

Overall, results in this paper are consistent with the information asymmetry hypothesis and the payment method signaling effect that cash-financed foreign acquisitions are well perceived by the market while equity-financed transactions are not. The medium of exchange provides additional explanation on cross-border acquiring firm wealth effect. However, it appears that the acquirers' value gain is the consequence of multiple factors, as the acquiring firm wealth effect determinants documented in the existing literature remain largely unchanged after controlling for payment methods. On the other hand, these wealth effect determinants when examined together do not diminish the impact of payment methods on cross-border acquiring firm value gain.

### CONCLUDING REMARKS

In the existing domestic M&A literature, the wealth gains for acquirers are found to be related to payment methods. Among others, the asymmetric information hypothesis may well explain it. This line of inquiry, however, has been ignored in the cross-border M&A studies. This paper discovers that investors respond in a similar fashion

toward U.S. firms' foreign acquisitions in that cash payments are associated with significantly larger gains in acquiring firm value. Nonetheless, equity financing does not lead to firm value loss as in domestic M&As which seems to indicate the addition of wealth creating components associated with foreign direct investments but absent in domestic M&As. After controlling for payment methods, shareholder wealth for cross-border acquiring firms also appears to be related to the need for globalization and the degree of foreign presence as well as location and corporate governance factors. It appears that the medium of exchange is a missing piece in the existing literature examining cross-border acquiring firm wealth effect. In addition to providing its own explanation in the information asymmetry hypothesis, the payment method not only complements the findings in the existing studies but also strengthens the explanatory power of the wealth effect determinants documented in these studies.

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