

Does corporate international diversification destroy value? Evidence from cross-border mergers and acquisitions[◇]

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Abstract

This paper investigates the valuation effects of corporate international diversification by examining cross-border mergers and acquisitions of U.S. acquirers over the period 1990-2000. We find that, on average, acquisitions of “fairly valued” foreign business units do not lead to value discounts. In contrast, unrelated cross-border acquisitions result in a significant diversification discount of about 24 percent after accounting for the valuation of foreign targets. Furthermore, significant wealth gains accrue to foreign target shareholders regardless of the type of acquisition. Overall, our results suggest that international diversification does not destroy value while industrial diversification leads to discounts even after controlling for the pre-acquisition value of the target.

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1. Introduction

Over the past two decades, the integration of global financial and product markets has been accompanied by increases in the number and fraction of firms that operate in international markets, and to a large extent cross-border mergers and acquisitions (M&As) have been an important driving force to propel such a globalization. Despite its prevalence, research on the valuation effects of corporate international diversification has been relatively sparse and has yielded mixed results. Although earlier studies report evidence of a significantly positive relation between internationalization and firm value [see, for example, Errunza and Senbet (1981, 1984), Kim and Lyn (1986), and Mørck and Yeung (1991)], recent empirical evidence is mixed. For example, Bodnar, Tang and Weintrop (2003) corroborate the prior evidence on the positive effects of corporate international diversification on firm value, whereas Christophe (1997) and Denis, Denis and Yost (2002) find evidence that international operations lead to value destruction.

To shed further light on this important issue, we examine a sample of U.S. firms that expand globally via cross-border M&As. There are several potential advantages to focusing on cross-border M&As. First, we will be able to measure the pre-merger market value of the foreign target firms and compare their underlying characteristics with those of U.S. benchmarks. This allows us to determine how much of the post-merger change in the excess value of the multinational acquirer can be traced directly to the valuation status of the target firm prior to the takeover event. In this way, we build on Graham, Lemmon and Wolf (2002) who show that in U.S. M&As, much of the excess value reduction associated with industrial diversification occurs because firms acquire already-discounted business units, and not because industrial diversification destroys value. Further, since a number of recent studies have argued that the

diversification discount can be a biased result if there are significant differences between divisions of conglomerates and the stand-alone firms to which they are benchmarked, it is important to gauge the extent to which foreign targets might differ from the domestic benchmarks (see, e.g. Chevalier (2000), Whitted (2001) and Villalonga (2002)). This is particularly important since recent work by Francis, Hassan and Sun (2008) and Moeller and Schlingemann (2005) suggests that from the perspective of U.S. acquirers, cross-border acquisitions differ from domestic transactions. Second, it allows us to observe the firm's diversification status resulting directly from the act of adding new business units rather than through subjective segment reporting by the firm's managers, something that Hayes and Lundholm (1996) argue that is often subject to strategic managerial motives. Finally, many divisions of multinational corporations (MNCs) arise via cross-border takeovers, so our results provide valuation evidence via an actual channel of geographic diversification.

We study 136 cross-border M&As involving U.S. acquirers of foreign target firms over the period 1990-1999. We find no evidence, on average, of a statistically significant decrease in excess values of the U.S. acquiring firms in the two-year period surrounding the acquisition. We use the same valuation methodology as in Bodnar, Tang and Weintrop (2003) and Denis, Denis and Yost (2002), which represents a variation of the industry-matched multiplier approach originally developed by Berger and Ofek (1995). The valuation analysis also indicates that, on average, the foreign targets are not significantly valued at either a discount or a premium in their last period of operation as stand-alone firms. Taken together, our results suggest that the act of cross-border acquisition does not lead to any international diversification value destruction.

Furthermore, while we find that merging firms in related cross-border M&As does not destroy value, we also find U.S. acquirers involved in unrelated cross-border M&As experience a

significant post-merger change in their excess values of approximately – 24 percent. This reduction in value occurs even after controlling for the relative value of the target prior to the acquisition. This result suggests that unrelated cross-border acquisitions lead to value destruction and is, therefore, consistent with the large evidence on “industrial diversification discount”.¹ Finally, we also document significantly positive changes in foreign target shareholder wealth, regardless of the type of acquisition.

We also conduct robustness tests that control for endogeneity as in Campa and Kedia (2002). The results of this analysis suggest that the introduction of firm fixed effects does not support the hypothesis that valuation effects of corporate international diversification can be explained by unobserved firm-specific characteristics.

Our paper makes several contributions to the literature. First, we add to the literature whether corporate international diversification leads to value destruction, a hypothesis that is currently being debated in the literature. We provide new evidence from cross-border M&As, a setting that allows us to control for the potential selection bias inherent in the pre-merger valuation of target firms as well as abstract from segment reporting limitations, both of which have been recently shown to be important in studying domestic industrial diversification. Our finding that acquisitions of “fairly valued” foreign firms, on average, do not lead to an international diversification discount also provides support for past theoretical and empirical evidence that MNCs tend to trade at a premium relative to industry-matched unational firms. Finally, we find that cross-border M&As that occur in unrelated industries do indeed lead to value destruction, which is consistent with the existence of an industrial diversification discount. Overall, our results suggest that the underlying characteristics of the foreign acquired firms are

¹ Doukas and Kan (2008) find that the act of industrial diversification is driven by cash flow problems.

important for valuing MNCs, a result that is also relevant given the recent large increases in corporate internationalization.²

The remainder of this paper is organized as follows. Section 2 describes the sample selection procedures, data sources and the valuation methodology. Section 3 analyzes the valuation effects of cross-border M&As and then investigates the issues of selection bias and endogeneity. Section 4 concludes the paper.

2. Sample selection and valuation methodology

2.1. Sample selection and data sources

The sample selection procedure begins by identifying cross-border transactions involving U.S. acquirers of foreign target firms registered on the Securities Data Corporation (SDC) Mergers and Acquisitions database announced over the period 1990-1999, which upon completion extends over the 1990-2000 time period.³ We eliminate uncompleted transactions and completed transactions for which the U.S. bidder did not acquire a majority ownership stake in the foreign target. As in Graham, Lemmon and Wolf (2002), we eliminate both U.S. acquirers and foreign target firms reporting main operations in the financial services industry (SIC codes between 6000 and 6999). We also disregard completed transactions representing divestitures of private business units or certain assets, concessions, joint ventures and management buyouts, mainly because such transactions may not characterize a merging event, or they commonly involve privately held

² According to the Mergers and Acquisitions Annual Almanac (1992-2000), the number of cross-border deals in the world increased from 7,096 in 1991 to 12,899 transactions in 1999. In terms of U.S. dollar value, the volume of international deals was equivalent to about \$304 billion in 1991, while it totaled \$1.376 trillion in 1999. In particular, the number of U.S. acquisitions of non-U.S. companies during the 1990s increased sharply as well, from 532 in 1991 to 1,034 transactions in 1999. In terms of dollar value, the volume of such acquisitions was about \$57 billion in 1991, while it totaled \$247 billion in 1999.

³ Changes in Financial Accounting Standards Board disclosures No. 14 to 131 effectively reduced the data on foreign segment operations. For example, Herrmann and Thomas (2000) find after FASB No. 131, the number of firms reporting earnings by geographical area has declined greatly.

firms/business units for which no market data is available. After these initial data screenings, the SDC sample of merging firms consists of 1,363 cross-border M&A transactions.

We next collect both market and accounting data for the pairs of merging firms⁴. Data on share prices for the foreign acquired firms is from the Datastream database. A total of 222 foreign acquired targets have historical stock prices available in the Datastream database. We then collect pre-merger accounting data to calculate the valuation measures for these 222 publicly traded foreign target firms, which reduces the sample to 150 foreign targets that have data available in the Worldscope database. We identify a foreign target's industrial diversification status from the segmental data provided by the Worldscope database.

We collect the data for the 150 U.S. acquiring counterparts from the Compustat database. We begin by identifying the U.S. acquirers' industrial diversification status from the Compustat Industrial Segment (CIS) database. We follow previous studies and disregard firms whose total sales are not completely allocated among their reported business segments. Unlike sales, assets are not usually completely allocated among the firm's business segments. In this case, we prorate the unallocated assets among the reported segments based on the relative asset size of the segments. Two U.S. firms are disregarded because they report business segments with SIC codes within the 6000-6999 range. In addition, twelve U.S. acquiring firms are eliminated because they do not have either share or accounting data available in Compustat.

Table 1 summarizes the sample of 136 cross-border M&As according to the origin of the foreign targets and the main characteristics of the acquisition deals. Panel A shows, as expected, that the sample is largely dominated by target firms acquired in the United Kingdom (about 34 percent) and Canada (30 percent). Consistent with the overall trend of corporate

internationalization, the number of firms in our sample increases through time. Cross-border acquisitions are fairly large deals, with a mean (median) deal value of \$741 (\$213) million, and U.S. firms acquired a substantial majority of ownership stake in the foreign targets, with a mean (median) acquisition of 94 percent (100 percent) of the shares of the foreign target (Panel B). Panel C shows, as expected, a substantial proportion of the acquisition deals is characterized by tender offers (74 percent) and the use of cash (62 percent), given the fact that several U.S. firms primarily use cash bids in cross-border takeovers, possibly because they are not cross-listed in foreign markets. On the other hand, the use of stock swaps is largely associated with cross-border mergers. Finally, the vast majority of the cross-border deals treat the acquired target as a purchase (about 87 percent), rather than a pooling of interests (13 percent), while approximately 89 percent of the transactions represent friendly takeovers.

2.2. Sample segmentation and diversification status

We next segment the sample firms according to two different criteria that may help contrast the subsample conclusions with those drawn from the overall (heterogeneous) sample. First, we consider the business relatedness between U.S. acquiring and foreign target firms at the time the takeover takes place. If the U.S. acquirer and the foreign target firm report operations with the same two-digit SIC code, we follow Berger and Ofek (1995), Servaes (1996), Chevalier (2000) and Lamont and Polk (2002) and classify the acquisition as related, and unrelated otherwise. Second, we group the sample firms according to whether the cross-border acquisition represents the “premiere” way through which the U.S. acquiring firm establishes operations abroad. Going abroad for the first time, in terms of establishing production operations in a foreign location for the first time, might induce significant changes in the firm’s operations *status quo* and,

⁴ We require data on sales, total assets, share price, number of shares outstanding at the end of the fiscal year, book value of total debt, and liquidating value of preferred stocks available from Compustat (for U.S. acquirers) and

accordingly, the value of the acquiring firm might sharply change as well. We identify the international involvement status of the U.S. acquiring firms from the Compustat Geographic Segment (CGS) database, by checking the CGS code for the firms two years backwards until the effective year of the acquisition.

2.3. Excess value measures

We use the excess value measure as defined in Bodnar, Tang and Weintrop (2003) and Denis, Denis and Yost (2002), which represents a variation of the industry-matched multiplier approach originally developed by Berger and Ofek (1995). The excess value (EV) compares a firm's market value (the market value of common equity plus the book value of total debt plus the liquidating value of preferred stock) to its imputed value (IV). We use U.S. based firms since (1) segment disclosures are not generally mandated by non-U.S. countries and (2) coverage of accounting information for non-U.S. firms is poor in the first half of the 1990s in Worldscope database.⁵ The excess value measure for a given firm i at time t can be represented as follows,

$$EV_{i,t} = Ln \left(\frac{MV_{i,t}}{IV_{i,t}} \right), \quad [1.1]$$

where:

$$IV_{i,t} = \sum_{j=1}^n w_{i,j,t} \theta_{j,t} = \sum_{j=1}^n w_{i,j,t} \left(\text{Median} \left\{ \theta_1, \theta_2, \dots, \theta_{K_j,t} \right\} \right), \quad [1.2]$$

where $MV_{i,t}$ stands for the market value of firm i measured at time t , $IV_{i,t}$ represents the imputed value of firm i at time t , $w_{i,j,t}$ stands for the reported amount of sales (assets) of the j -th business

Worldscope and Datastream (for foreign targets) databases.

⁵ For example, Lins and Servaes (2002) show that for the 49 countries in the Worldscope database, only 7 emerging market countries reported non-trivial segmented data and of these over 13% of the time no data exists for a single segment matching firm. Even for developed countries following International Accounting Standards, a 1994 IASC report showed that 38% of the 1062 largest companies from 32 countries reported only one industry segment.

segment of firm i at time t , and $\theta_{j,t}$ indicates the industry-matched sales (asset) multiplier calculated from $K_{j,t}$ stand-alone domestic firms operating in the business segment j at time t such that $K_{j,t} \geq 5$. We use the industry definition based on the two-digit SIC code grouping that includes at least five stand-alone firms so as to ensure that the industry-matched multipliers are representative. Moreover, in calculating the industry-matched multipliers, we disregard firm-years with total sales less than \$20 million and whose Compustat incorporation code is greater than zero ($\text{FINC} > 0$), that is, non-U.S. incorporated firms.

Since approximately 87 percent of the cross-border M&As in our sample use purchase accounting, we follow Graham, Lemmon and Wolf (2002) and focus on sales-based calculations since Plumlee and Wolf (2000) show under purchase accounting asset multipliers can lead to potential valuation problems though we report the results for the asset-based calculations for completeness.⁶

3. Valuation analysis

3.1. Comparing firm-specific characteristics

We first consider the differences in underlying characteristics among U.S. acquirers, foreign targets and U.S. benchmarks⁷. Much of the literature argues that some firm-specific characteristics might affect firm value. Caves (1971) develops a theoretical argument emphasizing that corporate value can increase when firms are able to internalize market imperfections for their intangible assets abroad. Kim and Lyn (1986), Mørck and Yeung (1991), Bodnar, Tang and Weintrop (2003) and Denis, Denis and Yost (2002) provide empirical support

⁶ The predominate use of the purchase method by most firms during our sample period likely is a result of the restrictions at the time (APBO No. 16) on pooling deals which included 12 conditions such as the acquisition must be a stock for stock transaction. A large literature exists on the differing effects of accounting methods (see, e.g., Aboody, Kaznik, and Williams (2000) and citations contained)

for research and development (R&D) and advertising expenditures as proxies for firm-specific (intangible) assets. Capital structure (debt) is also used to control for the valuation effects that may result from financial leverage. From the industrial diversification literature, Lang and Stulz (1994), Berger and Ofek (1995), and Servaes (1996) show the importance of controlling for firm size. Other factors such as growth opportunities (investment) and profitability are also included as additional corporate control variables.

Table 2 reports the descriptive statistics of the underlying characteristics for our three sets of firms (U.S. acquirers, foreign targets and U.S. benchmarks). Panel A shows that in the first year following the acquisition event ($t = +1$), U.S. acquirers of foreign target firms experience an overall, significant increase in their mean and median sizes as proxied by total capital, sales, or assets. In general, the q-ratio proxies for a firm's incentive to invest in new assets, and it will supposedly do so as long as $q > 0$ (i.e., as long as the firm is still overvalued). We can observe that, even though the U.S. acquirers' q-ratios are all positive in the year prior to the acquisition ($t = -1$), the mean (median) q-ratio based on sales displays an insignificant decline of 7.04 percent (3.07 percent) following the acquisition. On the other hand, the mean (median) q-ratio based on assets significantly decreases by 15.64 percent (10.33 percent). However, as previously reported in Table 1, since the vast majority of U.S. acquirers use purchase as the accounting method, a negative bias is likely to affect the asset-based q-ratio at $t = +1$. It is important to note that these q-ratios are not adjusted for industry effects since the market value of the firm is not being compared to its imputed value regarding each of its business segments. As for the remaining underlying characteristics of U.S. acquirers, we can also observe a significant mean (median) rise in financial leverage of about 4.9 percent (1.8 percent), while profitability, firm-specific assets

⁷ Throughout this paper, we assess the statistical significance of the difference in mean values based on the parametric t-statistics, while the significance of the difference in median values is assessed using the nonparametric

and investment levels display no significant change over the two-year period surrounding the acquisition.

In Panel B, we compare U.S. firms to their foreign acquired counterparts at $t = -1$. Overall, we find strong evidence that U.S. acquiring firms are significantly larger than the foreign targets across all proxies used and at any conventional levels of statistical significance. For instance, the mean (median) sales for foreign targets correspond to approximately 10 percent (12 percent) of the U.S. acquirers' mean (median) sales before they combine their business operations, and such results are indicative of the relatively small size of the acquired foreign targets in our sample. U.S. acquirers are significantly overvalued relative to the foreign target firms; their mean (median) sales-based q-ratio is about 30 percent (27 percent) larger than that of the foreign targets at the one percent level. In addition, U.S. acquiring firms are more financially levered as well as more profitable than the foreign targets, but there is no significant evidence that the merging firms differ in terms of firm-specific advantages or growth opportunities.

Panel C reports differences in mean and median values between 136 foreign target firm-years and 5,635 U.S. stand-alone firm-years specifically used to value the foreign target firms, without matching these two groups of firms to their particular industries. Due to skewness in the distributions, we emphasize medians rather than means. Overall, foreign targets are significantly bigger than U.S. stand-alone firms at the one percent level. Also, there is weak evidence that foreign targets may have less firm-specific advantages and higher growth opportunities than U.S. stand-alone firms.

In Panel D, we calculate the contemporaneous industry-adjusted differences in firm-specific characteristics between foreign targets and U.S. specialized firms by subtracting the median value for a group of U.S. specialized firms from a foreign target's actual value when they

Wilcoxon rank sum test statistics.

share the same two-digit SIC code. After adjusting for industry-median effects, we still find evidence that foreign targets are significantly bigger than U.S. stand-alone firms. In addition, besides having lower median R&D expenses, foreign target firms do not seem to differ from U.S. benchmarks in their other underlying characteristics. Overall, the univariate analysis suggests that foreign target firms are relatively small in size compared to their acquirers, but otherwise have similar financial characteristics as their U.S. benchmark firms.

3.2. Examining the valuation effects of cross-border M&As

Table 3 reports excess values for U.S. acquirers in the year prior to the acquisition (EV_{-1}), in the first year following the acquisition (EV_{+1}), as well as the actual change in excess values from $t = -1$ to $t = +1$. Panel A shows the valuation measures for the full sample of 136 U.S. acquirers. In the year prior to the acquisition, U.S. firms are valued at a mean (median) premium of 31.86 percent (33.7 percent) relative to the stand-alone U.S. firms matched in the same two-digit SIC code industries, and these excess values are significantly different from zero at the one percent level. At $t = +1$, the U.S. acquirers are still significantly overvalued relative to the industry-matched benchmarks, trading at a mean (median) premium of 25.26 percent (25.57 percent). Further, the cross-border acquisitions are associated with an insignificant mean (median) actual change in excess values of -6.59 percent (-4.49 percent).

In Panels B through E, we calculate the actual change in excess values by segmenting the sample according to the business relatedness between the merging firms (Panels B and C) as well as the international involvement status of the U.S. acquiring firms (Panels D and E). For the sample of related cross-border acquisitions (Panel B), U.S. acquirers are significantly overvalued relative to the industry-matched benchmarks in the year prior to the acquisition and actually

increase in excess value in the year following the acquisition (the mean (median) increase in excess value 2.8 percent (4.1 percent) is, however, not statistically significant).

In contrast, unrelated cross-border M&As (Panel C) are associated with a large mean (median) decline in excess values of 23.82 percent (11.39 percent), which are statistically significant at the one percent level. This finding is consistent with the evidence on “industrial diversification discount”. However, it is interesting to note that this finding on international unrelated M&As contrast with those reported by Graham, Lemmon and Wolf (2002) for domestic M&As. Although they also find evidence that U.S. acquiring firms always trade at a significant premium in both years surrounding the effective year of the acquisition, they document a significant decline in excess values across the full sample of domestic acquisitions as well as the related and unrelated acquisition subsamples. However, our results are consistent with Moeller and Schlingemann (2004) who compare announcement wealth effects for U.S. bidders across domestic and cross-border M&As and report that unrelated cross-border acquisitions have lower announcement returns and operating performance than any other form of acquisition.

In Panel E, we examine cross-border acquisitions in which 105 U.S. acquiring firms have already established operations abroad. The mean (median) actual change in excess values is – 3.83 percent (–2.97 percent), which is not statistically different from zero. However, for a much smaller subsample of 31 U.S. acquiring firms that are establishing business operations abroad for the first time through cross-border M&As, the change in excess value is a relatively large at -16 percent, although the change is not statistically significant.

In summary, there is strong evidence that U.S. MNCs tend to trade at a significant premium relative to industry-matched unination firms in the two-year period surrounding the

acquisition. Further, we find no evidence of a significant decline in excess values in our full sample of cross-border M&As. Related cross-border acquisitions are not associated with a reduction in firm value, however, unrelated acquisitions lead to significant discounts consistent with the effect of industrial diversification. Finally, going abroad for the first time through the acquisition of foreign firms seems to result in a greater economic loss than that for globally established acquirers, but the small size of our subsample does not allow a meaningful statistical test.

3.3. Examining the valuation status of the foreign target firms

To examine if the valuation status of the target firm affects the economic impact of corporate international diversification, we calculate two measures of excess value for the foreign target firms in their last year of operations as stand-alone firms. The first measure stands for the pre-announcement excess value (EV_{-1}^A) and is calculated using the market value of common equity observed one month before the announcement of the acquisition. The second measure represents the pre-effective excess value (EV_{-1}^E) and is computed using the market value of common equity based on the last stock price available prior to the date on which the target firm is delisted. The main difference between these two measures is that the former does not take into account the valuation effects due to the acquisition announcement. Thus, the difference between these two measures of excess value can reflect the change in foreign target shareholders' wealth (ΔEV_{-1}) associated with the cross-border acquisition.

In Table 4, we report the two excess value measures as defined above and the change in target shareholders' wealth. We also examine the relative size of the acquisition defined as the ratio of the foreign target's sales (assets) to the combined sales (assets) of both foreign target and U.S. acquirer in the year prior to the acquisition.

For the full sample (Panel A), foreign target firms are valued at a significant average discount relative to the U.S. stand-alone firms matched in the same two-digit SIC code industries 30 days prior to the announcement of the acquisition. The mean (median) pre-announcement excess values based on both sales and asset multipliers are –19.77 percent (–22.82 percent) and –13.31 percent (–10.23 percent), respectively, and these value discounts are significantly different from zero at the one percent level. However, once the excess value measures are adjusted for the announcement of the acquisition, these discounts are no longer present. In fact, the excess value point estimates increase on average: the mean (median) sales-based pre-effective excess value is 4.15 percent (2.25 percent), although it is not significantly different from zero. The corresponding mean (median) asset-based value is 10.61 percent (10.09 percent), which is statistically significant at the ten (five) percent level. This sizeable turnaround in the excess values actually reflects the wealth gains accruing to the foreign target shareholders, which are significantly different from zero (always above 20 percent) at the one percent level. There is also evidence supporting the relatively small size of the cross-border acquisitions. The mean (median) ratio of the target’s sales to the merging firms’ combined sales is 19.10 percent (14.70 percent), and even lower proportions are documented for the asset-based figures. Overall, the results in Panel A suggest that target firms trade at a discount prior to the acquisition announcement, but when the announcement effect is incorporated into the stock price, they are “fairly valued”. The results for the subsample of related cross-border acquisitions (Panel B) are similar to those reported in Panel A.

For the subsample of unrelated cross-border acquisitions (Panel C), although all measures of pre-announcement excess value are negative, they are not significantly different from zero. The mean (median) sales-based pre-effective excess values are rather positive, 13.74 percent

(7.72 percent), but also statistically insignificant, while the corresponding asset-based figures are 13.98 percent (20.95 percent), and they are significantly greater than zero at the ten (five) percent level. Shareholder wealth gains are larger in unrelated acquisitions, given the mean (median) gain of 27.17 percent (27.25 percent). The mean (median) sales-based relative size of 14.86 percent (8.75 percent) indicates that foreign targets in unrelated acquisitions are smaller than foreign targets involved in related acquisitions.

Finally, Panels D and E present the results for the subsamples based on the international involvement status of U.S. acquiring firms. Overall, there is no qualitative change in the results for either subsample as compared to those reported in Panels A or B. Overall, the results from Table 4 indicate that targets tend to trade at discounts prior to the M&A announcement, but are “fairly valued” by the time the acquisition is consummated.

3.4. Examining the relationship between excess values of the merging firms

We next examine whether the post-merger change in excess values of U.S. acquirers is related to the pre-merger valuation status of the newly acquired foreign target firms. We first need to compute the projected excess value, which represents the excess value measure the merging firms would have if they combined their operations instantaneously in the year prior to the acquisition event. The projected excess value (EV_{+1}^P) can be calculated in the following way,

$$EV_{+1}^P = Ln \left(\frac{MV_{-1}^{US} + MV_{-1}^{FT}}{IV_{-1}^{US} + IV_{-1}^{FT}} \right) \quad [2]$$

where MV_{-1}^{US} and MV_{-1}^{FT} stand for the *ex ante* market values of the U.S. acquiring and the foreign target firms at $t = -1$, respectively, while IV_{-1}^{US} and IV_{-1}^{FT} are their corresponding imputed values. MV_{-1}^{FT} is based on the pre-effective market value of common equity because this quantity

incorporates the valuation effects due to the announcement of the acquisition. Once we compute EV_{+1}^P , we then compare it to the excess value of the U.S. acquiring firm in the year prior to the acquisition (EV_{-1}) in order to compute the projected change in excess value as follows.

Based on the actual change in excess values (ΔEV_{+1}), and the projected change in excess values (ΔEV_{+1}^P), we can measure the unexplained change in excess values of the U.S. acquirers by the following,

$$\Delta EV_{+1}^U = \Delta EV_{+1} - \Delta EV_{+1}^P = EV_{+1} - EV_{+1}^P \quad [3]$$

The unexplained change in excess value (ΔEV_{+1}^U) measures the additional value gain or loss (or nothing) that occurs beyond the effect of adding overvalued or undervalued (or “fairly valued”) target firms to the acquiring firms. In other words, it indicates whether there are additional valuation effects related to the acquisition event after accounting for the underlying characteristics of the acquired firms.

For the full sample (Panel A of Table 5), the mean (median) actual change in excess values based on sales multipliers is -6.59 percent (-4.49 percent), and the corresponding projected change in excess value is -4.76 percent (-1.3 percent), but only the latter mean change is significantly less than zero. It follows that the mean (median) sales-based unexplained change in excess values is -1.84 percent (-2.61 percent), but neither difference is significantly different from zero. These findings suggest that the act of international diversification does not destroy value, even after accounting for the value of the target prior to the acquisition. That is, adding “fairly valued” targets does not cause any impact on the excess values of U.S. acquirers. Indeed, adding “fairly valued” foreign targets explains a substantial fraction, about 72.08 percent [$1 - (-0.0184 / -0.0659)$], of the mean actual change in excess values of the U.S. acquirers.

As for the subsample of related acquisitions (Panel B), the mean (median) difference between the actual and projected changes in excess values based on sales multipliers is 7.47 percent (6.01 percent), with the median difference significant at the ten percent level. As for the subsample of unrelated deals (Panel C), the mean (median) sales-based unexplained change in excess market values is -18.89 percent (-11.8 percent), both significantly less than zero, at the five percent level. These value differences suggest that unrelated cross-border acquisitions result in value loss beyond that which can be explained by the pre-merger valuation status of the foreign targets. For example, 79.30 percent (-0.1889/-0.2382) of the actual change in excess values based on sales multipliers cannot be explained by simply combining the value of the foreign target with that of the acquirer at $t = -1$. For the subsample of U.S. firms with established operations abroad (Panel E), the mean (median) unexplained change in excess values based on sales multipliers is -2.53 percent (2.57 percent), which are both statistically insignificant. As for the subsample of U.S. acquirers establishing business operations abroad for the first time (Panel D), acquisitions of discounted targets lead to a very small and insignificant mean (median) unexplained change in excess values of 0.5 percent (2.9 percent). In sum, the mechanical valuation effect of combining firms explains all merging cases except the subsample of unrelated cross-border M&As. Thus, our results suggest that global M&As that result in industrial diversification do indeed destroy value, even after taking into account the pre-acquisition value of the target.

We extend our analysis on the relationship between the excess values of the merging firms to a regression framework so as to determine how much of the cross-sectional variation in the actual change (ΔEV_{+1}) can be explained by the projected change in excess values (ΔEV_{+1}^P). We first estimate a linear regression model for the full sample of merging firms in which the

projected change in excess values is the only predictor variable. We then expand this model by alternately incorporating an indicator variable $I(\cdot)$ in order to infer on the characteristics of the subsamples. The results for the regression model above are presented in Table 6. We emphasize mostly the sales-based results (Panel A) and report asset-based results for completeness. Regression 1 shows that the estimated intercept of the regression (-0.0415) is not significantly different from zero. This result is consistent with that reported in the first panel of Table 5, since it indicates that no additional, significant value loss occurs after accounting for the valuation status of the foreign targets. The estimated regression coefficient on the projected change in excess values is 0.5132 , which is significantly different from one. In this case, the projected change in excess values explains 3.9 percent of the cross-sectional variation in the actual change in excess values.

With respect to the differential valuation effects according to the business relatedness of cross-border acquisitions (Regression 2), the intercept term now captures the additional valuation effects of unrelated cross-border acquisitions that cannot be accounted for by the underlying characteristics of the foreign targets. It turns out that the estimated intercept (-0.2131) is significantly less than zero, indicating that unrelated cross-border acquisitions result in a significant decline in excess values beyond the valuation effects from simply combining foreign targets with U.S. acquiring firms. This result confirms those reported in the third panel of Table 5. Moreover, related cross-border acquisitions exhibit an incremental positive impact on the U.S. acquirers' excess values according to the estimated coefficient on the related-acquisition indicator variable (0.2648), which is significantly greater than zero. The estimated beta coefficient (0.5093) is significantly different from one which indicates the projected change in

excess value underestimates the actual change. The model can now explain about 9.74 percent of the cross-sectional variation in the actual change in excess values.

Finally, the results from Regression 3 also corroborate those reported in Table 5. The estimated intercept (-0.032) is not significantly different from zero, indicating that no incremental, significant decline in excess values remains after accounting for the underlying characteristics of the foreign targets, when U.S. firms establish operations abroad for the first time by means of cross-border acquisitions. The negative coefficient on the indicator variable (-0.0484), which is statistically insignificant, suggests that cross-border acquisitions involving U.S. acquirers not already operating overseas does not result in additional value loss or gain beyond the valuation effects accruing from simply adding foreign targets. The estimated beta coefficient of the projected change in excess values (0.4811) is significantly different from one.

3.5. Other robustness tests

We also subject our findings to a further endogeneity correction (untabulated). In this test, we follow Campa and Kedia (2002) by pooling our globally diversified firms with their stand-alone U.S. benchmarks in a two-way fixed-effects framework, which includes both firm-specific and year fixed effects⁸. We find that in both years surrounding acquisition, the sales-based OLS regressions indicate that U.S. acquiring firms that are internationally diversified are not significantly undervalued or overvalued relative to the industry-matched stand-alone firms used as benchmarks after taking into account the individual firm characteristics in the valuation regression. We next control the valuation analysis for unobservable firm-specific characteristics

⁸ For further evidence on endogeneity and the industrial diversification discount, see Hyland and Diltz (2002) and Lamont and Polk (2002).

that might affect excess firm value by estimating a fixed-effects model in a panel data framework as defined in Hausman and Taylor (1981).⁹

Overall, the results from these robustness tests that pool the globally diversified U.S. firms with their stand-alone U.S. benchmarks in a fixed-effects framework support the evidence that international diversification does not appear to be correlated with unobserved firm-specific characteristics.

4. Conclusion

In this paper, we examine the valuation effects of corporate international diversification within the context of cross-border mergers and acquisitions. Consistent with theoretical expectations, MNCs are valued at a significant premium relative to industry-matched U.S. benchmarks. We find no evidence of a significant decline in excess values of U.S. acquirers, given that the foreign targets are “fairly valued” relative to the industry-matched benchmarks. Indeed, the foreign target firms do not differ from the U.S. benchmarks in most of their underlying characteristics, and accounting for such characteristics is important for ex post valuation status of U.S. acquiring firms. Overall, our results suggest that the act of cross-border acquisition does not lead to value destruction.

⁹ At $t = -1$, the sample consists of 6,649 firm-year observations for 2,747 domestic single-segment firms and 136 firm-year observations for 122 U.S. acquiring firms. At $t = +1$, there are 5,857 firm-year observations for 2,700 domestic single-segment firms and 136 firm-year observations for 122 U.S. acquiring firms.

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Table 1
Sample Distribution and Descriptive Statistics for Completed Cross-Border M&As

Panel A: Sample Distribution According to the Origin of the Target Firm and the Calendar Year for the 136 Cross-Border M&As Announced Over the Period 1990-1999					
Target Nation	Total Number	% of Total	Period	Total Number	% of Total
Argentina	1	0.74	1990	1	0.74
Australia	7	5.15	1991	1	0.74
Belgium	1	0.74	1992	3	2.21
Bermuda	2	1.47	1993	5	3.68
Brazil	1	0.74	1994	5	3.68
Canada	41	30.15	1995	13	9.56
Denmark	3	2.21	1996	10	7.35
France	9	6.62	1997	18	13.24
Germany	5	3.68	1998	42	30.88
Hong Kong	1	0.74	1999	33	24.26
Ireland	1	0.74	2000	5	3.68
Israel	6	4.41			
New Zealand	1	0.74			
Norway	2	1.47			
South Africa	2	1.47			
South Korea	1	0.74			
Spain	1	0.74			
Sweden	5	3.68			
United Kingdom	46	33.82			

Panel B: Descriptive Statistics of the Deal Characteristics for the 136 Cross-Border M&As in Terms of Deal Value and Ownership Stake Acquired in the Foreign Target by the U.S. Bidder				
Deal Characteristics	Mean	Median	Minimum	Maximum
Deal Value (US\$ Million)	741.17	213.00	5.40	11,070.00
Target Stake Acquired (%)	94.06	100.00	51.00	100.00

Panel C: Sample Distribution of the of the Deal Characteristics for the 136 Cross-Border M&As in Terms of Type of Acquisition, Medium of Payment, Accounting Method, and Bidder Attitude		
Deal Characteristics	Total Number	% of Total
Type of Acquisition:		
Merger	35	25.74
Tender Offer	101	74.26
Medium of Payment:		
Cash	84	61.76
Stock	40	29.41
Mix Cash/Stock	6	4.41
Mix Cash/Debt	6	4.41
Accounting Method:		
Pooling of Interest	18	13.24
Purchase	118	86.76
Bidder Attitude:		
Friendly	121	88.97
Hostile	15	11.03

Table 2
Descriptive Statistics for U.S. Acquirers, Foreign Targets and U.S. Valuation Benchmarks

Panel A: U.S. Acquirer Sample Characteristics over the Three-Year Period Surrounding the Acquisition												
	Before Acquisition (t=-1)				After Acquisition (t= +1)				Post - Merger Difference			
	Mean	Median	Std	n	Mean	Median	Std	n	Mean	Median	Std	n (pairs)
Total Capital	9752.8	2768.7	23781.1	136	13840.4	4609.2	30288.3	136	4087.6 ***	956.5 ***	14831.5	136
Sales	5160.4	1378.1	13904.6	136	6954.4	2086.8	18471.7	136	1793.9 ***	650.7 ***	5124.8	136
Total Assets	5721.0	1742.2	11456.8	136	8276.5	2959.6	14093.2	136	2555.4 ***	756.7 ***	5777.1	136
q-Ratio (Sales)	0.7367	0.6959	0.7660	136	0.6664	0.5506	0.8516	136	-0.0704	-0.0307	0.5215	136
q-Ratio (Assets)	0.5169	0.4286	0.5365	136	0.3605	0.2390	0.5710	136	-0.1564 ***	-0.1033 ***	0.4931	136
Leverage	0.2456	0.2312	0.1891	136	0.2945	0.2864	0.2057	136	0.0490 ***	0.0180 ***	0.1445	136
EBIT/Sales	0.0936	0.1190	0.1492	135	0.0752	0.1083	0.1687	135	-0.0184	-0.0008	0.1522	135
R&D/Sales	0.0706	0.0279	0.1120	73	0.0632	0.0312	0.0752	73	-0.0074	0.0004	0.0501	73
CAPEX/Sales	0.1365	0.0559	0.2318	136	0.1221	0.0583	0.1906	136	-0.0144	0.0018	0.1645	136

Panel B: Paired-Sample Characteristics of U.S. Acquiring and Foreign Target Firms in the Year Prior to the Acquisition												
	Acquiror(t=-1)				Target (t= -1)				Pre - Merger Difference (Acquiror-Target)			
	Mean	Median	Std	n	Mean	Median	Std	n	Mean	Median	Std	n (pairs)
Total Capital	9752.8	2768.7	23781.1	136	828.7	226.8	1856.7	136	8924.2 ***	2115.8 ***	23206.5	136
Sales	5160.4	1378.1	13904.6	136	535.9	167.4	1222.8	136	4624.5 ***	1027.6 ***	13320.6	136
Total Assets	5721.0	1742.2	11456.8	136	540.6	158.5	1273.1	136	5180.5 ***	1356.2 ***	11198.5	136
q-Ratio (Sales)	0.7367	0.6959	0.7660	136	0.4329	0.3395	0.9437	136	0.3039 ***	0.2738 ***	0.8404	136
q-Ratio (Assets)	0.5169	0.4286	0.5365	136	0.4170	0.3620	0.6570	136	0.1000 *	0.0266	0.6419	136
Leverage	0.2456	0.2312	0.1891	136	0.2076	0.1823	0.1720	136	0.0380 **	0.0394 **	0.2108	136
EBIT/Sales	0.0936	0.1190	0.1492	135	0.0574	0.0837	0.2347	135	0.0362 *	0.0259 ***	0.2131	135
R&D/Sales	0.0706	0.0279	0.1120	73	0.1963	0.0286	0.8976	54	-0.1223	0.0035	0.9409	47
CAPEX/Sales	0.1365	0.0559	0.2318	136	0.1368	0.0560	0.2468	130	0.0030	-0.0011	0.2392	130

Table 2 (Continued)

Panel C: Overall Sample Characteristics of the Foreign Target and U.S. Stand-Alone Firms												
	Target (t=-1)				All Benchmark Firms				Unadjusted Difference			
	Mean	Median	Std	n	Mean	Median	Std	n	Mean	Median	Std	n ₁ +n ₂
Total Capital	828.7	226.8	1856.7	136	870.7	143.2	4094.1	5635	-42.0	83.6 ***	-	5771
Sales	535.9	167.4	1222.8	136	386.7	84.8	1510.8	5635	149.2	82.6 ***	-	5771
Total Assets	540.6	158.5	1273.1	136	590.8	89.6	2514.8	5635	-50.2	68.9 ***	-	5771
q-Ratio (Sales)	0.4329	0.3395	0.9437	136	0.4140	0.3420	1.1291	5635	0.0189	-0.0025	-	5771
q-Ratio (Assets)	0.4170	0.3620	0.6570	136	0.3968	0.2813	0.7394	5635	0.0202	0.0807	-	5771
Leverage	0.2076	0.1823	0.1720	136	0.2411	0.1888	0.2742	5635	-0.0335 **	-0.0065	-	5771
EBIT/Sales	0.0370	0.0834	0.3331	136	0.0286	0.0683	0.3042	5635	0.0084	0.0151	-	5771
R&D/Sales	0.1963	0.0286	0.8976	54	0.1496	0.0840	0.2583	2326	0.0466	-0.0554 ***	-	2380
CAPEX/Sales	0.1368	0.0560	0.2468	130	0.1429	0.0462	0.3767	5583	-0.0062	0.0098 *	-	5713

Panel D: Paired-Sample Characteristics of Foreign Target and Industry-Matched Stand-Alone U.S. Firms

	Target (t=-1)				Industry Adjusted Benchmarks				Industry-adjusted Difference			
	Mean	Median	Std	n	Mean	Median	Std	n	Mean	Median	Std	n (pairs)
Total Capital	828.7	226.8	1856.7	136	222.9	131.9	270.2	136	605.8 ***	85.8 ***	1815.2	136
Sales	535.9	167.4	1222.8	136	126.2	73.4	150.4	136	409.8 ***	76.1 ***	1151.4	136
Total Assets	540.6	158.5	1273.1	136	150.6	75.0	172.0	136	390.0 ***	67.3 ***	1219.8	136
q-Ratio (Sales)	0.4329	0.3395	0.9437	136	0.3910	0.3040	0.6285	136	0.0419	0.0224	0.8235	136
q-Ratio (Assets)	0.4170	0.3620	0.6570	136	0.3099	0.3202	0.2700	136	0.1070 *	0.1157 **	0.6325	136
Leverage	0.2076	0.1823	0.1720	136	0.1922	0.1501	0.1443	136	0.0154	-0.0104	0.2009	136
EBIT/Sales	0.0370	0.0834	0.3331	136	0.0723	0.0714	0.0680	136	-0.0353	0.0032	0.3387	136
R&D/Sales	0.1963	0.0286	0.8976	54	0.0679	0.0758	0.0488	114	0.1381	-0.0114 **	0.9290	49
CAPEX/Sales	0.1368	0.0560	0.2468	130	0.1216	0.0395	0.2027	136	0.0115	0.0064 *	0.2219	130

Descriptive statistics for a sample of 136 U.S. acquiring firm-years (Panel A), 136 foreign target firm-years (Panels B, C, and D), and 5,635 U.S. single-segment firm-years specifically used as benchmarks to value the foreign targets (Panels C and D) over the period 1990-1999. Total capital is the sum of market value of common equity, book value of total debt, and the liquidating value of preferred stock. The q-ratio_Sales (q-ratio_Asset) is the natural logarithm of the ratio of total capital to sales (total assets). Leverage is the ratio of book value of total debt to total assets. EBIT/Sales represents earnings before interest and tax expenses divided by sales. R&D/Sales stands for research and development expenditures normalized by sales. CAPEX/Sales represents capital expenditures divided by sales. STD refers to the standard deviation and N stands for the number of yearly observations available to calculate each of the firm-specific measures described above. The q-ratios for the foreign target firms are calculated using the market value of common equity based on the last stock price available prior to delisting. In Panel D, the industry-adjusted difference in firm-specific characteristics between foreign target and U.S. benchmark firms is calculated as the contemporaneous difference between a foreign target's actual value and the median value for a group of matching stand-alone domestic firms with the same two-digit SIC code. The significance of the difference in means is based on parametric t-statistics, the significance of the difference in medians is assessed using nonparametric Wilcoxon rank sum test statistics, while the significance of the medians of paired sample differences is based on the Wilcoxon sign rank test. The asterisks *, **, and *** indicate statistical significance at the 10%, 5%, and 1% levels, respectively.

Table 3

Excess Value Measures for U.S. Acquirers Based on Sales and Asset Multiples, and U.S. Shareholder Wealth Changes in Cross-Border Mergers and Acquisitions

	Sales Multiples		Asset Multiples	
	Mean	Median	Mean	Median
Panel A: Full Sample (n = 136)				
EV ₋₁	0.3186 ***	0.3370 ***	0.1962 ***	0.1699 ***
EV ₊₁	0.2526 ***	0.2557 ***	0.1068 **	0.0338 *
ΔEV	-0.0659	-0.0449	-0.0893 **	-0.0689 *
Panel B: Related (n = 88)				
EV ₋₁	0.2828 ***	0.2934 ***	0.1999 ***	0.0881 ***
EV ₊₁	0.3108 ***	0.2659 ***	0.1484 **	0.0491 **
ΔEV	0.0280	0.0410	-0.0515	-0.0408
Panel C: Unrelated (n = 48)				
EV ₋₁	0.3841 ***	0.4467 ***	0.1894 ***	0.2704 ***
EV ₊₁	0.1460	0.2525 **	0.0307	0.0154
ΔEV	-0.2382 ***	-0.1139 ***	-0.1587 **	-0.1189 **
Panel D: Premiere (n = 31)				
EV ₋₁	0.3147 **	0.2676 **	0.1978 *	0.1672 *
EV ₊₁	0.1551	0.0358	-0.0558	-0.1329
ΔEV	-0.1596	-0.1652	-0.2537 **	-0.3119 ***
Panel E: Non-premiere (n = 105)				
EV ₋₁	0.3197 ***	0.3661 ***	0.1957 ***	0.1725 ***
EV ₊₁	0.2814 ***	0.2809 ***	0.1548 ***	0.1103 ***
ΔEV	-0.0383	-0.0297	-0.0408	-0.0477

This table displays excess value (EV) measures for U.S. acquirers in the year prior to (EV₋₁) and the year following (EV₊₁) the acquisition, as well as the actual change in EV from year t = -1 to year t = +1 (ΔEV). Excess value, calculated as in Bodnar, Tang and Weintrop (2003), and Denis, Denis and Yost (2002), which represents a variation of the industry-matched multiplier approach originally developed by Berger and Ofek (1995), is defined as the natural logarithm of the ratio of a firm's actual market value to its imputed value. A firm's imputed value is the sum of the imputed values of its business units, with each business unit's imputed value equal to the business unit's sales (assets) multiplied by the median ratio of market value to sales (assets) for all single-segment domestic firms in the same industry. The full sample (Panel A) consists of 136 non-financial, publicly traded U.S. firms that announced a subsequently completed acquisition of a majority ownership stake in a non-financial, publicly traded foreign target firm over the period 1990-1999. Acquisitions are classified as related cross-border M&As (Panel B) when the U.S. acquirer and the foreign target report the same two-digit SIC codes in the year prior to the acquisition, and as unrelated cross-border M&As (Panel C) otherwise. Acquisitions are classified as premiere cross-border operations (Panel D) when the U.S. acquirer does not already have operations overseas in the year prior to the acquisition, and as non-premiere cross-border operations (Panel E) otherwise. n refers to the number of observations in each subsample. The significance of the mean values and of the difference in means is based on the parametric t-statistics. The significance of the median values and of the medians of the changes is based on the nonparametric Wilcoxon signed-rank test statistics. The asterisks *, **, and *** indicate statistical significance at the 10%, 5%, and 1% levels, respectively.

Table 4

Excess Value Measures for Foreign Targets Based on Sales and Asset Multiples, Target Shareholder Wealth Changes, and Relative Sizes of Cross-Border Mergers and Acquisitions

	Sales Multiples		Asset Multiples	
	Mean	Median	Mean	Median
Panel A: Full Sample (n = 136)				
EV_{-1}^A	-0.1977 ***	-0.2282 ***	-0.1331 **	-0.1023 **
EV_{+1}^E	0.0415	0.0224	0.1061 *	0.1009 **
ΔEV_{-1}	0.2393 ***	0.2254 ***		
Rel_Size_{-1}	0.1910 ***	0.1470 ***	0.1701 ***	0.1044 ***
Panel B: Related (n = 88)				
EV_{-1}^A	-0.2323 **	-0.2698 **	-0.1338 *	-0.1027 **
EV_{+1}^E	-0.0107	-0.0076	0.0878	0.0636
ΔEV_{-1}	0.2216 ***	0.1865 ***		
Rel_Size_{-1}	0.2142 ***	0.1616 ***	0.1941 ***	0.1211 ***
Panel C: Unrelated (n = 48)				
EV_{-1}^A	-0.1343	-0.2062	-0.1319	-0.0627
EV_{+1}^E	0.1374	0.0772	0.1398 *	0.2095 **
ΔEV_{-1}	0.2717 ***	0.2725 ***		
Rel_Size_{-1}	0.1486 ***	0.0875 ***	0.1261 ***	0.0538 ***
Panel D: Premiere (n = 31)				
EV_{-1}^A	-0.3126 **	-0.3602 **	-0.3133 ***	-0.3555 ***
EV_{+1}^E	-0.0825	-0.1414	-0.0831	-0.0404
ΔEV_{-1}	0.2302 ***	0.2166 ***		
Rel_Size_{-1}	0.3126 ***	0.2548 ***	0.2901 ***	0.2126 ***
Panel E: Non-premiere (n = 105)				
EV_{-1}^A	-0.1638 **	-0.2038 *	-0.0800	-0.0693
EV_{+1}^E	0.0782	0.0559	0.1620 **	0.1690 ***
ΔEV_{-1}	0.2419 ***	0.2276 ***		
Rel_Size_{-1}	0.1551 ***	0.1150 ***	0.1347 ***	0.0833 ***

This table reports two measures of excess value (EV) for foreign target firms in their last year of operations as stand-alone firms prior to the acquisition. EV_{-1}^A denotes the pre-announcement EV and is calculated using the market value of common equity one month prior to the announcement of the acquisition. EV_{-1}^E stands for the pre-effective EV and is computed using the market value of common equity based on the last stock price available prior to delisting. ΔEV_{-1} stands for the difference between EV_{-1}^E and EV_{-1}^A . Excess value is calculated as in Berger and Ofek (1995). The relative size of the acquisition (Rel_Size_{-1}) is measured as the ratio of the target's sales (asset) to the combined sales (assets) of both the target and the U.S. acquirer in the year prior to the acquisition. The full sample (Panel A) consists of 136 non-financial, publicly traded foreign targets acquired by non-financial, publicly traded U.S. firms over the period 1990-1999. Acquisitions are classified as related cross-border M&As (Panel B) when the U.S. acquirer and the foreign target report the same two-digit SIC codes in the year $t = -1$, and as unrelated (Panel C) otherwise. Acquisitions are classified as premiere (Panel D) when the U.S. acquirer does not already have operations overseas in the year prior to the acquisition, and as non-premiere (Panel E) otherwise. n refers to the number of observations in each subsample. The significance of the mean values and of the difference in means is based on the parametric t-statistics. The significance of the median values and of the medians of the changes is based on the nonparametric Wilcoxon signed-rank test statistics. The asterisks *, **, and *** indicate statistical significance at the 10%, 5%, and 1% levels, respectively.

Table 5

Actual, Projected and Unexplained Changes in Excess Values for U.S. Acquirers of Foreign Targets

	Sales Multiples		Asset Multiples	
	Mean	Median	Mean	Median
Panel A: Full Sample (n = 136)				
ΔEV_{+1}	-0.0659	-0.0449	-0.0893 **	-0.0689 *
ΔEV_{+1}^P	-0.0476 ***	-0.0130 ***	-0.0155	-0.0038
ΔEV_{+1}^U	-0.0184	0.0261	-0.0739	-0.0633
Panel B: Related (n = 88)				
ΔEV_{+1}	0.0280	0.0410	-0.0515	-0.0408
ΔEV_{+1}^P	-0.0466 **	-0.0197 ***	-0.0144	-0.0055
ΔEV_{+1}^U	0.0747	0.0601 *	-0.0371	-0.0128
Panel C: Unrelated (n = 48)				
ΔEV_{+1}	-0.2382 ***	-0.1139 ***	-0.1587 **	-0.1189 **
ΔEV_{+1}^P	-0.0492 **	-0.0108 **	-0.0173	-0.0012
ΔEV_{+1}^U	-0.1889 **	-0.1180 **	-0.1414 **	-0.1163 *
Panel D: Premiere (n = 31)				
ΔEV_{+1}	-0.1596	-0.1652	-0.2537 **	-0.3119 ***
ΔEV_{+1}^P	-0.1647 ***	-0.0401 ***	-0.1055 **	-0.0294 *
ΔEV_{+1}^U	0.0051	0.0290	-0.1482	-0.1607
Non-premiere (n = 105)				
ΔEV_{+1}	-0.0383	-0.0297	-0.0408	-0.0477
ΔEV_{+1}^P	-0.0130	-0.0092 ***	0.0111	-0.0035
ΔEV_{+1}^U	-0.0253	0.0257	-0.0520	-0.0386

This table presents actual and projected changes in excess values for U.S. acquirers of foreign targets from the year prior to the acquisition to the year following the acquisition. The actual change in excess value (ΔEV_{+1}) is measured as the difference between EV_{+1} and EV_{-1} , and the projected change in excess value (ΔEV_{+1}^P) is calculated as the difference between the projected excess value (EV_{+1}^P) and EV_{-1} . The projected excess value is based on the pre-effective market value of the target firm, and represents the excess value the merging firms would have if they were combined instantaneously in the year prior to the actual acquisition. ΔEV_{+1}^U represents the unexplained change in excess value, and is calculated as the difference between ΔEV_{+1} and ΔEV_{+1}^P . Excess value is calculated as in Bodnar, Tang and Weintrop (2003), and Denis, Denis and Yost (2002), which represents a variation of the industry matched multiplier approach originally developed by Berger and Ofek (1995). The full sample (Panel A) consists of 136 non-financial, publicly traded U.S. firms that completed an acquisition of a majority ownership stake in a non-financial, publicly traded foreign target firm over the period 1990-1999. Acquisitions are classified as related cross-border M&As (Panel B) when the U.S. acquirer and the foreign target report the same two-digit SIC codes in the year $t = -1$, and as unrelated cross-border M&As (Panel C) otherwise. Acquisitions are classified as premiere cross-border operations (Panel D) when the U.S. acquirer does not already have operations overseas in the year prior to the acquisition, and as non-premiere cross-border operations (Panel E) otherwise. n refers to the number of observations in each subsample. The significance of the mean values and of the difference in means is based on the parametric t-statistics. The significance of the median values and of the medians of the changes is based on the nonparametric Wilcoxon signed-rank test statistics. The asterisks *, **, and *** indicate statistical significance at the 10%, 5%, and 1% levels, respectively.

Table 6

Relation between Actual and Projected Changes in Excess Value for U.S. Acquirers of Foreign Targets

Panel A: Sales Multiples			
	Regression 1	Regression 2	Regression 3
Intercept	-0.0415 (0.0454)	-0.2131 (0.0742)	-0.032 (0.0442)
DEV_{+1}^P	0.5132 (0.1657) [0.0146]	0.5093 (0.1758) [0.0013]	0.4811 (0.1974) [0.0414]
I (<i>Relatedness</i>)		0.2648 (0.0913)	
I (<i>Premiere</i>)			-0.0484 (0.1494)
R^2	0.0387	0.0974	0.0401
Panel B: Asset Multiples			
	Regression 1	Regression 2	Regression 3
Intercept	-0.0874 (0.0465)	-0.1566 (0.0676)	-0.0403 (0.0473)
DEV_{+1}^P	0.1263 (0.4286) [0.0742]	0.1235 (0.4398) [0.0523]	-0.0477 (0.4553) [0.0793]
I (<i>Relatedness</i>)		0.1068 (0.0878)	
I (<i>Premiere</i>)			-0.2184 (0.1202)
R^2	0.0016	0.0121	0.0321

This table shows the results for the regressions of the actual change in excess values (ΔEV_{+1}) on the projected change in excess values (ΔEV_{+1}^P) for 136 U.S. acquirers of foreign targets. ΔEV_{+1} is measured as the difference between EV_{+1} and EV_{-1} , and ΔEV_{+1}^P is calculated as the difference between the projected excess value (EV_{+1}^P) and EV_{-1} . Excess value is calculated as in Bodnar, Tang and Weintrop (2003), and Denis, Denis and Yost (2002), which represents a variation of the industry multiplier approach originally developed by Berger and Ofek (1995). Panel A reports the sales-based results, while Panel B presents the regression results based on asset multiples. In Regression 1, ΔEV_{+1}^P is the only predictor variable in the model. An indicator variable for business relatedness of the acquisition, I (*Relatedness*), equals one when the acquisition is classified as related, and zero otherwise (Regression 2). An indicator variable for the international involvement status of U.S. acquiring firms, I (*Premiere*), equals one if the U.S. acquirer does not already have operations overseas prior to the acquisition, and zero otherwise (Regression 3). Robust standard errors are presented in parentheses, and the two-sided p -values for the null hypothesis that $\alpha = 0$, $\beta = 1$, $\gamma = 0$ are reported in brackets.