Cross-border M&As and Credit Risk: Evidence from the CDS Market

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Abstract

This paper examines the impact of the cross-border acquisition announcements on the U.S. bidders' credit risk. On average, we find a substantial difference in the way CDS markets respond to transactions in emerging vs. developed markets: bidders' rating-adjusted CDS spread increases by 2 bps in the three-day window surrounding an acquisition in an emerging market (EM), and declines if the target firm is in a developed country. The EM result is driven primarily by majority but not full control transactions, for which the CDS spread change is approximately 5 bps. The surge in bidders' CDS spreads is mainly associated with weak creditor protection in the target nation. Moreover, creditor concerns regarding EM deals are contagious: a CDS spread rise around the announcement of a transaction in an emerging economy is followed by a similar increase in spread for the next bidder making an acquisition in the same target nation. Finally, we also attribute some of the surge in acquirers' CDS spreads to wealth expropriation.

Keywords: cross-border M&As; CDS spreads; emerging markets; spillover effects; wealth transfer

JEL Classification Numbers: F30, G12, G14, G15, G28, G32, G34

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1. Introduction

Over the last several decades, cross-border merger and acquisition (M&A) activities have increased sharply and become an important tool for capital reallocation of multinational entities. While financial liberalization, government policies and regional agreements have provided an impetus for multinationals to expand overseas, at least three reasons stand out for cross-border M&As: 1) efficiency gains, resulting from increased economies of scale or scope; 2) strategic gains, which arise if M&As change the market structure and thus a company's competitive position and profit level; and 3) cash flow diversification, which improves a firm's probability of covering fixed charges in varying market conditions. In all cases, firms will engage in M&A activity if it results in increased shareholder wealth for the acquiring company (Manne, 1965).

Recent studies indicate that, on average, cross-border acquisitions experience an increase of about 7.5% in the value of the combined firms relative to their pre-acquisition value (Eun, Kolodny and Scheraga, 1996; Seth, Song and Pettit, 2000). However, a big fraction of the combined gains, at least in domestic M&A transactions, accrue to target-firm shareholders, while acquirers' returns are generally either immaterial or significantly negative (Jensen and Ruback, 1983; Brickley, Jarrell, and Netter, 1988; Andrade, Mitchell, and Stafford, 2001; Amihud, DeLong, and Saunders, 2003). The asymmetry in the distribution of gains in favor of target-firm shareholders is an unsolved puzzle for the shareholder wealth maximization theory.

These findings have been lately challenged by Francis, Hasan and Sun (2008) and Chari, Ouimet and Tesar (2010). Francis et al. (2008) find significant and positive cross-border effects for shareholders of U.S. acquirers during late 1990's and early 2000's, especially of those that enter highly segmented financial markets. Chari et al. (2010) show that, in cross-border acquisitions, developed market (DM) acquirers that gain control of emerging market (EM)

targets experience significant abnormal stock returns around the acquisition announcement. The gains to the acquiring firms' shareholders are attributed to better institutional and corporate governance practices that developed-market acquirers bring to emerging economies. The experience is not matched if the acquisition target market is a developed economy. Moreover, Choi, Francis and Hasan (2010) show that the gains in the acquiring firms' wealth are accompanied by a higher insolvency risk in cross-border bank M&As. They report that, on average, yield spreads increase by 4.13 bps in the week of the M&A announcement, and find evidence of bondholder wealth expropriation.

In this study we analyze the impact of M&As on the credit risk of U.S. acquirers of foreign targets. Using a sample of 889 completed cross-border acquisitions by 396 U.S. public companies between January 2001 and December 2011, we show that the acquirers' credit risk (measured by the rating-adjusted CDS spread) increases significantly by 2.03 bps in the three-day window surrounding the announcement of an acquisition in an emerging country, but declines by 0.33 bps (although not markedly) if the target is from a developed market. The increases in CDS spreads around EM acquisitions are persistent, ranging from 3.42 bps to 9.54 bps in the two-week and six-week windows, respectively (windows [-5,+5] and [-15,+15]).

When we partition the sample by several acquirer characteristics, we find that when EM targets are acquired, the credit risk increases significantly more for bidders with sub-investment grade credit ratings, high leverage ratios and lower market capitalization. In particular, while high-yield acquirers experience a CDS spread increase greater than 10 bps, spread changes of investment grade bidders do not exceed 1 bps. Similarly, the CDS spread increase of 3.64 bps of the highly leveraged acquirers significantly surpasses that of 0.55 bps of their lower leverage counterparts. Finally, we find that small size acquirers' CDS spreads increase on average 3.95

bps in the three-day period surrounding an announcement, a significant distance from the 0.11-bp rise in the CDS spread of larger acquirers. None of these patterns is present in DM target acquisitions.

When the sample is grouped by deal characteristics, the post-acquisition ownership percentage is the most striking driver of credit risk, exhibiting manifest differences between acquisitions of EM and DM targets. In 50-99 percent EM acquisitions, acquirers' CDS spreads increase on average by 4.83 bps, significant at 5 percent, more than either of the other two ownership categories considered (below 50-percent and 100-percent control acquisitions). Bidders for the same level of ownership in DM targets attain a decline in credit risk of 3.05 bps, albeit not significant.

The response of the CDS market to the announced level of post-acquisition ownership led us to consider the quality of the legal environment as one of the main drivers of credit risk. As Bris and Cabolis (2008) point out, in 100-percent cross-border acquisitions the target firm's investors become protected by the governing laws in the country of the acquirer. However, this does not apply to lower stake transactions, leaving acquirers exposed to the quality of the corporate governance in the target nation. Majority control acquisitions in target nations with sound laws and strong enforcement practices should have a positive or, at the minimum, no impact on the credit risk of the acquiring firms. By contrast, acquirers' credit risk could be negatively affected by transactions in countries with weak legal environment and investor protection, when they attain majority but not full control of the target post-acquisition.

Using several institutional quality measures, primarily pertaining to creditors and their rights, from La Porta, Lopez-de-Silanes, Shleifer and Vishny (1998), Djankov, McLiesh and Shleifer (2007), Djankov, Hart, McLiesh and Shleifer (2008), and Favara, Schroth and Valta

(2012), we first confirm that significant differences in creditor protection between developed and emerging economies exist. Particularly, developed nations succeed in keeping an insolvent firm as a going concern in 72 percent of the cases. The corresponding number for emerging countries is 48 percent. Additionally, the average recovery rate in DMs is 79 percent, more than 40 percent higher than that in EMs.

Drawing on these differences, we estimate cross-sectional regressions of rating-adjusted CDS spread changes, and show that most institutional quality measures are negatively related to the acquirer's credit risk, which is significantly amplified in 50-99 percent acquisitions. That is, acquirers' adjusted CDS spread changes decline with higher institutional quality in target nations (usually present in developed nations), and rise with lower quality institutions (typical in emerging countries), when they announce 50-99 percent ownership post-acquisition. Collectively, these results suggest that the increase in acquirer's credit risk arises from lower legal protection in EMs vis-a-vis DMs, especially when majority but not full control is attained.

Further, we find two more sources of credit distress: contagion and wealth expropriation. After accounting for the effect of transaction and acquirer characteristics, we show that an increase in an EM bidder's CDS spread is significantly and positively associated with a rise in the CDS spread of the acquirer making the next acquisition in the same target nation. Finally, to test the wealth transfer hypothesis, we first document a significant increase in the average three-day cumulative abnormal stock return of the acquirer of an EM target, and then show that the Pearson correlation coefficient between the CDS spread changes and cumulative abnormal equity returns over the [-1, +1] window is 0.18 and significant at one percent.

Our paper relates to the rather undeveloped literature exploring the impact of cross-border M&As on acquiring firms' bondholder wealth, in which most of the existing studies focus

on U.S. domestic deals. Earlier work (Asquith and Kim, 1982; Dennis and McConnell, 1986; Walker, 1994) finds no proof that bondholders are affected by M&As. More recently, there has been mixed evidence of M&As' wealth effects on bondholders. Using a sample of 260 stock-for-stock mergers from 1963 to 1996 Maquieira, Megginson and Nail (1998) find that acquirers' bondholders experience significant wealth gains. Over a similar period (1979-1997) Billett, King and Mauer (2004) show that excess bond returns of the acquiring firms decline significantly during deal announcement periods.[1] Overall, there is no conclusive evidence that acquiring firms' bondholders benefit from domestic mergers.

Evidence of bondholder wealth effects in cross-border M&As is equally limited. Choi et al. (2010) find that bondholders perceive cross-border bank M&As as risk-increasing activities, and that yield spreads around takeovers are significantly affected by cross-country differences in investor protection and deposit insurance conditions. In a contemporary study, Renneboog, Szilagyi and Vansteenkiste (2016) examine how cross-country differences in governance and legal standards affect Eurobond returns around cross-border M&A announcements. In contrast to both Choi et al. (2010) and Renneboog et al. (2016), which are more general, our paper attempts to explain the increase in credit risk of U.S acquirers of emerging market targets that is not observed in acquisitions of developed market targets. Our finding that default risk is associated with creditor rights and other institutional factors is consistent with their results. Nonetheless, we differentiate between the impacts majority-control and full-control acquisitions have on the acquirer's credit risk, and show that the legal environment of the target nation becomes relevant only in those acquisitions where majority but not full control is acquired (ownership of 50-99

[1] Another related stream of literature investigates the impact of co-insurance effect on credit risk in diversifying deals and the rise in credit risk due to a substantial increase in leverage in LBOs (Warga and Welch, 1993; Baran and King, 2010; Billett, Jiang and Lie, 2010).

percent post-acquisition).

Our findings contribute to the cross-border M&A literature, and provide a further perspective on the results of Chari et al. (2010). The latter also distinguish between emerging versus developed markets and provide value evidence for majority control in the context of cross-border M&As. We confirm their findings and provide a more complete picture of the acquiring stakeholders' wealth by showing that the abnormal returns to shareholders are partially driven by wealth transfers from the bondholders, due to the perceived increase in credit risk following an acquisition announcement.[2] To our knowledge, no prior study has investigated the response of the CDS market to cross-border M&A announcements, or explored the factors responsible for the upsurge in the bidder's credit risk following an EM acquisition.

The remainder of the paper is organized as follows. Section 2 describes the data and reports summary statistics. Section 3 presents the methodology and section 4 reports the empirical results. In Section 5 we provide concluding remarks.

2. Data and descriptive statistics

We collect the mergers and acquisitions data from Thomson's Security Data Corporation Mergers and Corporate Transactions database (SDC). The SDC database includes 1) information about the target and acquiring firms, such as name, status (private, public, government owned, joint venture, etc.), nation, industry, and primary SIC classification; and 2) transaction characteristics, such as the date of the acquisition announcement and when it became effective, transaction status (completed, pending, unknown, or withdrawn), percent of shares acquired and

[2] Similar evidence of wealth transfer exists in domestic M&A literature. See for example, Dennis and McConnell (1986), Qiu and Yu (2009) and Imbierowicz and Wahrenburg (2013).

owned after the transaction was completed, and percent of cash and/or stock the acquiring firm used in the transaction. We collect information on all completed cross-border acquisitions of foreign firms by U.S. public companies between January 2001 and December 2011, with more than 5% post-acquisition ownership of the target firm. Transactions included in our sample must have complete information on the acquirer's percent stake in the target firm before and after acquisition. In order to avoid any compounding effects, we consider acquiring firms that conduct only a single transaction at a time. We also require that no transactions made by the same acquirer occur within three months or less from each other. If this is the case, we only retain the first event.

The CDS data are obtained from Markit Group Limited, a leading vendor of credit pricing data that provides daily CDS spreads on over 3,000 reference entities. CDS contracts reported by Markit are available in different maturities, documentation clause levels, and currencies. We use daily spreads for 5-year, USD-denominated, senior tier CDS contracts with the modified restructuring (MR) clause, as contracts of this type are the largest and most liquid.[3]

After we merge the SDC and Markit databases, we keep only the M&A transactions whose acquirers are reference entities in the types of CDS contracts selected above, and for which daily CDS spreads are available for at least a one-year period bracketing the acquisition announcement date. This yields a final sample of 889 transactions in 46 target countries.

Based on recent evidence that stakeholders of acquiring firms react differently to EM vs. DM transactions (Chari et al., 2010), and motivated by marked differences in the efficiency of debt enforcement between developing and developed markets documented by Djankov et al.

[3] For more information about the documentation clauses, see ISDA Credit Derivatives Definitions published in February 2003.

(2008), we divide our final sample into two sub-samples. The US-EM group consists of transactions in which the target is from an emerging market. It has 296 acquisitions in 28 countries. Target firms in the US-DM sample are from developed markets. This sample contains 593 transactions in 18 countries.

All target nations are reported in Table 1, Panel A. In Panels B and C we summarize the number of acquisitions by acquirer industry, and the number of acquisitions per year, respectively. Not surprising, the most popular destinations of U.S. capital in emerging markets are three of the BRIC countries: Brazil (49 acquisitions), China (69), and India (47); in developed markets they are Canada (110), Germany (84) and the U.K. (138). Furthermore, manufacturing and finance are the industries with the largest numbers of acquiring firms. Finally, based on our sample, the peak in M&A activity was reached in 2007 in developed markets (80 transactions) and in 2008 in emerging markets (45 transactions).

Table 2 presents acquirer and transaction characteristics for the acquisitions in our sample. The typical U.S. acquirer, whether of an EM or a DM target, is a large company with approximately $36 billion in market capitalization, a median asset size of $14-16 billion and 15-20% leverage[4] in the quarter before the acquisition; it acquires and owns more than 50% of the target firm after the transaction is complete (with more than half of the acquiring firms holding 100% interest after acquisition); and uses the transaction as a diversifying strategy, as in more than 60% of acquisitions target firms are not in the same three-digit SIC industry code as the acquirer.[5]

[4] Leverage is the ratio of the book value of long-term debt to the sum of the book value of long-term debt and the market value of equity.

[5] Typically, M&A studies also summarize transaction values. Since they are available for about a third of our sample, we decided not to report them.

3. Methodology

In this paper we apply standard event study methodology to examine how credit risk changes in response to announcements of completed acquisitions of foreign firms by U.S. public companies between January 2001 and December 2011. The change in credit risk is measured by the acquirer's CDS spread change over the announcement window [-1, 1], where the day of the announcement is considered day zero. If an M&A announcement is made during the weekend, we consider the date of the announcement to be the previous Friday. The standard three-day measurement window is used to correct for non-synchronous trading that may arise from time zone differences between the U.S., where the acquisition announcement is made, and the location of the CDS trade.

To control our response measure for changes in general market conditions, we use a rating-adjusted CDS spread instead of the firm's actual CDS spread. The adjusted CDS spread is defined as the difference between the acquirer's CDS spread and the spread of either an investment-grade or high-yield CDS index, depending on whether the firm's rating falls into the investment grade or the high-yield grade category. To construct the two CDS indices, we use the actual spread levels of the Investment Grade CDX (CDX.NA.IG) and the High Yield CDX (CDX.NA.HY) indices since their inception in April 2004, and extend them backward to January 2001 following the CDX index construction methodology.[6] For each event window $[t_1,t_2]$, we then compute the adjusted CDS spread change as the difference between the adjusted CDS spreads corresponding to day t_2 and day t_1, respectively.

4. Empirical results

[6] Markit CDX Documentation can be found at http://www.markit.com/Documentation/Product/CDX. To backfill the two series, we follow Jorion and Zhang (2009) and use the list of component firms as of April 2004.

4.1. CDS market reaction to M&A announcements

Although M&A deals may sometimes be anticipated by a handful of sophisticated investors, their announcements are generally a surprise to markets, prompting the latter to react more or less severely depending on the information that M&A announcements reveal. Table 3 reports the average acquirer adjusted CDS spread changes (in bps) around the 889 cross-border acquisition announcements in our sample, for different event windows, separately for EM and DM transactions (Panels A and B, respectively). For the U.S. firms that acquire EM targets, the CDS spread increases progressively in almost all selected windows: by 2.03 bps in the [-1,+1]-day window, by 3.01 bps in the [-2,+2]-day window, and by 9.54 bps in the longer [-15,+15]-day window. With one exception, all numbers reported are statistically significant. Furthermore, the fraction of firms with positive CDS spread changes is greater than 50% for all selected windows, indicating that these averages are not skewed by just a few observations. Thus, there is a significant negative effect on the acquirer's credit risk when the acquisition involves an EM target.[7] By contrast, when a U.S. firm acquires a DM target, the average adjusted CDS spread declines gradually in almost all selected windows, albeit not significantly: by 0.33 bps in the [-1,+1] window, by 0.67 bps in the [-2,+2]-day window and by 1.46 bps in the longer [-5,+15] window.

Next we examine whether the negative effect of the EM acquisitions on the acquirer's credit risk is particular to the US-EM sample or arises due to acquirer characteristics. We, thus, select only the acquirers of DM targets that also appear in the US-EM sample, and compute the adjusted CDS spread changes over the same windows for this restricted US-DM subsample (104 acquirers and 344 acquisitions). Panel C of Table 3 reveals that the CDS spread changes of this

[7] Choi et al. (2010) report similarly strong negative effects of cross-border bank M&As on bond yield spreads, albeit on a sample of DM acquirers and mixed DM and EM targets.

smaller US-DM sample alternate between negative and positive, and none is either economically or statistically significant, which makes us conclude that the marked increase in CDS spreads around an M&A announcement is unique to the US-EM sample.

4.1.1. Acquirer characteristics

This section analyzes the effect of M&A announcements on the acquirers' credit risk using different groupings by acquirer characteristics. A number of papers argue that the coinsurance effect, typically present in an M&A, benefits bondholders, as it reduces the probability of default of the combined firm. To the extent that default risk is very low prior to the merger, there would be no significant gains due to the merger. Thus, coinsurance effects should be bigger for riskier debt, which means that bond returns should be larger for lower rated bonds (Billett, King and Mauer, 2004; Dennis and McConnell, 1986).

Panel A of Table 4, which summarizes the three-day adjusted CDS spread changes by credit rating, confirms this hypothesis for the US-DM sample, although the results are not significant. By comparison, for the US-EM sample, the mean adjusted CDS spread of the lower rated acquirers (those with Standard and Poor's bond ratings of BB+ and below) increases by nearly 11 bps from day -1 to day 1 of the transaction announcement, more than 10 bps over that of their investment grade counterparts. Both the mean and median of the high-yield bidders in the US-EM sample are significantly different from zero at five percent or better, and significantly different from the mean and, respectively, the median of the investment grade bidders (at five percent or better). Furthermore, almost 70 percent of the lower rated acquirers in the US-EM sample (significant at the one percent level) experience a positive three-day adjusted CDS spread change centered on the announcement day.

Results reported in Panel B of Table 4 also show that the three-day adjusted CDS spreads of the US-EM bidders are greater for those with above-median leverage, which contradicts the leverage hypothesis by which the bonds of the more highly leveraged firm should experience a reduction in default risk after the merger. We define leverage as the ratio of the book value of long-term debt to the sum of the book value of long-term debt and the market value of equity, both measured at the end of the quarter preceding the transaction announcement. As shown in Panel B, the three-day adjusted CDS spread of the above-median leveraged firm increases by 3.64 bps (significant at 5 percent), while that of the below-median leveraged firm increases by 0.55 bps. The two means are significantly different from each other at 5 percent.

Other noteworthy findings in Table 4 are that the three-day adjusted CDS spreads of the US-EM sample are positively related to the acquirers' equity volatility (Panel C), and negatively associated with their size (Panel D). Equity volatility is the annual standard deviation of the stock returns during the 252-day period prior to the M&A announcement. Size is the market capitalization at the end of the quarter preceding the announcement. Surprisingly, as it can be noticed in all Panels of Table 4, none of the associations reported above is exhibited by the US-DM sample.

4.1.2. Transaction characteristics

In this section we examine the extent to which the negative effects of the EM acquisitions on the U.S. acquirers' credit risk are related to transaction characteristics. Previous studies have shown that the method of payment and degree of diversification are transaction characteristics that play a significant role in M&As' successful completion and wealth effects. Cash acquisitions may be relatively costly, as the implied capital gains tax penalty forces higher target premiums.

Furthermore, using cash as a means of exchange is likely to reduce the liquidity of the acquiring firm and its bondholders' collateral, which in turn increases its credit risk (Eckbo and Langohr, 1989; Billett et al., 2004; Choi et al., 2010).

Alternatively, a diversifying acquisition may have mixed effects on the acquirer: on the one hand it may increase operating efficiency and debt capacity while lowering taxes (Lewellen, 1971; Majd and Myers, 1987; Hann, Ogneva, and Ozbas, 2013; Kuppuswamy and Villalonga, 2015); on the other, it may intensify agency problems, allow poor segments to drain resources from better performing segments, and misalign incentives of central and divisional managers, all of which may have value-reducing effects (Stultz, 1990; Meyer, Milgrom and Roberts, 1992; Berger and Ofek, 1995; Laeven and Levine, 2007).

Panels A and B of Table 5 report the acquirers' three-day adjusted CDS spread changes by method of payment and diversification. The method of payment is characterized as either cash, which represents all-cash acquisitions, or stock or mixed. Based on this classification, we find evidence that cash deals increase acquirers' credit risk in both US-EM and US-DM samples, whereas stock or mixed transactions have a negative impact only on the bondholders of the US-EM sample. Additionally, defining diversifying acquisitions as those in which the acquirer and target have different three-digit SIC codes, we find that both diversifying and non-diversifying deals have a consistent negative effect on the CDS spreads of the US-EM sample, although there is no statistically significant difference between the two categories. Results are mixed for the US-DM sample.

More recently, the percentage of post-acquisition ownership emerged as one of the most impactful transaction characteristics on the premium paid to targets and the acquirers' shareholder wealth in cross-border acquisitions. Chari et al. (2010) find that majority control

drives positive acquirer stock returns in EM acquisitions. Bris and Cabolis (2008) show that in 100-percent mergers, shareholder protection and accounting standards are highly correlated with the merger premium in cross-border mergers relative to matching domestic acquisitions.

"By international law, the nationality of a firm changes when 100% of it is acquired by a foreign firm" (Bris and Cabolis, 2008, p. 606). This implies that, once the merger is complete, the target firm's investors are protected by the governing laws in the country of the acquirer. However, as Bris and Cabolis (2008) further detail, international laws do not protect shareholders and creditors equally, and creditor protection, in general, is not transferable. An exception is the United States, which follows the *universality approach*, under which "US courts have jurisdiction over bankruptcy cases where creditors or assets are in the United States, irrespective of the nationality of the firm (US Bankruptcy Code 304)."[8]

Thus, 100-percent ownership following a cross-border acquisition by a U.S. firm should have no additional impact on the acquirer's shareholders or debtholders other than those regularly associated with a domestic acquisition. If, on the other hand, a significant stake but less than 100 percent of the target is acquired, the acquirer's stakeholders also face the risks associated with investing in a foreign country, which can be higher or lower depending on the investor protection and creditor rights in the host country.

Table 5, Panel C provides the first glimpse at the relation between acquirers' three-day adjusted CDS spread changes around the acquisition announcement and the post-acquisition level of ownership. The majority of the deals in our sample (70 percent in EMs and 94 percent in DMs) results in 100-percent ownership after the transaction is completed. A smaller fraction is made by the acquisitions with majority but less than 100 percent control post-acquisition (44 deals in EMs and 33 in DMs). Moreover, for the US-EM sample, the mean and median three-day

[8] Bris and Cabolis (2008), footnote 16, p. 613

adjusted CDS spread changes in the 50-99 percent ownership category are much larger than those of the 100-percent ownership group: the means are 4.83 bps vs. 1.61 bps, while the medians are 0.97 bps vs. 0.29 bps. Both the means and medians of the US-EM sample are statistically significant, albeit with a stronger statistical and economic significance for the 50-99 percent ownership group. The median CDS spread changes of the US-EM sample are also statistically different across the two ownership categories. Also noteworthy is the high percentage of CDS spread increases following an announcement of 50-99 percent post-acquisition ownership in an emerging market. No statistical significance is present in the US-DM sample. Tests done on the restricted US-DM sample reveal no differences from those reported for the full US-DM sample.

4.2. Explaining the rise in default risk for the US-EM sample

4.2.1. Post-acquisition ownership

The results obtained so far show that, in general, announcements of majority control acquisitions in EMs trigger an unquestionable negative reaction from creditors, particularly when 50-99 percent ownership post-acquisition is sought. To formally test this assertion, we estimate cross-sectional regressions where the dependent variable is the three-day rating-adjusted CDS spread around the M&A announcement. The most general specification is:

$$CDSchg = \alpha_0 + \alpha_1 Control + \alpha_2 Cash + \alpha_3 Diversified + \sum \lambda_k X_k + \varepsilon \qquad (1)$$

where *Control* is either *Control_100*, which is a dummy variable equal to one if the acquirer owns 100 percent of the target's equity post-acquisition, or *Control50_99*, which is a dummy variable equal to one if the acquirer owns more than 50 percent but less than 100 percent of the

target's equity post-acquisition; *Cash* is a dummy variable equal to 1 if the acquisition is all-cash and zero otherwise; *Diversified* is a dummy variable equal to 1 if the target firm does not have the same three-digit SIC industry code as the acquirer. X_k denotes the control variables for acquirer characteristics: equity volatility (*VOL*); leverage (*LEV*); and size (*SIZE*). *LEV* is the change in the acquirer's leverage ratio from quarter -2 to quarter -1 prior to the acquisition announcement (quarter 0 is when the announcement is made). The leverage ratio, equity volatility and size were defined in Section 4.1.1. Year and target nation fixed effects are used in most models, and standard errors are corrected for clustering at the acquiring firm.

Table 6 summarizes the results. The credit risk of the acquiring company declines during the three-day period surrounding the M&A announcement, although not significantly, when 100 percent ownership is attained post-acquisition (Model 1), and rises markedly when majority but not full control is acquired (Model 2). After controlling for acquirer's characteristics (*VOL, LEV and SIZE*), the increase in the acquirer's three-day CDS spread attributable to obtaining 50-99 percent control of the EM target is 4.23 bps. The significance of *Control50_99* is not affected by the inclusion of any other transaction characteristic in the regression model (Models 3-5), or by the fixed effects used (Models 5-7). Furthermore, neither the method of payment nor the degree of diversification noticeably affects the acquirer's credit risk around the M&A announcement. Cumulatively, these findings suggest that *Control50_99* is a key driver of credit distress when the acquisition takes place in an emerging market.

Further, we investigate whether this result is unique to the US-EM context, and, if it is (as the findings in Table 5 suggest), how marked the difference in the CDS market reaction to the transfer of control in the US-EM sample vs. the US-DM sample is. To address these questions, we apply the model specified in Eq. (1) to the combined sample of EM and DM acquisitions, and

augment it with variables *EM* and *Control50_99*EM*. The former is a dummy variable that takes the value of 1 for EM acquisitions and zero for DM deals; the latter is the interaction variable between *EM* and *Control50_99*. We also distinguish between and run regressions separately for the full US-DM sample (all 593 DM acquisitions done by U.S. firms) and restricted US-DM sample (344 acquisitions of DM targets by the104 U.S. bidders that also made EM acquisitions).

Results presented in Table 7 confirm the unique risk US acquirers are exposed to when announcing a deal in an emerging economy. Using all 889 acquisitions in our sample, we find a significant 2.55 bps difference in the adjusted CDS spread change between transactions completed in emerging markets and those in developed economies (Model 1). Furthermore, the negative impact of an EM acquisition announcement on the acquirer's credit risk is notably amplified when the bidder controls 50-99 percent of the EM target post-acquisition (the coefficient of *Control50_99*EM* is positive and significant in Model 2). Models 5 and 6, which report regression results separately for the US-EM and full US-DM samples, confirm this finding and our expectations that the significant increase in credit risk following an announcement of a 50-99 percent control acquisition is specific to the US-EM sample. Additionally, the results are largely similar when the analysis is conducted on the US-EM and restricted US-DM samples (Models 3, 4 and 7), making us conclude that they are not an artifact of the acquirers' characteristics.[9]

4.2.2 Target nation characteristics

[9] Results summarized in Table 7 include year fixed effects (YFE), but no target nation fixed effects (TNFE). Although results with and without TNFE are similar in magnitude and significance, the goodness of fit is noticeably better when these fixed effects are excluded from regressions. Thus, we report them without TNFE. Results with TNFE are available from the authors upon request.

Our main results thus far show a significant increase in the U.S. acquirer's credit risk around an EM target acquisition announcement, which we attribute to the transfer of majority, but not full control from the EM to the U.S. firm. As mentioned before, given the *universality approach* followed by the U.S., in a 100-percent acquisition the target firm is protected by the U.S. laws, but it remains subject to the same laws as before the acquisition if less than 100 percent is acquired. Thus, we interpret the significant increase in CDS spreads in 50-99 percent acquisitions relative to 100-percent acquisitions in EMs (documented is Table 5, Panel C) as a lack of trust creditors have in the quality of the EM legal institutions and the rules that govern them. This may also explain the differential response of CDS markets to EM vs. DM acquisitions, which we explore in this section.

Work on the laws governing investors' and creditors' protection and the quality of institutions enforcing these laws around the world was pioneered by La Porta et al. (1998), and extended by La Porta et al. (2000), La Porta et al. (2006), Djankov et al. (2007), Djankov et al. (2008), and Favara et al. (2012), to name a few. In different settings, they show that law enforcement differs significantly around the world, and that the quality and efficiency of law enforcement depend on the level of a country's income. Drawing on these seminal studies, we select a number of institutional quality measures, primarily affecting creditors and their rights, and test their impact on the credit risk of U.S. acquirers engaged in EM vs. DM acquisitions.

Our goal is to establish whether laws pertaining to creditor protection differ between emerging and developed countries and whether these dissimilarities, if any, have differential consequences on the acquirers' credit risk. We begin by considering the legal environment (or the rule of law) in each target nation in our sample. We expect that the stronger the legal environment is in a target market, the more positive the impact of the acquisition will be on the

acquirer's credit risk. The strength and objectivity of the legal and judicial systems are quantified by The PRS Group in their Law and Order index, published in the International Country Risk Guide (ICRG), which we use as a proxy for the *Rule of Law*. The index ranges from 0 to 6, with higher values for countries where laws are better protected.

We next look at the creditor rights index (*Creditor Rights*) developed by La Porta et al. (1998) and updated by Djankov et al. (2007), which measures the creditor protection within a country. The index ranges from 0 (weak creditor rights) to 4 (strong creditor rights).[10] An alternative measure of creditor protection is the probability of renegotiation failure (*Renegotiation failure*) developed by Favara et al. (2012), which is the probability that shareholders fail to force a renegotiation of debt with creditors. It takes values from 0 to 1 and is an average of 12 binary variables from Djankov et al. (2008).[11] It represents a measure of creditors' strength, which we expect to be negatively related to credit risk.

Debt is one of the most useful contracts in every economy, but, without being enforced, it may cause massive losses to shareholders and creditors and can ultimately lead to bankruptcy. Djankov et al. (2008) find that debt enforcement around the world is highly inefficient, especially in developing economies, which almost always fail to save a viable firm from liquidation. In light of these findings, we next evaluate the probability that an insolvent firm is saved and rehabilitated (*Going Concern*), and the efficiency of debt enforcement (*Bankruptcy Efficiency*) in our target nations based on two indexes created by Djankov et al. (2008). Both variables are constructed from responses to a survey that insolvency practitioners from 88

[10] The index is constructed as of January of every year from 1978 to 2003. We use the 2002 index values based on January 2003 calculations. For each country in our sample, the values of the index have remained surprisingly stable over time, making us believe that the 2002 values are good proxies for the creditor rights over our sample period.
[11] For a full description of the index, see Favara et al. (2012), Table I.

countries took on the same case study on an insolvent firm.[12] *Going Concern* is a dummy variable that takes the value of 1 if the insolvent firm in the survey continues to operate as a going concern throughout and upon completion of the insolvency process, and zero otherwise. The *Bankruptcy Efficiency* index depends on whether the insolvent firm continues operating as a going concern, the cost to complete the bankruptcy proceedings, the number of years to resolve the insolvency case, and the nominal lending rate in each country. It takes values from 0 to 100, with higher numbers reflecting a higher degree of efficiency. We expect a negative relation between each of these two variables and the acquirer's CDS spread change around the acquisition announcement.

The last variable we consider is the recovery rate for a secure creditor, developed also by Djankov et al. (2008).[13] As in the case of the efficiency of debt enforcement, it depends on whether the insolvent firm continues operating as a going concern, the cost to complete the bankruptcy proceedings, and the nominal lending rate in each country. However, the relevant time in computing the recovery rate is no longer the time to resolve insolvency, but rather how long it takes for the secure creditor to get paid. In addition, recovery rate also depends on the order of priority in which claims are paid. It takes values from 0 to 100%. We expect a negative relation between recovery rate in a target nation and the acquirer's CDS spread change.

Table 8, which reports the summary statistics for these variables, shows a stark difference in legal and institutional qualities between emerging and developed economies. The strength of the legal and judicial systems, measured by *Rule of Law*, and the protection of creditors' rights are significantly higher in developed than in emerging target nations, both in terms of means and

[12] For details about the survey, see Djankov et al. (2008).

[13] An alternative recovery rate measure is provided by World Bank starting 2004; it indicates how many cents per dollar claimants recover from an insolvent firm. Results obtained with either recovery rate measure are largely similar.

medians. Furthermore, developed economies achieve sharply higher efficiency scores than emerging markets in their debt enforcement, mainly due to their ability to save and rehabilitate insolvent firms; on average, they succeed in keeping an insolvent firm as a going concern in 72 percent of the cases. The corresponding number for emerging nations is 48 percent. Last, the average (median) recovery rate for DMs is nearly 40 percent (50 percent) higher than that for EMs.

Using data for the combined US-EM and US-DM samples, we examine whether these dissimilarities pertaining to creditor protection have differential consequences on the acquirers' CDS spreads around the acquisition announcement. To test this hypothesis we apply the model specified in Eq. (1) to all 889 sample acquisitions, both in EMs and DMs, and augment it with each of the five institutional quality variables described above and the interaction term between them and *Control50_99*.

$$CDSchg_i = \beta_0 + \beta_{1i} Q_i + \beta_2 Control50\_99_i + \beta_3 Cash_i + \beta_4 Diversified_i + \sum \lambda_k X_{ik} + \varepsilon_i \qquad (2)$$

where Q_i is each institutional quality variable, and

$$\beta_{1i} = \gamma_1 + \delta_1 Control50\_99_i \qquad (3)$$

By including the interaction variable between *Control50_99* and *Q* we test whether the relation between each institutional quality variable and credit risk is affected by the percent ownership post-acquisition.

In the extant literature, to assess the effect of target nation characteristics on shareholders or bondholders' wealth in M&A transactions, differences are taken between target nation characteristics and those of the acquirer's nation. As four of the five institutional quality

variables (except *Rule of Law*) are time-invariant, computing the difference between the target nation and the U.S. is not necessary. In the model specified above, *Rule of Law* represents the distance between the Law and Order index of the target nation and that of the U.S. Additionally, we include another variable in our model, *LEV_TN*, which represents the average corporate leverage in the target nation over our sample period (collected from Compustat Global), to control for the leverage effect.[14]

Table 9 summarizes the results. When the entire sample is used (combined US-EM and Full US-DM samples) all institutional measures, except for creditor rights, are negatively related to the three-day rating-adjusted CDS spread change, although not significantly. Moreover, most of these negative relations are markedly enhanced in acquisitions where majority but not full control is attained. Notably, except for *Rule of Law*, the coefficients of the interaction term between institutional measures and *Control50_99* are significant and negative in all specifications. This is consistent with Renneboog et al. (2016) who also find that, for bondholders, cross-country differences in creditor rights matter more than other governance measures such as rule of law. These results indicate an improvement in acquirers' credit risk associated with higher institutional quality (usually present in developed nations), but also a deterioration of their borrowing costs associated with lower quality institutions (typical in emerging countries), reflected in their CDS spreads, when they announce 50-99 percent ownership post-acquisition. For example, in 50-99 percent acquisitions, a unit decline in the *Creditor Rights* index results in an additional 3 bps increase in the adjusted CDS spread relative to that corresponding to other levels of ownership. Likewise, the relative rise in the adjusted CDS spread associated with a 10 percent increase in the probability of renegotiation failure is

[14] Ideally, the leverage effect should be controlled for with the difference in leverage between the acquirer and target firms, but target leverage data is very limited for our sample.

1.96 bps. Results are largely similar when the analysis is conducted on the combined US-EM and restricted US-DM sample.[15]

Based on the results obtained in Table 9, we can safely conclude that the negative effect of an EM target acquisition on the credit risk of the U.S. acquirer comes partly from the lower creditor protection in emerging markets that we reported in Table 8. Conversely, the benefits creditors receive from a DM acquisition may result from better debt practices in other developed markets compared to those followed in the U.S. For example, the values of the U.S.'s *Bankuptcy Efficiency* and *Recovery Rate* (both equal to 85.8) are lower than the medians of the DM target nations (92.31 and 90.65, respectively, reported in Table 8).

In summary, our findings thus far show that, on average, acquisitions of EM targets by U.S. firms are perceived as risk-increasing transactions, where the risk is driven primarily by the weak creditor protection in developing economies, and intensified when the acquisition results in 50-99 percent control. We next investigate other sources that may contribute to the rise in CDS spreads following a US-EM acquisition.

4.3. Additional sources of credit risk

4.3.1. Spillover effects

Existing literature supports the idea that negative events in credit markets are contagious. Gande and Parley (2005) argue that a country's credit rating downgrade has significant effects on the sovereign credit spreads of other economies. Jorion and Zhang (2007) find that Chapter 11 bankruptcies create contagion effects in CDS markets, as indicated by significant increases in spreads of industry competitors. Based on a theoretical model they develop, Collin-Dufresne,

[15] To limit any multicollinearity that may arise between target nation fixed effects and the time-invariant target nation characteristics, all models reported in Table 9 use only year fixed effects.

Goldstein and Helwege (2010) show that an upward jump in the yield spread of one firm causes market participants to update their perception of risk, forcing credit spreads to widen in other firms. Consistent with this finding, Beirne and Fratzscher (2013) show that during the 2008-2011 sovereign debt crisis in Europe, market participants updated their beliefs about countries' fundamentals, which led to a sharp rise in sovereign yield spreads and CDS spreads across the Eurozone and other countries.

In light of these spillover effects, we investigate whether the heightened credit risk of U.S. acquirers following the announcement of an EM acquisition is the result of a contagious effect from previous acquisitions of emerging market targets. To test this hypothesis we regress the U.S. acquirer's three-day adjusted CDS spread change against the variable *lagCDSchg_TN*, which is the value of the three-day adjusted CDS change of the U.S. acquirer that completed the previous transaction in the same target market. Results reported in Table 6, Model (8) support the spillover effect hypothesis: after accounting for the effect of transaction and acquirer characteristics, a 10-bp increase in an acquirer's CDS spread around the announcement of an EM acquisition is significantly associated with a 2-bp increase in the CDS spread of the acquirer making the next acquisition in the same target nation.

4.3.2. Wealth transfer

The evidence of increased acquiring shareholders' wealth in EM transactions documented by Chari et al. (2010) raises the question whether it occurs with a concomitant increase in the market value of debt, or as a consequence of expropriation of wealth from bondholders. The hypothesis of wealth expropriation has its origins in Galai and Masulis (1976) and Jensen and Meckling (1976), which show that, in a levered firm, shareholders are motivated to undertake

riskier investments in order to expropriate some of the bondholders' wealth. When applied to mergers, the wealth expropriation hypothesis means that shareholders of the acquiring firm will earn positive excess returns at the expense of bondholders, which will earn negative excess returns. If the acquirers' increased credit risk associated with US-EM takeovers documented so far is partly explained by wealth transfer, we should find positive abnormal shareholder returns in the three-day window around a US-EM transaction.

The abnormal equity returns, AR_{it}, are the regression residuals from the projection of realized returns *Rit* on expected normal returns obtained with the Fama-French three-factor model, where the market index is the CRSP value-weighted index, and the estimation window is [-250, -42] days prior to the announcement.

$$AR_{it} = R_{it} - \alpha_i - \beta_i R_{mt} - \delta_i SMB_t - \gamma_i HML_t \quad (4)$$

Acquirer-specific ARs are then aggregated over different event windows to obtain the cumulative abnormal returns (CARs).

Table 10 summarizes the results for the US-EM (Panel A), Full US-DM (Panel B), and Restricted US-DM (Panel C) samples. Panel A shows that the average CAR for the U.S. acquirer taking over an EM target is positive and significant in the [-1, +1], [-2, +2], and [-3, +3] announcement windows. The [-1, +1] window average CAR of 0.30% is statistically significant at 10% level and consistent with that reported by Chari et al. (2010). The average CARs for the other two windows (0.59% and 0.56%, respectively) exhibit greater economic and statistical significance. CARs are not significant in any window for the two US-DM samples.

These results, paired with those reported in Panel A of Table 3, suggest a potential transfer of wealth between acquirers' shareholders and bondholders in EM transactions. Note

that an increase in CDS spreads indicates an increase in credit risk, which is consistent with a negative bondholder return.

To formally test the wealth expropriation hypothesis, we follow Billett et al. (2004) and analyze the correlations between acquirers' excess stock returns and adjusted CDS spread changes for the three windows for which both are statistically significant. The Pearson correlation coefficient of 0.18 for the [-1, +1] window is significantly positive at one percent. Those for the [-2, +2] and [-3, +3] windows, of 0.14 and 0.10, respectively, are also significant at five and 10 percent. The positive correlations between stock returns and CDS spread changes experienced by the US-EM sample translate into negative correlations between stock and bond returns, which are consistent with the wealth expropriation hypothesis and suggest that the economic gains accruing to shareholders around an M&A announcement represent an expropriation of bondholders' wealth.[16]

5. Concluding remarks

A significant body of work has been dedicated to the bondholders and shareholders' wealth effects in mergers and acquisitions. Most of it found an increase in target claimholders' wealth following a transaction, but mixed results for the acquiring firm's investors. In this study we assess the impact of M&A announcements on the credit risk of U.S. acquirers of foreign targets. Using a sample of 889 completed cross-border acquisitions by 396 U.S. public companies between January 2001 and December 2011, we show that the acquirers' credit risk increases significantly in the three-day window surrounding the announcement of an acquisition in an emerging country, but declines if the target is from a developed market. The percent

[16] As Billett et al. (2004) point out, a word of caution is necessary. The wealth effects we have documented reflect both synergy gains and any wealth transfer. In the absence of proper methods to control for synergy, we have attributed the wealth effects entirely to wealth transfer.

ownership post-acquisition is a key driver of credit risk, exhibiting manifest differences between acquisitions of EM and DM targets. In 50-99 percent EM acquisitions, acquirers' CDS spreads increase significantly more than in either of the other two ownership categories considered (below 50-percent and 100-percent control). Bidders for the same level of ownership in DM targets attain a decline in credit risk.

By international law, in 100-percent cross-border acquisitions the target firm's investors become subject to the governing laws in the country of the acquirer. The same law does not apply to lower ownership transactions, leaving acquirers exposed to the quality of the corporate governance in the target nation. Using several institutional quality measures, primarily pertaining to creditors and their rights, we first confirm that significant differences in creditor protection between developed and emerging economies exist. Drawing on these differences we then show that there is a significant negative relation between acquirers' credit risk and institutional quality of the target nation, especially for transactions with 50-99 percent ownership post-acquisition. These results suggest that the acquirer's credit risk arises from lower legal protection in EMs vis-a-vis DMs, particularly when majority but not full control is acquired.

Finally, we find two additional explanations for the escalation of default risk of the U.S. acquirer of an EM target: contagion and wealth expropriation. We show that an increase in a bidder's CDS spread around the announcement of an acquisition in a given emerging market is highly associated with a rise in the CDS spread of the bidder that made the previous transaction in the same target nation. As for the wealth expropriation effect, there is a positive and highly significant correlation between CDS spread changes and cumulative abnormal stock returns for the event windows in our sample, suggesting a wealth transfer from the bondholders to the stockholders of the acquiring firm.

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Table 1. Number of acquisitions.

Panel A. By target nation

EM target	No. M&As	DM target	No. M&As
Argentina	11	Australia	43
Brazil	49	Austria	4
Chile	7	Belgium	14
China	69	Canada	110
Colombia	6	Denmark	9
Costa Rica	1	Finland	6
Ecuador	2	France	42
Egypt	4	Germany	84
Guatemala	2	Italy	25
India	47	Japan	24
Indonesia	3	Luxembourg	2
Jamaica	1	Netherlands	32
Malaysia	4	New Zealand	1
Mauritius	1	Norway	14
Mexico	21	Spain	11
Morocco	1	Sweden	17
Panama	1	Switzerland	17
Peru	3	United Kingdom	138
Philippines	2		
Saudi Arabia	3		
South Africa	6		
South Korea	17		
Taiwan	19		
Thailand	2		
UAE	4		
Uruguay	2		
Venezuela	2		
Vietnam	6		
Total	296		593

Panel B. By acquirer industry

		No. M&As	
Sector	SIC code	EMs	DMs
Agriculture	100-999	5	3
Mining	1000-1499	8	27
Construction	1500-1799	0	0
Manufacturing	2000-3999	176	383
Utilities	4000-4999	12	22
Wholesale Trade	5000-5199	6	18
Retail Trade	5200-5999	14	12
Finance	6000-6999	53	73
Services	7000-8999	22	55
Public Administration	9100-9900	0	0
Total		296	593

Panel C. By year

	No. M&As	
Year	EMs	DMs
2001	10	29
2002	21	35
2003	16	45
2004	25	55
2005	33	67
2006	33	66
2007	36	80
2008	45	66
2009	25	44
2010	24	55
2011	28	51
Total	296	593

Table 2. Acquirer and transaction characteristics.

The original sample consists of all announced cross-border acquisitions by U.S. public companies between January 2001 and December 2011. Only completed deals, subjected to the restrictions we describe in Section 2 are included in the final sample. *Assets and Leverage* are the book value of total assets and, respectively, leverage ratio at the end of the quarter preceding the transaction announcement. The leverage ratio is defined as the book value of long-term debt to the sum of the book value of long-term debt and the market value of equity. *Market capitalization* is the market value of equity at the end of the quarter preceding the announcement. *Volatility of stock returns* is the standard deviation of equity returns for the 252 days preceding the announcement. *Control acquired* represents the percentage of shares acquired in the transaction. *Control after acquisition* is the percentage of ownership after the transaction was completed. *Diversifying acquisition* is the percent of acquisitions in which target firms are not in the same three-digit SIC industry code as the acquirer. N is the number of observations.

	Mean	STD	Min	Median	Max	N
Panel A: U.S. acquirers and EM targets						
Acquirer assets ($M)	105,468	208,384	2,770	16,137	697,239	289
Acquirer market capitalization ($M)	36,729	55,309	240	14,828	383,564	296
Acquirer leverage (%)	25	19	2	20	67	289
Acquirer volatility of stock returns (%)	33	17	10	29	117	296
Control acquired (%)	72	34	5	100	100	296
Control after acquisition (%)	84	29	6	100	100	296
Diversified acquisition	0.63	0.48	0	1	1	296
Panel B: U.S. acquirers and DM targets						
Acquirer assets ($M)	64,103	151,682	2,770	14,365	697,239	586
Acquirer market capitalization ($M)	35,637	56,596	446	14,777	484,237	593
Acquirer leverage (%)	20	17	2	15	67	585
Acquirer volatility of stock returns (%)	32	15	11	28	126	593
Control acquired (%)	94	17	5	100	100	593
Control after acquisition (%)	98	9	50	100	100	593
Diversified acquisition	0.68	0.47	0	1	1	593

Table 3. Effect of M&As on acquirers' rating-adjusted CDS spreads.

This table reports acquirers' adjusted CDS spread changes (in bps) around an M&A announcement. Panel A reports the results for the US-EM sample (M&As with a US acquirer and an EM target). Panel B reports the results for the full US-DM sample (M&As with a US acquirer and a DM target). Panel C reports the results for the restricted US-DM sample (acquisitions of DM targets by the104 US bidders that also made an EM acquisition). The date of the announcement is considered day zero. The "%(>0)" column reports the percentage of observations with positive adjusted CDS spread changes. The significance of the proportion of positive CDS spread changes is based on the chi-square test for equal proportions. Significance at 1, 5, and 10% levels is denoted by ***, **, and *, respectively.

	Panel A			**Panel B**			**Panel C**		
	US – EM sample (151 acquirers; 296 acquisitions)			*Full US – DM sample* (245 acquirers; 593 acquisitions)			*Restricted US – DM sample* (104 acquirers; 344 acquisitions)		
Day	Mean (bps)	t-stat	%(>0)	Mean (bps)	t-stat	%(>0)	Mean (bps)	t-stat	%(>0)
-5	-0.5700	-0.75	49.50	0.3198	1.10	49.75	0.3066	0.78	49.71
-4	0.6905	0.88	48.16	0.0517	0.24	49.08	0.1315	0.51	51.44
-3	-0.9190	-1.42	47.83	-0.3116	-1.16	48.75	-0.5591	1.46	47.99
-2	0.2685	0.42	48.83	-0.0240	-0.07	48.08	-0.2585	-0.63	44.83*
-1	0.0320	0.06	48.16	-0.0412	-0.14	49.42	-0.4472	-1.06	47.13
0	1.1743	1.77*	53.51	-0.0678	-0.21	50.75	0.4786	1.28	51.15
1	0.8546	1.94*	55.85**	-0.2696	-0.70	53.42*	0.0517	0.14	51.72
2	0.5739	0.91	53.18	-0.4918	-0.94	51.92	0.1068	0.40	52.59
3	-0.2343	-0.48	48.83	0.0092	0.03	49.92	0.2639	1.09	50.00
4	0.0294	0.05	50.17	-0.2110	-0.50	50.42	0.0316	0.10	49.71
5	0.7888	1.06	44.48*	-0.1538	-0.47	53.09	-0.2136	-0.53	50.29
[-1, 1]	2.0319	2.74***	56.57**	-0.3271	-0.59	53.28	0.5583	0.96	53.20
[-2, 2]	3.0144	2.53**	58.25***	-0.6716	-0.89	51.93	0.2299	0.36	49.71
[-3, 3]	3.0577	2.06**	55.56*	-0.6722	-0.75	51.60	0.2436	0.33	52.33
[-4, 4]	2.1268	1.42	52.19	-1.2014	-1.01	47.73	-0.2847	-0.29	47.09
[-5, 5]	3.4229	1.87*	53.20	-1.4150	-1.14	49.75	-0.3573	-0.34	48.84
[-5, 15]	9.1739	2.06**	51.18	-1.4628	-0.94	51.09	-0.0263	-0.02	50.58
[-15, 15]	9.5372	2.02**	51.85	-0.1666	-0.08	49.75	1.8719	0.68	50.87

Table 4. Acquirers' three-day adjusted CDS spread changes across various groupings by acquirer characteristics.

This table reports acquirers' three-day adjusted CDS spread changes across various groupings by acquirer characteristics. Credit rating, classified into investment grade (IG) and sub-investment grade (HY), is based on Standard and Poor's ratings. Leverage is the ratio of the book value of long-term debt to the sum of the book value of long-term debt and the market value of equity, both measured at the end of the quarter preceding the transaction announcement. Equity volatility is the annual standard deviation of the stock returns during the 252-day period prior to the M&A announcement. Size is the market capitalization at the end of the quarter preceding the announcement. The significance level of the median is based on a Wilcoxon signed-rank test. The difference in means *t*-test assumes unequal variances across groups when a test of equal variances is rejected at the 10 percent level. The significance of the proportion of negative and positive CDS spread changes is based on the chi-square test for equal proportions. N is the number of transactions. Significance at 1, 5, and 10% levels is denoted by ***, **, and *, respectively.

	US – EM sample				*Full US – DM sample*			
	Mean (bps)	Median (bps)	%(>0)	N	Mean (bps)	Median (bps)	%(>0)	N
Panel A. Sample grouped by credit rating								
HY	10.72**	6.46***	69.57***	46	-5.22	-0.71	49.23	65
IG	0.43	0.20	54.76	250	0.28	0.16	53.98*	528
Difference	10.29**	6.26***			- 5.50	-0.87		
Panel B. Sample grouped by leverage								
Above median	3.64**	0.63***	60.00**	145	-0.62	0.10	52.40	292
Below median	0.55	0.20	54.17	144	-0.09	0.20	54.61	293
Difference	3.09**	0.43**			-0.53	-0.10		
Panel C. Sample grouped by equity volatility								
Above median	3.09**	0.94**	60.14**	148	-0.65	0.30	54.05	296
Below median	0.97*	0.14	53.38	148	-0.01	0.10	52.70	297
Difference	2.12	0.80			-0.64	0.20		
Panel D. Sample grouped by size								
Above median	0.11	0.17	54.73	148	0.40	0.20	57.29**	296
Below median	3.95***	1.04***	58.78**	148	-1.05	-0.03	49.66	297
Difference	-3.84***	0.87***			1.45	0.23		

Table 5. Acquirers' three-day adjusted CDS spread changes across various groupings by transaction characteristics.

This table reports acquirers' three-day adjusted CDS spread changes across various groupings by transaction characteristics. The significance level of the median is based on a Wilcoxon signed-rank test. The difference in means *t*-test assumes unequal variances across groups when a test of equal variances is rejected at the 10 percent level. The significance of the proportion of negative and positive CDS spread changes is based on the chi-square test for equal proportions. N is the number of transactions. Significance at 1, 5, and 10% levels is denoted by ***, **, and *, respectively.

	US – EM sample				*Full US – DM sample*			
	Mean (bps)	Median (bps)	%(>0)	N	Mean (bps)	Median (bps)	%(>0)	N
Panel A. Sample grouped by method of payment								
Cash	4.97	0.52*	67.74**	31	1.57	0.46*	61.67**	120
Stock or mixed	1.69**	0.32**	55.47*	265	-0.81	0.08	51.37	473
Difference	3.28	0.20			2.38*	0.38		
Panel B. Sample grouped by diversification								
Same 3-digit SIC code	2.35*	0.53*	56.76	111	-0.77	0.27	56.38*	188
Different 3-digit SIC code	1.84**	0.35*	56.76*	185	-0.12	0.12	52.10	405
Difference	0.51	0.18			-0.65	0.15		

		US-EM sample				*Full US-DM sample*				*Restricted US-DM sample*			
		Mean (bps)	Median (bps)	%(>0)	N	Mean (bps)	Median (bps)	%(>0)	N	Mean (bps)	Median (bps)	%(>0)	N
Panel C. Sample grouped by post-acquisition ownership													
< 50%	(1)	1.22	0.12	54.35	46	--	--	--	0	--	--	--	0
50% - 99%	(2)	4.83**	0.97***	68.18**	44	-3.05	0.13	54.55	33	0.71	0.38	61.54	26
100%	(3)	1.61*	0.29*	54.85	206	-0.17	0.16	53.39	560	0.61	0.14	52.52	318
	(2) – (1)	3.61	0.85**			--	--			--	--		
	(2) – (3)	3.22	0.68**			-2.88	-0.03			0.10	0.24		

Table 6. Adjusted CDS spread changes and transaction characteristics in US-EM acquisitions.

This table reports the results of the cross-sectional regressions of the three-day adjusted CDS spread changes on M&A characteristics for the US-EM sample. *Control_100* is a dummy variable equal to one if the acquirer owns 100% of the target's equity post-acquisition. *Control50_99* is a dummy variable equal to one if the acquirer owns more than 50% but less than 100% of the target's equity post-acquisition. *Cash* is a dummy variable equal to 1 is the acquisition is all-cash and zero otherwise. *Diversified* is a dummy variable equal to 1 if the target firm does not have the same three-digit SIC industry code as the acquirer. *VOL* is the annual equity return volatility of the acquirer during the 252 days prior the M&A announcement. *LEV* is the change in the acquirer's leverage from quarter -2 to quarter -1 prior to the acquisition announcement (quarter 0 is when the announcement is made); the leverage is defined as the ratio of the book value of long-term debt over the market value of equity plus the book value of long-term debt. *SIZE* is the natural log of the acquirer's market capitalization at the end of the quarter preceding the announcement. *lagCDSchg_TN* is the value of the three-day adjusted CDS change of the U.S. acquirer that completed the previous transaction in the same target market. Standard errors, reported in parentheses, are clustered by acquirer. N is the number of observations. Significance at 1, 5, and 10% levels is denoted by ***, **, and *, respectively.

	Dependent Variable: Three-day adjusted CDS spread change							
Model	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Control_100	-2.38							
	(1.70)							
Control50_99		4.23*	4.53*	4.25*	4.54**	4.25*	3.72*	4.59*
		(2.34)	(2.33)	(2.78)	(2.29)	(2.48)	(1.99)	(2.58)
Cash			5.37		5.37	3.88	4.47	6.29*
			(3.33)		(3.32)	(3.24)	(3.31)	(3.58)
Diversify				-0.11	-0.02	-0.24	0.20	-0.10
				1.70	(1.67)	1.67	1.45	(1.88)
VOL	14.91	15.49	15.93*	15.52	15.94*	11.79	14.55	15.74
	9.53	9.40	9.45	9.40	(9.45)	7.18	8.81	(9.55)
LEV	45.40*	46.72*	45.92*	46.70*	45.92*	43.55*	45.34*	43.64*
	25.70	25.46	24.47	25.48	(24.51)	23.59	25.23	(25.20)
SIZE	-1.19*	-0.97	-0.96	-0.96	-0.95	-1.13*	-0.99*	-1.14*
	0.66	0.65	0.64	0.64	(0.63)	(0.60)	(0.60)	(0.69)
lagCDSchg_TN								0.20**
								(0.08)
Target nation fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes
Year fixed effects	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes
N	295	295	295	295	295	295	295	268
Adj R^2	0.0406	0.0476	0.0612	0.0439	0.0575	0.0475	0.0950	0.0884

Table 7. Adjusted CDS spread changes and transaction characteristics: EM vs. DM acquisitions.

This table reports the results of cross-sectional regressions of adjusted CDS spread changes on M&A characteristics in US-EM and US-DM acquisitions. *Control50_99* is a dummy variable equal to one if the acquirer owns more than 50% but less than 100% of the target's equity post-acquisition. *Cash* is a dummy variable equal to 1 if the acquisition is all-cash and zero otherwise. *EM* is a dummy variable that takes the value of 1 if the target firm is from an emerging market. *Diversified* is a dummy variable equal to 1 if the target firm does not have the same three-digit SIC industry code as the acquirer. *VOL* is the annual equity return volatility of the acquirer during the 252 days prior the M&A announcement. *LEV* is the change in the acquirer's leverage from quarter -2 to quarter -1 prior to the acquisition announcement (quarter 0 is when the announcement is made); the leverage is defined as the ratio of the book value of long-term debt over the market value of equity plus the book value of long-term debt. *SIZE* is the natural log of the acquirer's market capitalization at the end of the quarter preceding the announcement. N is the number of observations. Standard errors, reported in parentheses, are clustered by acquirer. Year fixed effects are used in all models. Significance at 1, 5, and 10% levels is denoted by ***, **, and *, respectively.

	Dependent Variable: Three-day adjusted CDS spread change						
	US-EM & Full US-DM samples		US-EM & Restricted US-DM samples		US-EM	Full US-DM	Restricted US-DM
Model	(1)	(2)	(3)	(4)	(5)	(6)	(7)
EM	2.55**	1.96**	2.55**	2.24*			
	(0.99)	(0.99)	(1.03)	(1.14)			
Control50_99	1.17	-2.01	2.82	0.22	3.72*	-1.82	0.11
	(1.91)	(2.98)	(2.03)	(1.91)	(1.99)	(2.46)	(1.42)
Control50_99*EM		5.79*		3.62*			
		(3.22)		(1.98)			
Cash	2.65**	2.56*	2.19	2.16	4.47	2.25	0.96
	(1.30)	(1.31)	(1.99)	(2.02)	(3.31)	(1.46)	(2.05)
Diversified	0.13	-0.00	-0.89	-0.99	0.20	0.14	-1.16
	(0.95)	(0.92)	(0.99)	(0.99)	(1.45)	(1.24)	(1.27)
VOL	-5.21	-5.09	12.31	12.23	14.55	-22.82	0.63
	(9.82)	(9.68)	(7.54)	(7.45)	(8.81)	(12.99)	(14.06)
LEV	21.57	21.75	32.05	31.67	45.34*	-13.05	-2.70
	(17.58)	(17.48)	(22.97)	(23.19)	(25.23)	(17.83)	(24.74)
SIZE	-0.17	-0.13	-0.51	-0.48	-0.99*	0.31	-0.18
	(0.38)	(0.38)	(0.40)	(0.40)	(0.60)	(0.51)	0.43
Year fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes
N	881	881	571	571	295	586	343
Adj. R^2	0.0041	0.0067	0.0001	0.0001	0.0950	0.0336	-0.0099

Table 8. Institutional variables: descriptive statistics.

This table summarizes descriptive statistics of institutional variables separately for EM and DM target nations. *Rule of Law* is a measure of legal and judicial strength reported by the PRS Group in the International Risk Country Guide. *Creditor Rights* is an index based on Djankov et al. (2007), ranging from 0 (weak creditor rights) to 4 (strong creditor rights). *Renegotiation failure* is the probability that shareholders fail to force a renegotiation of debt with creditors in Favara et al (2012). *Going Concern* is the probability that an insolvent firm is saved and rehabilitated, reported by Djankov et al. (2008). *Bankruptcy efficiency* is a measure of the efficiency of debt enforcement used by Djankov et al. (2008). *Recovery Rate* is from Djankov et al. (2008).

	EM target nation					DM target nation					t-test for equality of means p-val	Wilcoxon test for equality of medians p-val
	Mean	STD	Min	Median	Max	Mean	STD	Min	Median	Max		
Rule of Law	3.73	1.27	0	4.40	6	4.64	1.28	0	4.50	6	<.0001	<.0001
Creditor Rights	1.66	0.83	0	2.00	4	2.38	1.28	0	3.00	4	<.0001	<.0001
Renegotiation Failure (%)	30.15	22.92	0	40	1	67.40	27.37	0.2	70	1	<.0001	<.0001
Going Concern	0.48	0.50	0	0	1	0.72	0.45	0	1	1	<.0001	<.0001
Bankruptcy Efficiency	45.36	25.49	13.15	43.55	93.84	81.07	16.95	45.32	92.31	95.50	<.0001	<.0001
Recovery Rate (%)	37.33	23.12	5.38	42.10	88.12	78.37	19.34	34.00	90.65	95.49	<.0001	<.0001

Table 9. Adjusted CDS spread changes and target nation characteristics.

This table reports the results of cross-sectional regressions of adjusted CDS spread changes on institutional quality measures of EMs vs. DMs. *Control50_90* is a dummy variable equal to one if the acquirer owns more than 50% but less than 100% of the target's equity post-acquisition. *Rule of Law* is a measure of legal and judicial strength reported by the PRS Group in the International Risk Country Guide. *Creditor Rights* is an index based on Djankov et al. (2007), ranging from 0 (weak creditor rights) to 4 (strong creditor rights). *Renegotiation failure* is the probability that shareholders fail to force a renegotiation of debt with creditors in Favara et al (2012). *Going Concern* is the probability that an insolvent firm is saved and rehabilitated, reported by Djankov et al. (2008). *Bankruptcy efficiency* is a measure of the efficiency of debt enforcement used by Djankov et al. (2008). *Recovery Rate* is from Djankov et al. (2008). *VOL* is annual equity return volatility of the acquirer in the year prior the year of the transaction. *LEV* is the change in the acquirer's leverage from quarter -2 to quarter -1 prior acquisition announcement (quarter 0 is when the announcement was made); the leverage is defined as the ratio of the book value of long-term debt over the market value of equity plus the book value of long-term debt. *SIZE* is the natural log of the acquirer's market capitalization at the end of the quarter preceding the announcement. *LEV_TN* represents the average corporate leverage in the target nation over our sample period. Standard errors, reported in parentheses, are clustered by acquirer. N is the number of observations. Year fixed effects are used in all models. Significance at 1, 5, and 10% levels is denoted by ***, **, and *, respectively.

	Dependent Variable: Three-day adjusted CDS spread change											
	US-EM & Full US-DM samples						US-EM & Restricted US-DM samples					
Model	(1)	(2)	(3)	(4)	(5)	(6)	(1)	(2)	(3)	(4)	(5)	(6)
Control50_99	2.84	7.72***	10.32**	7.05**	11.69**	9.91**	2.86*	5.12**	7.72*	6.60***	9.57**	8.61**
	(1.90)	(2.79)	(5.13)	(3.51)	(5.10)	3.93	(1.67)	(2.03)	(4.04)	(3.15)	(4.11)	(3.35)
Rule of Law (RL)	-0.50						0.07					
	(0.32)						(0.29)					
RL*Control50_99	-2.27						-0.74					
	(1.70)						(0.77)					
Creditor Rights (CR)		0.23						0.18				
		(0.32)						(0.37)				
CR*Control50_99		-3.00*						-1.32*				
		1.54						(0.79)				
Renegotiation failure (RF)			-2.19						-0.85			
			(1.73)						(2.06)			
RF*Control50_99			-19.55*						-10.25*			
			(11.31)						(6.04)			
Going Concern (GC)				-1.02						-0.10		
				(1.09)						(1.24)		
GC*Control50_99				-8.64*						-5.63*		
				(4.70)						(3.44)		
Bankruptcy Efficiency (BE)					-0.02						0.01	
					(0.02)						(0.02)	
BE*Control50_99					-0.15**						-0.10*	
					(0.07)						(0.05)	
Recovery Rate (RE)						-0.02						0.01
						(0.02)						(0.02)
Recovery*Control50_99						-0.14**						-0.09**

						0.06						(0.05)
Cash	2.46*	2.32*	2.72*	2.37*	2.39*	2.44*	1.75	1.74	1.74	1.44	1.37	1.41
	(1.32)	(1.30)	(1.42)	(1.36)	(1.36)	1.38	(1.77)	(1.80)	(1.92)	(1.83)	(1.82)	(1.84)
Diversified	-0.02	-0.21	-0.05	0.16	0.17	0.16	-0.81	-0.87	-0.74	-0.63	-0.66	-0.67
	(0.94)	(0.93)	(0.98)	(1.04)	(1.03)	1.03	(0.93)	(0.91)	(1.01)	(1.04)	(1.03)	(1.03)
VOL	-4.31	-4.29	-6.29	-6.42	-6.05	-5.89	11.20	11.27	10.52	10.68	11.06	11.18
	(9.71)	(9.56)	(10.24)	(10.75)	(10.80)	10.80	(8.51)	(8.50)	(9.58)	(9.70)	(9.87)	(9.93)
LEV	21.74	22.21	24.06	27.46	26.35	25.61	32.52	32.36	37.06	39.25	38.28	37.81
	(17.88)	(18.08)	(18.48)	(19.44)	(19.39)	19.39	(21.62)	(21.86)	(23.32)	(24.22)	(24.19)	(24.21)
SIZE	-0.09	-0.08	0.00	-0.02	-0.01	-0.04	-0.52	-0.52	-0.48	-0.50	-0.48	-0.49
	(0.38)	(0.39)	(0.39)	(0.40)	(0.39)	0.39	(0.35)	(0.34)	(0.36)	(0.36)	(0.36)	(0.36)
LEV_TN	0.30	0.09	-0.42	0.54	0.20	0.26	0.87	0.88	0.64	0.87	0.64	0.66
	(1.03)	(1.04)	(1.16)	(1.06)	(1.05)	1.04	(1.22)	(1.22)	(1.29)	(1.26)	(1.23)	(1.23)
Year fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
N	875	873	820	820	820	820	568	567	528	528	528	528
Adj R^2	0.0001	-0.0026	0.0157	0.0065	0.0056	0.0060	0.0233	0.0241	0.0337	0.0314	0.0303	0.0305

Table 10. Effect of M&As on acquirers' cumulative abnormal returns (CARs).

This table reports CARs (in percentages) around M&A announcements. The abnormal equity returns, AR_{it}, are the regression residuals from the projection of realized returns *Rit* on expected normal returns obtained with the Fama-French three-factor model, where the market index is the CRSP value-weighted index, and the estimation window is [-250, -42] days prior to the announcement. Acquirer-specific ARs are then aggregated over different event windows to obtain the cumulative abnormal returns (CARs). Panel A reports CARs for the US-EM sample (M&As with a US acquirer and an EM target). Panel B reports CARs for the full US-DM sample (M&As with a US acquirer and a DM target). Panel C reports CARs for the restricted US-DM sample (acquisitions of DM targets by the104 US bidders that also made an EM acquisition). The date of the announcement is considered day zero. Significance at 1, 5, and 10% levels is denoted by ***, **, and *, respectively.

	Panel A		**Panel B**		**Panel C**	
	US – EM sample (151 acquirers; 296 acquisitions)		*Full US – DM sample* (245 acquirers; 593 acquisitions)		*Restricted US – DM sample* (104 acquirers; 344 acquisitions)	
Window	Mean (%)	t-stat	Mean (%)	t-stat	Mean (%)	t-stat
[-1, 1]	0.297	1.88*	0.221	1.60	0.130	0.85
[-2, 2]	0.592	2.56**	0.146	0.83	-0.057	-0.27
[-3, 3]	0.556	2.33**	0.118	0.60	-0.216	-0.91
[-4, 4]	0.311	1.08	0.066	0.30	-0.379	-1.43
[-5, 5]	0.106	0.33	0.078	0.34	-0.303	-1.05
[-5, 15]	0.639	1.35	-0.069	-0.20	-0.546	-1.46
[-15, 15]	0.483	0.88	-0.126	-0.31	-0.714	-1.63