

Determinants of Cross Border Merger Premia

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ABSTRACT

Firms have a broad range of rationales for engaging in cross border mergers and other forms of foreign direct investment; while some companies are in search of the cost advantages provided by foreign resources, other firms are primarily interested in gaining access to new markets. Although a significant amount of research has explored the patterns of FDI, little work has been done to assess what determines the value of cross border mergers and, in particular, what determines why some cross-border mergers are expected to result in higher potential synergies when compared to others. This paper explores the synergies that firms expect to accrue from a cross border merger by testing how a variety of factors impact the premiums paid to effectuate a cross border merger. Our findings show that the premiums paid in cross border mergers increase with the percent of the foreign firm acquired by the multinational. We also find that in mergers in which the acquirer or target are located in a developing country, premiums are a positive function of the size of the target country along with acquirer intangible asset intensity signaling that acquirers believe they can leverage knowledge assets in an emerging market. In developed markets the premiums paid are a function of a variety of merger, industry, and trade variables to include the absolute deal value, the antitrust challenge, effective real exchange rates, and the average tariff rate of the country.

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I. Introduction

Cross border mergers have grown rapidly over the past decade due to a variety of factors including industry consolidation, privatization, and the liberalization of economies (Shimizu et al., 2004) While most of the cross border mergers are in developed countries, an increasing amount of activity has been occurring in emerging markets. This is not surprising considering that the developing world accounts for the majority of the growth in the world's economic activity. There has been a significant amount written examining the welfare effects of cross border mergers, but few papers have explored the expected synergies of cross border mergers, with emphasis placed on differences between mergers among firms in developing versus developed countries.

Companies choose to engage in cross border mergers for a variety of reasons including gaining market access, achieving cost advantages (e.g. lower labor costs and/or lower trade barriers), taking advantage of regulatory, corporate, or tax differences, and leveraging a firm's knowledge assets. At times there may be multiple explanations for cross border mergers depending on the industry, time frame, and location of the acquirer and target. This paper explores the key reasons why firms engage in cross border mergers by examining the effect that various factors have on the deal premium or the percent difference between the price paid to effectuate the merger and the market price. The deal premium represents the expected benefit or synergies that firms expect to gain from undertaking the merger. Our findings show that deal premiums are positively affected by the percent of ownership gained in cross border mergers; this findings applies to both mergers among firms in developing and developed countries, but does not apply to cases where the U.S. firm is the target.

Our results also show that knowledge assets of the acquirer (proxied by acquirer intangible asset intensity) along with the size of the target country have a positive influence on premiums paid for mergers in which one or both firms are located in a developing market. For mergers among firms in developed markets, acquirer intangible asset intensity has the opposite or negative effect on the deal premium. In addition, there are many other factors that appear to influence cross border mergers in developed countries to include average tariff rates, the antitrust challenge, effective real exchange rates, and the deal size, with the first two factors having a positive effect and the latter two having a negative effect..

II. Literature Review

Industrial organization explanations for FDI include the existence of oligopoly markets or other market imperfections that provide advantages to multinational organizations.¹ Prior to Hymer (1960), FDI was generally viewed as a capital flow. Afterward, Hymer (1960) and others argued that FDI results from the multinational seeking to exploit its superior knowledge and scale in pursuing new markets. Multinational entities can exploit these advantages given their specialized resources and superior technology and management (Cebenoyan, 1992). In addition, a multinational may employ a cross border merger to internalize an activity in order to avoid the disadvantages of working through a foreign firm. Cross border mergers also enable firms to obtain resources from the local firm, such as its knowledge base, technology, and human resources, as well as gain access to markets and to key constituencies at the local level.

¹ See Hymer (1960), Vernon (1966), Kindleberger (1984), Caves (1982), Buckley and Casson (1976), Magee (1976), and Dunning and Rugman (1985).

Other theorists attribute the gains to FDI and specifically cross border mergers to monetary exchange opportunities to include exchange rate fluctuations and taxation differences. Harris and Ravenscraft (1991) find that exchange rates play a significant role in explaining differences between premia paid by domestic versus foreign buyers. In a related study, Swenson (1993) finds that cumulative abnormal returns to shareholders are higher when the target U.S. firm is subject to foreign versus domestic takeovers. She attributes this result largely to exchange rate depreciation, which she claims offers opportunities for higher premia to be paid. She also argues that foreign firms are more willing to pay a higher premium than domestic acquirers for a higher level of intangible assets and greater market share.

Dewenter (1995) confirms the findings that a depreciating U.S. dollar is associated with higher takeover premia, but argues that this effect is found only when there are long run deviations from PPP not short run differences. There are other complicating factors, however, that call into question the link between takeover premia and exchange rates. For example, Foot and Stein (1991) contend that the exchange rate – takeover link is only relevant for credit-constrained foreign buyers. Dewenter (1995), in fact, found that acquirers with a higher cash/asset ratio paid a higher premium. Also, these findings appear to be sensitive to the relative value of the countries' stock market index.² Kang (1993) also studied the abnormal returns of Japanese acquisitions of U.S. firms and found wealth gains to targets and bidders being affected by exchange rate changes as well as total debt and ties to financial institutions through borrowings.

² Referred to as the wealth coefficient in Dewenter's (1995) paper.

Taxes also play a role in cross border transactions. Mescalles (2009) comments that risks attributable to tax uncertainty can be significant as she finds that firms are willing to pay a higher premia to effectuate a strategic³ cross border acquisition in order to reduce or eliminate value added and/or other taxes.

Others contend that firms primarily engage in cross border mergers versus other forms of FDI to gain control over assets (Newbury and Zeira, 1997). Some have argued that acquiring control of a firm adds value in situations where there are difficulties writing or enforcing complete contracts.⁴ In Chari et. al.'s (2004) study of 1,529 cross border mergers from 1988 to 1992, they find that percent of ownership is only important in developing market mergers, not in mergers in which the target is headquartered in the U.S. or Japan. Moran (2001) adds that the acquisition of corporate control is a key determinant of shareholder wealth gains in the presence of proprietary assets; its effect is minimal, he argues, in labor-intensive industries where intangible asset intensity is minimal.

Industry relatedness may also affect the potential synergies in cross border mergers. Marr et. al. (1993) find that foreign bidders are motivated primarily by market access to the U.S. in their current industry. The gains, Marr et al. (2006) suggest, result from the foreign buyer using its own intangible assets (e.g. managerial skills) to improve the U.S. target. Markides and Ittner (1994) also find industry relatedness as well as industry concentration and international experience, to have a positive effect on acquirer abnormal returns in cross border mergers.

Industry concentration and market power have also been shown to affect the deal premiums paid to effectuate a merger. Sonenshine (2010) found in his study of mergers challenged by the U.S.

³ Strategic refers to mergers that result in a large amount of intra-firm transactions.

⁴ See Coase (1937), Alchian, Crawford and Klein (1978), Grossman and Hart (1986), and Williamson (1979).

government for potential antitrust violations that higher premiums were paid when the merger was challenged, though interestingly lower than average premiums were paid when market concentration was extremely high. This paper includes merger challenges as an explanatory variable to control for synergies related to presumed market power gains.

Shimidzu et al. (2004) attempts to unify the various strands of literature covering cross border mergers. In doing so, they categorize the determinants of cross border mergers into selected firm, industry and country level factors. Firm level indicators include intangible assets, product diversification and multinational experience. Firms with high levels of intangible asset or R&D intensity, Harris and Ravenscraft (1991) contend, are natural candidates for cross border mergers because the combined firm needs to spread the high fixed cost of R&D expenditures and knowledge asset attainment over large foreign markets. Morg and Yeung (1992) come to similar conclusions in their study of 322 cross border acquisitions as they find abnormal returns of acquirers to be positively related to firms with information based assets. In a related study Vermeulen and Barkema (2001) examine the mode of entry used for international expansion by selected Dutch firms and discover that cross border mergers were chosen to expand the knowledge base of the firm and reduce organizational inertia.

Another strand of the literature examines synergies stemming from cross border mergers based on differences in government and regulatory policies as well as imperfections and information asymmetries in capital markets (Harris and Ravenscraft, 1991). Weitzel and Berns (2006) test how the country's corruption level affects the premiums paid within the country. They find a negative, significant relationship between the corruption index and the premiums paid. In a similar study, Kuipers et al. (2009) examine the incentive mechanisms that stem from the legal environment and

corporate governance structure on abnormal returns in cross border mergers. They determine that the rule of law and the degree of shareholder rights protections for foreign acquirer firms are significant in explaining acquirer and the combined firm's abnormal returns. They also conclude that the transfer of corporate governance structure and legal standards across borders has a significant impact on the value gained from the merger.

Another important factor to consider is how national cultural differences influence shareholder value in cross border mergers. One would expect that shareholder value would be negatively impacted by lower cultural fit. Datta and Puia (1995) measure how shareholder value in a cross border merger is affected by industry relatedness and cultural distance⁵. They find that while industry relatedness does not affect shareholder value, cultural distance between merging firms is inversely related to shareholder value. In contrast, Cebenoyan et al. (1992) find greater wealth gains accrue to shareholders of foreign firms acquiring U.S. companies than domestic shareholders in U.S. mergers. They argue that shareholder gains in cross border mergers stem from multi-nationality, which enhances the value of the U.S. assets.

The paper most closely related to this one, is Chari et al. (2004), which specifically studies cross-border mergers involving emerging markets. The authors contend that acquirers gain synergies from acquiring corporate control, and that market power, knowledge combination, high capital costs of local firms, and the acquisition of proprietary assets positively impact the gains to the acquirer. Chari et al. (2004) find that acquiring firms in industrialized countries have greater bargaining power due to the financial constraints of the target and information asymmetry between the acquirer and

⁵ Datta and Puia (1995) measure use a composite index that includes power distance in an organization, uncertainty avoidance, masculinity/feminism, and individuality to measure cultural distance.

target. Like Chari et al. (2004), this paper examines differences in deal premiums between firms in developed versus developing countries, but it tests how acquirer and target knowledge assets in addition to other firm, industry, and trade variables impact the deal premium.

III. Data

This paper analyzes a set of 571 cross border mergers with a minimum transaction value of \$250 million⁶ that were announced over an eleven year time period between Jan 1, 2000 and December 31, 2010. We used the Thomson SDC database to collect data on these mergers.

Table 1 lists the frequency of cross border mergers by countries where the acquirer and target are headquartered. Here we see that in approximately 36% (205) of the mergers the target was a U.S. company, and in 19% of the cases the acquirer (111) was a U.S. company. The United Kingdom and Canada had the second and third highest incidences of cross border mergers accounting for 12% and 10% of the mergers in which the target was a U.K or Canadian company, and 14% and 8% of the cases when the acquirer was a U.K. or Canadian company. As such, these three countries combined account for 58% of the targets and 41% of the acquirers in the sample. France (49) had a relatively large number of acquirers, but few targets. Table 2 shows the distribution of cross border mergers between developing and developed countries. Here, we see that 83% of the cross border mergers were between firms that both resided in industrialized countries. In 8% of the cases a firm in an industrialized country acquired a company residing in a developing country. The reverse occurred in 5% of the cases, and in 4% of the mergers both firms resided in developing countries. We followed the World Bank listing of developing versus developed regions as shown in Table 3 with the

⁶ This is an arbitrary level. We needed a low enough threshold to get enough mergers in developing countries. However, we wanted large enough deals to reduce the potential measurement error due to small numbers.

exception of Israel⁷.

These figures can be a bit misleading, however, because a greater percentage of the mergers involving firms in developing countries occurred over the past five years. Figures 3 and 4 show the distribution of mergers over time by region. In Figures 3 and 4, we see a large increase in mergers involving East Asia and Pacific countries as well as Latin American and Caribbean countries. These two regions accounted for only one to two percent of the mergers in the early 2000s versus roughly 18% in 2009. In contrast, Western Europe accounted for 70% of the acquirers and 40% of the targets in 2000 but only 40% and 27% of the acquirers and targets in 2009. The distribution of targets and acquirers (except for the year 2000) in North America remained fairly stable over the eleven year period.

The focus of this paper is to assess the factors that appear to be influencing the deal premium in cross border mergers. For each cross border merger, the deal premium, which is calculated as the difference between the stock price paid to effectuate the merger at the announcement date and the stock price four weeks prior to the merger announcement, is calculated. A four week time period versus a smaller window is used to account for the possibility that information regarding the merger may have leaked into the market, prior to the announcement date. Assuming the local stock markets are efficient, or all available public information is accounted for in the current stock price, then the deal premium represents the minimum above market value of the target company to the acquirer.

We then examine key firm, deal⁸, industry, and country characteristics to test their effect on the deal premium. One of the key firm characteristics we employed was intangible asset intensity,

⁷ Seven of the acquirers and five of the targets were Israeli firms.

⁸ There are other firm and deal characteristics that could also be considered, such as the presence of multiple bidders or the method of financing (cash versus stock). These variables were not included due to data limitations and the need to limit the number of explanatory variables.

both for the acquirer and the target. Intangible assets include intellectual property, such as patents and customer lists, and competitive intangible assets, such as know-how, management techniques, customer service, etc. derived from organizational learning and human capital within the firm. Intangible assets are reflected generally as a separate line item on a company's balance sheet. We derived intangible asset intensity by dividing reported intangible assets by the sales amount for the year prior to the merger. This variable is used to assess the extent to which cross border mergers are undertaken to leverage acquirer knowledge assets or gain access to the intellectual property of the target.

Also, deal value and sales ratio (acquirer sales divided by target sales) were used to assess the influence of absolute and relative deal size on the deal premium. In accordance with previous studies⁹, we expect the deal value and / or relative deal size or sales ratio to have a negative impact on the deal premium. In addition, percent of ownership is included to indicate the percentage of the firm being acquired in the transaction. In roughly 70% of the cross border mergers, 100% of the firm was acquired.

The key industry variables are related and challenged. Related is a dummy variable with a 1 or 0 referencing whether the merger was in a similar or a different industry. Results from previous studies¹⁰ varied as to whether mergers in related industries offer greater potential benefits than diversifying mergers. Challenged is also a dummy variable with a 1 or 0 referring to whether antitrust authorities sought to stop or restructure the merger due to concentration or other market power concerns. We expect companies to pay a higher premium to acquire firms when there are

⁹ See Sonenshine (2010).

¹⁰ Markedes and Ittner (1994) and Marr et al. (2006) showed industry relatedness to have a positive, significant effect on shareholder value, but Datta and Puia (1995) did not find a significant effect.

substantial, expected market power gains from the merger. As such, our hypothesis is that the antitrust challenge will have a positive, significant effect on the deal premium.¹¹ However, it is conceivable that companies may offer a lower premium to effectuate a merger that would be challenged as the legal process might result in additional costs as well as some firm restructuring.

Summary firm and deal statistics for developed versus developing country mergers are shown in Table 5. The first two lines of Table 5 show the premiums for mergers where the acquirer, target, or both reside in the developing market (row 1) or the just the target or both (row 2) reside in the developing market. Here, we see the premiums are higher (39%) when both firms are headquartered in the developed markets versus one or both firms being in the developing market (36%) or just the target is located in the developing markets (33%). We also observe that higher premiums are paid when complete ownership is gained versus less than 100% of the firm is purchased. In addition, premiums are higher than the median when the merger is either diversifying, challenged, or involves higher acquirer or target intangible asset intensity. This finding also applies to sales ratio (acquirer sales/target sales). These factors apply to mergers among both developed and developing country firms. Ttests show that deal premiums vary from the mean when the merger is among developed country firms and is challenged, involves less than full ownership or is smaller than average (median) size. For developing market mergers deal premiums vary from the mean only when less than full ownership is sought.

In Table 6, deal premiums are provided for cross border mergers in which the target was a U.S. company (column 4) and a U.S. firm is the acquirer (column 5). Since the U.S. accounts for such a high number of cross border mergers, we broke out U.S. acquirers and targets separately to

¹¹ See Sonenshine (2010).

assess whether they may have a strong or unique influence on the overall results. In fact, we do find that the deal premiums (41%) are higher for U.S. acquirers and targets than for the average for the total sample. We also observe that deal premiums are higher for challenged mergers involving U.S. targets or acquirers than firms from other countries. Also, premiums are higher for U.S. targets and among U.S. acquirers than for firms in other countries when the acquirer intangible assets intensity is higher. Finally, we see that premiums paid for gaining control of less than 100% of the U.S. firm is higher than the average premiums paid among all cross border mergers; this finding is opposite the findings in Table 5, but consistent with Chari et. als' (2004) results showing that gaining ownership control is not a significant factor when the U.S. firm is the target of a cross border merger..

Summary statistics for deal premiums relative to key trade variables in all cross border deals are presented in Table 7. In Table 8, we show summary statistics for deal premiums relative to trade variables where the target or acquirer is a U.S. firm. In both tables we see that average premiums are lower for developing market mergers when the average tariff rates for all products are low. We also find that deal premiums in developing markets are lower when there is not a common language, which might indicate lower than average expected synergies when the emerging market merger is culturally diversifying. However, Ttests for common language are not significant. We also find deal premiums to be inversely related to geographic distance between the countries. Ttests for distance are significant. We also see deal premiums are lower on average in developing countries when there is a colonial relationship between the acquirer and target. Finally, we observe that for developed country mergers, the average premiums are higher when the acquirer has a high population, but the premiums are lower for developing country mergers when the acquirer has a high population.

In Table 8, we see that the average deal premiums for U.S. targets and acquirers are fairly

similar to the average cross border deal premiums with the exceptions being openness (measured by merchandise trade divided by GDP) and average tariff rates. With these variables, deal premiums for U.S. targets are higher than average with higher openness levels and tariff rates.

IV. Methodology

Our empirical strategy is to assess how key firm/deal, industry, and trade variables affect the deal premiums used to effectuate cross border mergers. As part of our analysis, we also segmented the data set into developed (both merging firms located in a developed country) and developing (acquirer or target located in a developing country). Developing countries are defined as countries located in East Asia and Pacific, Eastern Europe and Central Asia, Latin America and the Caribbean, Middle East and North Africa, South Asia, and Sub Sahara Africa. Developed countries are defined as those residing in Austral Asia, Western Europe, and North America. The exceptions are Israel, which was categorized as a developed country and Korea, which was considered a developing country.

The regression equation we employed is the following:

$$DP_j = \beta_1 + \beta_2 IntA_i + \beta_3 IntA_j + \beta_4 RealEX_i + \beta_5 RealEX_j + \beta_6 DealValue_m + \beta_7 Salesratio_{ji} + \beta_8 \% Ownership_i + \beta_9 Challenged_m + \beta_{10} Developing + \beta_{11} Related + \beta_{11}[X] + \beta_{12}[Time] + \epsilon$$

In this equation i indexes the target, j the acquirer, and m the deal. DP_j^{12} refers to the percent change in the stock price of the target between the announcement date and four weeks prior. The deal premium indicates the amount that the target is worth to the acquirer in excess of the market price.

¹² Three deal premiums were removed because they were considered outliers. We used an arbitrary cutoff of 200% to identify outliers.

The firm / deal variables are intangible asset intensity of the acquirer and target, the absolute transaction value (merger price), relative deal value (sales ratio), and percent of ownership. RealEx refers to the real effective exchange rate index¹³ for the target *i*, or acquirer *j*. This variable is used to control for the purchasing power of the acquirer and target and to indicate whether it is becoming more or less expensive to invest in the target country.

The primary industry variables are the antitrust challenge and product relatedness. A dummy variable is used to indicate relatedness of industries; in addition, a dummy variable was used to segment mergers into developing and developed countries.

X denotes the key trade variables, which are average tariff rates (across all products in a given year), contiguous borders, distance between the capital cities of home countries of the merging companies, common language between the two countries, colonial status¹⁴, and populations of the acquirer and target countries. Average tariff rates were used to capture synergies gained from avoiding trade barriers by engaging in a cross border merger. Contiguous borders and distance are used to control for the influence that geography has on the synergies gained from the merger. Common language and colonial status are used to control for the cultural distance between the merging companies. Population levels are used as a proxy for market size. Finally, time dummies for each year corresponding to the merger announcement were included to control for variations in the business cycle.

V. Results

¹³ Refers to the nominal effective exchange rate (a measure of the value of a currency against a weighted average of several foreign currencies) divided by a price deflator or index of costs. 2005 was the base year for this series. This variable was provided by the World Bank's Development Indicator.

¹⁴ Refers to whether there was a colonial relationship between the two countries from 1945 to the present.

Table 9 shows the results from the regression analysis for the full sample (column 1), the sample of developed and developing country mergers (columns 2 and 3), and the sample of U.S. mergers involving U.S. targets and U.S. acquirers (columns 4 and 5). Overall, we find the coefficients for percent of ownership and the merger challenge to be positive and significant in their influence on the deal premium, with the exception of the effect of percent of ownership on U.S. targets. This result is consistent with Chari et. al's (2004) results that percent of ownership has a significant impact on mergers among firms in developing countries, but not on cross border mergers involving a U.S. target. This finding would imply that foreign acquirers want to gain complete control of the assets of the foreign firm, except for mergers involving U.S. companies, to alleviate concerns over monitoring and incomplete contracting.

It is important to note that the coefficient for the dummy variable delineating developing¹⁵ from developed country mergers is not significant, indicating that this segmentation alone may not impact the expected synergies in a cross border merger. We also see the coefficient for the deal value to be negative and significant for the full sample and among developed country mergers implying that deal premiums are inversely related to the size of the deal. The coefficient for the relative size of the deal (Sales ratio), in contrast, for the total sample is positive and significant indicating that mergers of similar size offer fewer synergies than dissimilar sized firms engaged in a cross border merger. Overall, then smaller cross border acquisitions, which are likely made to target a specific geographic market, appear to offer higher synergies than larger cross border mergers, most likely of similar companies. This finding does not apply, however, to mergers in developing countries nor cross border mergers involving U.S. targets or U.S. acquirers.

¹⁵ We tried the regression using a dummy variable just for developing market targets. The results were the same as using a dummy variable for either the acquirer or target being residing in a developing country that is neither dummy variable had a significant effect on the deal premium.

For developing country mergers we find the coefficient for two of the key firm-related variables, percent ownership, as previously discussed, and acquirer intangible asset intensity to be positive and significant in their influence on the deal premium. The positive effect of acquirer intangible asset intensity on the deal premium would indicate that acquirers want to leverage their existing knowledge assets through an acquisition of a developing country firm. A cross border merger may allow the global multinational enterprise to establish its brand or monetize its intellectual property in a market that is not fully developed or where competitive intensity is limited relative to a developed market. It might be then that firms whose value hinges largely on its intangible asset level, may place a higher valuation on acquisitions in a developing country because acquisition versus other forms of FDI (e.g. joint ventures, alliances, exporting) keeps these intangible assets internal to the firm. Internalization is particularly important in countries with weak IP and trademark protection. This finding differs starkly from the developed country mergers where acquirer intangible asset intensity is negative and weakly significant. These results would imply that companies view the synergies from cross border mergers among developed countries to be more in tangible assets, such as commodities (e.g. mining or oil and gas) or the equipment servicing these industries, versus mergers in developing countries where the synergies may be in bringing technology to the market in industries like telecommunications or life sciences. It is also interesting to note that the r-squared for developing markets mergers is far higher than it is for developed market mergers or the full sample indicating the model explains a larger amount of the variance of the deal premium in developing relative to developed market mergers.

We also find that the coefficient for the size of the target country measured in population is positive and significant for mergers of firms in developing markets. This finding would indicate that

market access is a key driver for mergers in developing markets. The coefficient for the target's population is not significant for developed country mergers.

Instead, for developed country mergers¹⁶, we find the coefficients of the two key monetary variables (average tariffs and acquirer real effective exchange rate) are significant with the former having a positive sign and the latter a negative sign. These findings would imply that the motivation behind cross border mergers between developed country firms may be either to circumvent high tariff rates or to take advantage of a depreciating currency in real value. It is interesting to note that the coefficient for acquirer real exchange rate is large and significant to the 1% level for U.S. acquirers. Also, we find that the coefficient for the size of the acquirer (measured by population level) in mergers of firms in developed countries is positive and weakly significant. This result may indicate that the firms in larger developed countries perceive economies of scale to accrue from mergers with firms in other developed countries. This result, however, does not hold for mergers in developing countries.

Finally, we find the coefficient for the merger challenge to be significant for cross border mergers showing that industry concentration may positively affect the perceived synergies due to increased market power. This result is found in all five samples, though the coefficient for merger challenge is only weakly significant for developing country mergers.

For comparison, we also show regression results where the U.S. firms are the target (column 4) or the acquirers (columns 5) in a cross border merger. It is interesting to note that none of the factors with the exception of the merger challenge are significant in their effect on the deal premium for U.S. targets (column 4). This would imply that the deal premium paid for U.S. firms in cross

¹⁶ It should be noted that roughly 80% of the mergers are among developed country firms so the overall findings (column 1) will be similar to the developed country merger findings (column 3).

border mergers is explained by other firm or industry specific factors. For U.S acquirers, we find that the coefficient for real effective exchange rates is significant and negative in its effect on the deal premium, while ownership percentage has a positive, significant effect. These two results as shown in column 5 are similar to the findings in column 3 showing developed country, cross border mergers.

The intriguing finding for U.S. acquirers is that the coefficient for common language is negative and significant in its effect on the deal premium implying that U.S. acquirers view there to be greater synergies from a merger with a firm in a non-English speaking country. This result might imply that U.S. acquirers view cultural distance to have a favorable effect on synergies from a cross border merger. Perhaps U.S. acquirers view greater synergies than other acquirers from penetrating relatively unfamiliar markets by acquiring a local company.

So, what can we infer overall from these findings? First, it seems that the motivations as proxied by the deal premium or expected synergies differ between mergers of firms in developed countries and emerging markets. In the former, monetary considerations such as exchange rates and tariff rates play a key role along with industry concentration, ownership control, and deal size, which has a negative influence. It is important to note that only acquirer (not the target's) real effective exchange rates are significant in their effect on the premiums paid. In mergers with one of the firms residing in the emerging markets, the motivation appears to be monetizing the acquirer's intangible assets or knowledge capital along with gaining ownership control and industry concentration or market power. Also, U.S. acquirers, which represent a large percent of the sample, have some unique characteristics. U.S. acquirers appear to be motivated not only by the real effective exchange rate and industry concentration, but also by cultural distance as they pay higher premiums for companies in non-English speaking countries. U.S. targets are the only category in the sample where percent of

ownership does not have a significant effect on the deal premium. It appears that foreign acquirers do not perceive incremental benefit in gaining greater ownership of a U.S. company, perhaps because of the openness of U.S. markets to foreign ownership.

V. Conclusions

This study examined differences between the deal premiums paid to effectuate a merger between firms in developed and emerging markets. The starkest difference we saw was in the effect of acquirer intangible asset intensity on the deal premium with a positive effect found on developing market mergers and a negative effect found on developed market mergers. It seems that mergers in emerging market industries where the acquirer can leverage its intangible assets are the most attractive. In addition, we validated the findings of previous studies that the real effective exchange rate affects the deal premiums, though only when considering the influence of the acquirer's real effective exchange rate on the deal premium among firms in developed countries. Absolute and relative deal size also influence the premiums paid, but only for mergers of firms in developed countries. Like other studies, we also found percent ownership and the merger challenge to be significant factors motivating cross border mergers in both developed and developing markets. Also, the size of the target market has a significant effect on the deal premium for mergers in emerging market countries.

This study covered the effects that key firm, industry, and macro / trade factors have on the deal premium in a cross border merger. The study is broad in covering all cross border mergers among firms in any two pairs of countries or industries, provided the transaction value was over \$250 million. It is left to other research to study cross border mergers among specific pairings of countries

or in other geographic or industry segments. Another avenue of research is to analyze the factors that influence the decision to engage in other forms of FDI.

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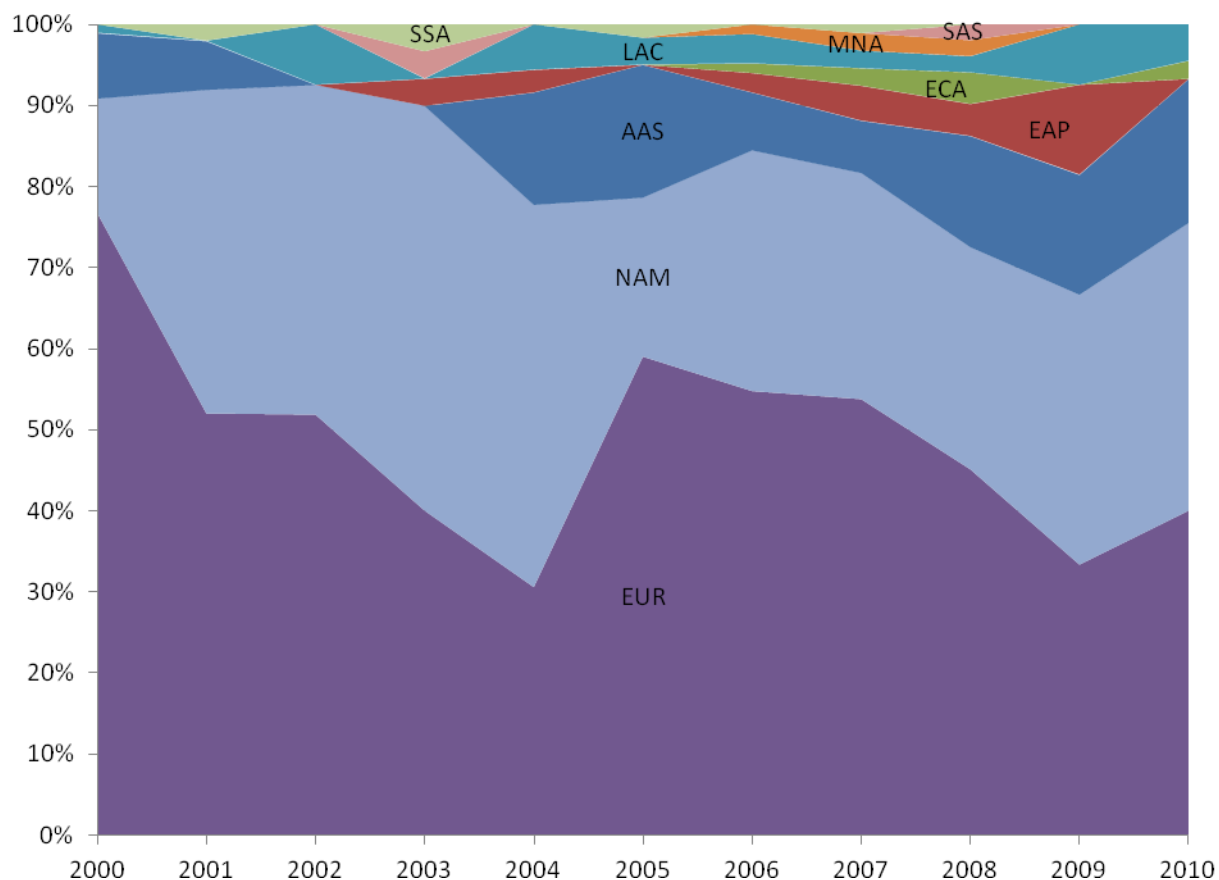
Table 1: Cross Border Merger by Country of Target and Acquiring Firm

Country of Target Firm		Country of Acquiring Firm	
Country	Share of Total	Country	Share of Total
United States	35.9	United States	19.5
United Kingdom	11.9	United Kingdom	13.6
Canada	10.4	France	8.6
Australia	5.6	Canada	8.0
Netherlands	3.5	Germany	5.6
Norway	2.8	Netherlands	4.3
Switzerland	2.5	Spain	4.0
Sweden	2.3	Switzerland	3.5
France	1.8	Australia	3.3
Germany	1.5	Japan	3.3
Other	21.7	Other	26.4

Table 2: Distribution of Cross-Border Mergers

		Country of Target Firm	
		Developing	Industrialized
Country of Acquiring Firm	Developing	23 (3.8%)	30 (5.0%)
	Industrialized	48 (7.9%)	503 (83.3%)

Table 3: Annual Distribution of Cross Border Mergers by Region By Acquirers



The World Bank's lists out six developing regions, listed as follows:

1. EAP: East Asia and Pacific (includes China and Indonesia)
2. ECA: (East) Europe and Central Asia (includes Turkey and Russia)
3. LAC: Latin America and Caribbean (includes Brazil and Mexico)
4. MNA: Middle East and North Africa (includes Egypt)
5. SAS: South Asia (includes India)
6. SSA: Sub-Sahara Africa (includes Nigeria and South Africa)

The developed countries can be sub-divided into three global regions.

7. AAS: Austral Asia (includes Australia, Japan, and South Korea)
8. EUR: Western Europe (includes France, UK, and Germany)
9. NAM: North America (includes Canada and USA)

Table 4: Annual Distribution of Cross Border Mergers by Region By Target

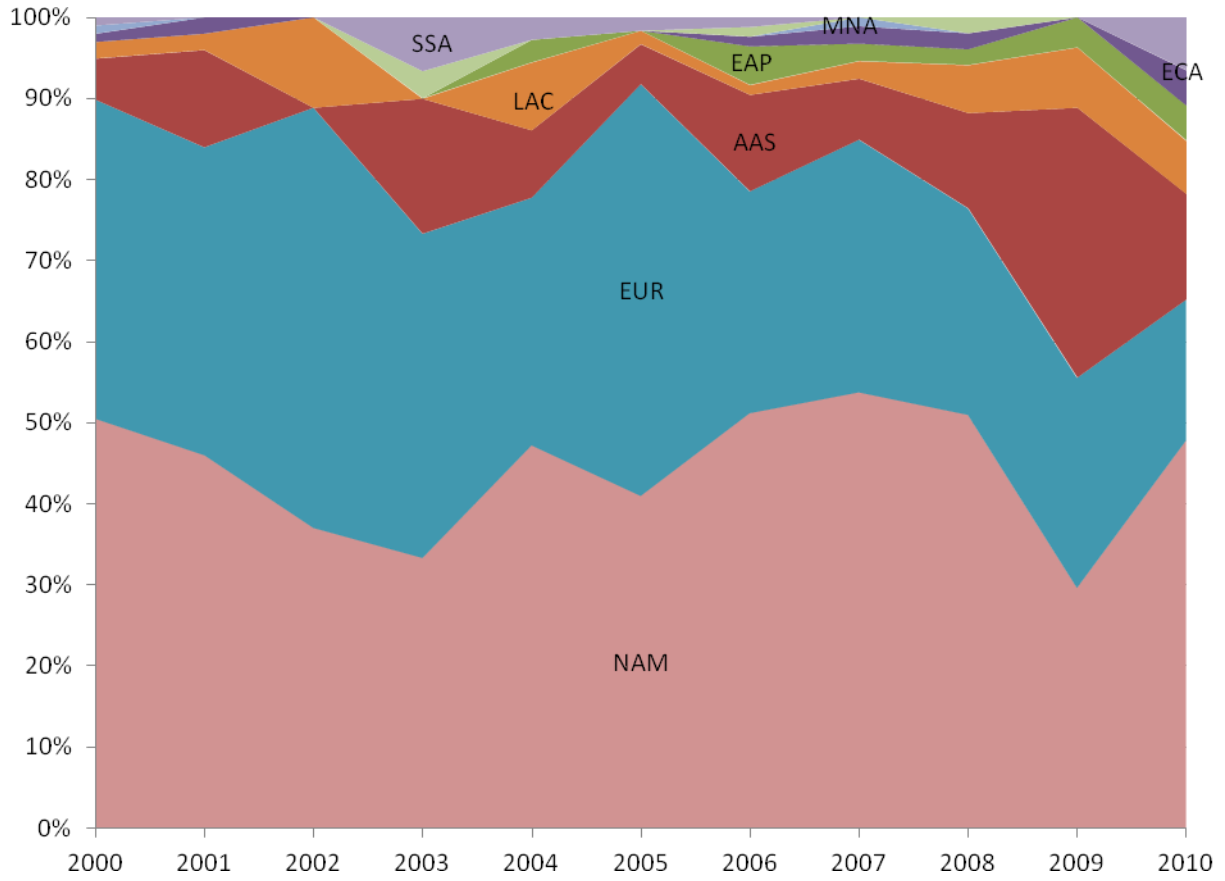


Table 5 Premiums By Firm and Deal Variable

Variable	Category	Premium All Markets	Ttest	Developing Market Premium	Ttest	Developed Market Premium	Ttest
Developing (acquirer or target)	Developed	39%	-0.15	-	-	-	-
	Developing	36%	-0.86	-	-	-	-
Developing (target)	Developed	39%	-0.33	-	-	-	-
	Developing	33%	-0.47	-	-	-	-
Related industry	Unrelated	40%	-0.33	36%	0.92	41%	0.37
	Related	37%	-0.45	31%	0.42	37%	-0.77
Challenged merger	Challenged	59%	3.72***	65%	0.84	58%	3.62***
	N. Challenged	36%	-1.97**	32%	-1.17	37%	-1.61*
Acq. Intangible Int. ¹⁷	High	41%	0.97	40%	-0.44	41%	1.47
	Low	35%	-1.69*	33%	-0.84	36%	-1.48
Target Intangible Int. ¹⁸	High	40%	0.64	44%	0.26	40%	0.59
	Low	36%	-1.28	31%	-1.13	37%	-0.74
Deal Size ¹⁹	High	35%	-1.43	38%	0.18	35%	1.26
	Low	41%	.051	34%	-1.34	42%	-1.75*
Sales Ratio	High	41%	1.14	44%	0.64	40%	0.98
	Low	35%	-1.88*	25%	-1.47	37%	-1.29
Percent of Ownership	100%	41%	1.32	46%	0.66	40%	1.16
	<100%	31%	-3.02***	28%	-1.64*	32%	-2.57***
Total	N=571	38%		36%		39%	

Premiums over 200% were considered outliers and removed.

High refers to observations above the median, with low being observations below the median.

¹⁷ Median acquirer intangible asset intensity is .467.

¹⁸ Median target intangible asset intensity is .37.

¹⁹ The median deal size for the sample is \$1,074 million.

Table 6. Premiums for Firm and Deal Variables for US Targets and Acquirers

Variable	Category	Premium All Markets	US Target Premiums (n=217)	US Acquirer Premiums (n=118)
Developing vs. Developed	Developing	31%	-	31%
	Developing_Both	31%	60%	31%
	Developed	43%	40%	43%
Related	Related	44%	42%	44%
	Not Related	39%	41%	39%
Challenged	Challenged	59%	87%	63%
	Not Challenged	36%	40%	37%
Acq. Intangible Intensity	High	41%	44%	47%
	Low	35%	38%	33%
Target Intangible Intensity	High	40%	41%	39%
	Low	36%	41%	43%
Deal Size	Low	36%	38%	39%
	High	38%	38%	41%
Sales Ratio	Low	46%	46%	41%
	High	42%	42%	39%
Percent of Ownership	Low	40%	40%	44%
	100%	42%	42%	44%
	<100%	51%	51%	37%
Total		38%	41%	41%

Table 7. Premiums By Trade Variables

Variable	Category	Premium All Markets	Ttest	Developing Market Premium (n)	Ttest	Developed Market Premium (n)	Ttest
Openness	High > 39	38%	0.13	35%	0.11	39%	0.10
	Low < 39	38%	0.08	37%	-1.16	38%	0.70
Average tariff rates	High>317	40%	-1.32	38%	-0.32	41%	1.39
	Low <3.17	36%	1.03	30%	-1.43	37%	-0.94
Colonial relationship	Yes	37%	-0.40	24%	-1.59	38%	0.30
	No	39%	0.40	39%	-0.17	39%	054
Common language	Yes	38%	0.02	39%	-0.5	38%	0.34
	No	38%	0.21	33%	-0.59	39%	0.49
Distance	High >5,570	39%	0.41	28%	-2.15**	41%	1.44
	Low <5,570	37%	-0.26	51%	0.96	35%	-0.85
contiguous	Yes=110	36%	-0.76	39%	-1.73	36%	0.40
	No=458	39%	0.52	36%	-0.50	39%	0.88
Population Target	High > 59.4 mill	39%	0.80	37%	-0.96	40%	0.05
	Low < 59.4 mill	37%	-0.71	35%	-1.39	37%	-0.18
Population Acquirer	High > 59.5 mill	41%	0.73	32%	-1.26	44%	1.28
	Low <59.5 mill	37%	-0.48	38%	-0.14	36%	-0.47
Total		38%		36%		39%	

Table 8. Premiums for Firm and Deal Variables for US Targets and Acquirers

Variable	Category	Premium All Markets	US Target Premiums (n=225)	US Acquirer Premiums (n=118)
Openness	High > 39	38%	47%	41%
	Low < 39	38%	41%	41%
Average tariff rates	High>317	40%	46%	44%
	Low <3.17	36%	35%	38%
Colonial	Yes	38%	39%	43%
	No	39%	42%	
Common language	Yes	38%	40%	41%
	No	38%	43%	42%
Distance	High >5,570	39%	42%	41%
	Low <5,570	37%	39%	41%
contiguous	Yes	36%	37%	43%
	No	39%	42%	40%
Population Target	High > 59.4 mill	39%	41%	44%
	Low < 59.4 mill	37%	-	41%
Population Acquirer	High > 59.5 mill	41%	47%	41%
	Low <59.5 mill	37%	41%	-
Total		38%	41%	41%

Table 9: Regression Results

<u>Dep: Premium</u>	<u>Total</u>	<u>Developing</u>	<u>Developed</u>	<u>US Target</u>	<u>US Acquirer</u>
Acq. Real Exch. Rate	0.13 0.27	-0.23 0.30	-1.93* 1.05	0.01 0.51	-5.54*** 1.52
Targ. Real Exch. Rate	0.42* 0.22	0.49 0.38	0.34 0.27	-0.05 4.59	0.47 0.83
Population_Acq	9.50e-09 3.99e-.08	1.03E-08 1.992-.08	2.90e-.08* 1.76e-.08	7.19-.08 1.45e-.07	-
Population_Target	-1.11e-08 1.26e-08	3.75e-08** 1.80e-.08	2.73e-.08 1.90e-.08	-9.64e-.08 2.69e-.06	1.84e-06 3.31e-07
Developing_Both	1.26 9.30	-	-	18.25 19.73	-
Average_tariff	-1.56 1.41	-	3.09** 1.27	-	-0.85 1.44
Sales ratio	0.02*** 0.01	0.23 0.14	0.01* 0.006	0.01 0.006	0.02 0.13
Common_lang	1.85 5.49	9.26 15.35	-2.14 4.31	-0.92 8.55	-34.62** 14.43
Acquirer Int. int.	0.29 2.20	17.9*** 6.45	-1.93* 1.06	-0.26 2.99	-0.08 8.48
Target Int. int.	-2.64 4.52	-	-1.02 4.06	8.22 7.16	2.66 9.98
% Ownership	0.47*** 0.09	0.69*** 0.24	0.31*** 0.09	0.19 0.18	0.99** 0.47
Deal Value	-0.005** 0.002	0.01 0.01	-0.01** 0.004	-0.001 0.004	-0.03 0.003
Challenged	34.86*** 8.94	31.5** 16.16	37.93*** 10.00	87.62** 37.00	31.22*** 11.10
Time Dummies	Yes	Yes	Yes	Yes	Yes
Constant	-60.98 42.14	-14.8 25.4	-40.67 42.48	392.82 1387.35	1885.43 604.04
N	339	62	298	136	59
r-squared	0.24	0.58	0.23	0.30	0.586

Notes: Robust standard errors are in parentheses. ***, **, and * denote statistical significance levels of 1%, 5%, and 10% respectively. MSE denotes means square error. Premiums above 200 were considered outliers and dropped.