

Determinants of Cross-border Merger Premia:
A Study of the Financial Services Industry
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ABSTRACT

Various theories abound as to why financial service firms choose to engage in cross border mergers. Rationales include regulatory changes, efficiency gains, increased economic integration, information cost variations, and country-specific, home market concerns. This paper empirically explores the motivations behind financial services mergers, by examining the factors that impact the deal premium paid to effectuate the merger. In doing so, the paper estimates the factors that influence the synergies expected to result from the merger. We find that stronger regulatory environments, relating to freedom from corruption, positively affect the projected synergies, but higher levels of property protection and financial freedom negatively affect the deal premium. Surprisingly, the results also indicate that larger deal premiums are paid to acquire financial services firms in developing countries, but these deal premiums are negatively influenced by the level of ownership sought, when acquiring a developing country, financial service target. These findings are important in explaining the pattern behind financial service, cross-border mergers as well as providing insight into the role that financial liberalization has in attracting foreign capital to the financial services industry.

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I. Introduction

Over the past 20 years foreign direct investment (FDI) has steadily increased with the integration of the global economy. Multinational corporations have invested significantly to expand outside their domestic borders both to penetrate new markets and establish efficient means of production. While manufactured goods have accounted for the majority of FDI, foreign direct investment in services has been growing at a faster pace than FDI in the goods sector.²

Services FDI includes many industries with financial services and telecommunications accounting for the majority of the flows. In fact, financial intermediation typically accounts for roughly 33% of global service FDI with a large percentage coming from bank mergers and acquisitions.

What explains the growth in financial services FDI? One possibility is the consolidation in the banking industry across the developed economies sparked by deregulation in the US and EU.³ Deregulation can lower entry barriers (Buch, 2002) and also result in increased industry concentration. Other advantages may include efficiency enhancements with size and other market specific, profit-enhancing opportunities. Cross-border mergers in banking, however, may not realize many of the advantages that occur with FDI in other industries due to the local knowledge intensity and relationship-nature of the industry (Berger et. al., 2002). It would seem

² Alfaro (2003) reports that in the 1990s FDI was growing at an annual rate greater than 20%, and services were accounting for over 50% of the new investments.

³ Key legislation in the US in the 1990s include the Gramm-Leach-Bliley Act and the Single Market Program in Europe. Some of the key banking mergers in the 1990s include Bank of America and Nations Bank, BNP and Paribus, UBS and Swiss Bank and Northwest and Wells Fargo.

that households and businesses would want to work with a bank that is familiar and, therefore, domestic, and potentially local. But customers may also perceive foreign banks as more stable or capable, particularly when the foreign bank is headquartered in a more developed financial market. The increasing number of cross-border financial services mergers would indicate the potential profits from international expansion.⁴

This paper seeks to examine why banks and other financial services choose to engage in a cross-border merger. The technique this paper uses is to compare the projected synergies that financial firms believe will be achieved through domestic and cross-border mergers. This is done by assessing how various factors such as market size, regulatory environment (measured via Heritage economic freedom indices), concentration, and banking volume impact the premiums paid to effectuate the mergers. We find the corruption index to have a positive impact on premiums paid in all mergers (domestic and cross-border). In contrast, the property rights and financial freedom indexes have a negative effect on the projected synergies from the merger. In addition, the level of market saturation as proxied by the loan to GDP ratio for banking has a negative effect on the premiums paid. Finally, the acquisition of a financial services firm in the developing market has a positive impact on the premium paid, but these premiums are negatively influenced by the level of ownership acquired.

II. Literature Review

While growth in FDI in manufactured goods has received the bulk of the attention in the literature, there has been an increasing focus on service FDI, particularly in financial services.

⁴ 31% of the total financial services mergers examined in this paper were cross-border mergers.

Financial services mergers have been of great interest due to the unique factors influencing the pattern of these mergers.

Soussa (2004) categorizes the primary motivations behind bank mergers in emerging markets into location-specific concerns affecting the target firm and institutional factors influencing the acquirer. The relevant issues according to Soussa (2004) affecting the target's market include shifts in regulatory environments, increased economic integration between home and host countries, information costs, and profit opportunities due to efficiency gains. The primary factors influencing the acquirer are primarily the quality of their institutions and their overall macro-economic condition.

Changes in the regulatory environment are often cited as the primary driver of bank merger activity, whether domestic or cross-border. For example, Golberg and Grosse (1994), found in their study of foreign bank entry into the United States, that foreign banks were more likely to establish themselves in states with fewer restrictions on foreign bank activities. Similarly, Focarelli and Pozzolo (2001), Barth, Caprio and Levine (2001), and Buch and de Long (2001) all provide evidence that the less restrictive the regulatory environment of the country, the greater the cross-border merger activity, as firms can bundle offerings and engage in other higher margin services. Berger et al. (2001) counter that a stronger regulatory environment in the country of the target can attract acquirers as it may imply risk reduction among foreign bidders.

Buch and DeLong (2001) use the Heritage Index of Economic Freedom to examine the government's involvement in the domestic banking sector as well as restrictions on foreign entry. They find that targets of cross-border bank mergers tend to operate in highly regulated environments, whereas acquirers tend to be located in countries where transparency is poor. This paper also uses

the Heritage Index of Economic Freedom, but delves more into the impact that specific categories have on the synergies in a financial services merger.

Focarelli and Pozzollo (2001) also posit that cross-border banking mergers follow the pattern of economic integration between countries. This rationale would suggest that banks and possibly other financial services companies expand abroad to provide services to their home-country clients in international transactions. This explanation seems to fit the relationship-nature of financial services. Focarelli and Pozzollo (2001) add that with a growing understanding of the foreign market (in particular the regulatory and institutional aspects) and a developed network of relationships with local financial institutions, international expansion will enable financial institutions to increase their range of operations and provide services to the local population as well. In support of this explanation, we find in our data set (See Table 1) that the largest number of cross-border financial service mergers occurred in Europe, where economic and legal integration among independent states is potentially at its highest.

Seth et. al. (1998) test the lending patterns by foreign banks to see if they are primarily offering services to their home country customers; the authors, however, find that in most cases, the majority of lending that occurred after a cross-border merger did not follow the customers from the home country. Miller and Parkhe (1998), in contrast, find that increased bank FDI will follow the growth in overall FDI into the country. This pattern, however, only applies to developed, not to developing, countries.

Market size, as measured by GDP per capita and/or loan value per GDP, may also impact bank FDI as acquirers seek economies of scale and growth. Brealey and Kaplanis (1996), Yamori

(1998), and Buch (2002) all find a positive relationship between host country per capita GDP and bank FDI. Ottone and Murgia (2000) also find that value in European bank mergers stem from economies of scale and product diversification or economies of scope. Banks increase margins through higher volume and also often seek to cross sell products, particularly higher valued products to retail customers (Akhavain et al, 1997). In an earlier study, however, Altunbas (1996) found that that gains from economies of scale among European banking mergers occurred in less than half the mergers; constant returns or even diseconomies of scale occurred in the other cases.

Focarelli and Pozzolo (2001) add that the primary factor influencing a bank's choice of FDI location is the expected rate of economic growth of the host country. Wezel (2004), on the other hand, does not find GDP per capita to be a significant determinant of bank FDI, but does find that the lower the risk of a financial crisis, the higher the likelihood of entry, implying banks prefer countries with a stable outlook.

Another distinguishing characteristic of cross-border versus domestic financial services mergers relates to information costs and potential information asymmetries. The decision to merge with a foreign bank entails a trade-off between the benefits of diversifying revenues and the costs due to the information and cultural frictions (Buch and DeLong, 2001). Buch and DeLong (2001) test for three measures of information costs – distance, common language, and common legal system and find distance variables to have an adverse effect, while the presence of a common legal system to have a positive influence on the attractiveness of a financial services acquisition candidate. Berger et. al. (2001) further explain that cross-border financial services mergers entail the monitoring problems relating to different cultures, management styles, employee skill sets, and adverse regulatory and

supervisory structures that can detract from the efficiency of the combined firm. In fact, early empirical studies⁵, all report a negative correlation between geographic distance and degree of bank FDI.

Ownership percent can also affect the premium paid as noted by Sonenshine and Reynolds (2013). They find in their study of cross-border mergers that ownership has a large and significant positive influence on the deal premium for transactions where the target resides in a developing country and/or has a high level of intangible asset intensity. In either case greater or complete ownership either increases the value of the target's intangible assets or lessens the risk to the acquirer of monetizing these assets. Like Sonenshine and Reynolds (2013) this paper includes an analysis of mergers in developing countries and builds on the literature by narrowing the focus to financial services, cross-border mergers. Our approach is to assess the expected costs and benefits between domestic and cross-border financial services mergers by examining the factors influencing the deal premium or the expected synergy derived from the merger.

III. Data and Empirical Methodology

This paper analyzes a set of 568 financial services mergers with a minimum transaction value of \$100 million⁶ that were announced over an eleven year time period between Jan 1, 2001 and December 31, 2011. Of these transactions, 175 were cross-border and 393 were domestic mergers. Detailed data on each financial services merger was collected from the Thomson SDC database. Financial services were categorized into five sectors: investment and commodity, commercial banks, real estate, insurance, and other financial.

⁵ See Grosse and Goldberg (1991), Buch (2002), and Focarelli and Pozzolo (2000).

⁶ This \$100 million threshold is consistent with Ottone and Murgia's (2000) study.

See Table 1 for the frequency of domestic and cross-border mergers segmented by acquirer and target regions. From this table we see that the largest number and percent of cross-border mergers occurred among European acquirers (95, 54% of all cross-border, financial services mergers) and European targets (67, 41% of all cross-border, financial services mergers). From Table 1, we also find that cross-border mergers account for at least 30% of the financial services mergers in each of the seven regions, except for Austral-Asia (Australia, Japan, and South Korea) where cross-border mergers only account for eight to fifteen percent of the transactions.⁷

Figures 1 and 2 then show the frequency of mergers by region of the acquirer and the target. Here, we see that cross-border mergers tend to ebb and flow with annual, macro economic growth as evidenced by the peak number of transactions occurring in 2007 and the trough being in 2009. Europe remained the largest source of cross-border financial mergers throughout the eleven year time period.

While these figures show the number of mergers by region, our analysis focuses on the synergies that are projected to accrue from the merger. The deal premium is used to estimate the projected synergies from the mergers. The deal premium is calculated as the percent 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. A four week time period was used instead of a smaller window to account for the possibility that information regarding the merger can leak 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, the target firm must be worth at least the value of the deal premium over and above market value to the acquiring firm. All of the

⁷ Eight percent of Austral-Asian acquirers engaged in cross border mergers, while 15% of Austral-Asian targets were part of cross-border transactions.

firms in the data set are public, so the purchase price captures the full return to the shareholders of the target firm.

The independent variables include proxies for the regulatory condition in the country. As in Buch and Delong (2001), the Heritage's economic freedom index⁸ is used to measure the impact of the regulatory situation. We used the composite index for each country as well as the target's index for rule of law⁹, which is measured via the target's Corruption Index and Property Index, all published by the Heritage Foundation. Our hypothesis is that the target's index for economic freedom and its index for rule of law will positively affect the expected synergies from the merger. The rationale is that in accordance with Dunning's OLI model (Dunning, 1988) acquiring financial services firms have firm-specific advantages (e.g. managerial techniques, intangible assets) that overcome the costs of doing business in a foreign country. However, this will not be the case if property rights cannot be guaranteed or corruption is too high in the foreign country.

We also examined the financial freedom index, which is a measure of banking efficiency as well as government interference in the banking sector.¹⁰ We hypothesize that the deal premium will be positively influenced by higher levels of financial freedom. Finally, we used the corporate tax rate index, which is an important direct cost impacting the profitability of a cross-border merger,

The key variable for economic integration is a binary variable (contiguous) to assess whether having a contiguous border between the acquirer and target affects the projected synergies from the

⁸ The factors that comprise the index are: property rights, freedom from corruption, fiscal freedom, government spending, business freedom, labor freedom, monetary freedom, trade freedom, investment freedom, financial freedom, tariff rates, income tax rates, tax burden as a percent of GDP, and government expenditure as a percent of GDP.

⁹ As shown on the Heritage Foundation website, <http://www.heritage.org/index/book/methodology>, each country is graded on a scale from 1 to 100, with 100 being that private property is guaranteed by the government and 1 being private property is outlawed. Differences between countries generally stem from a qualitative assessment of how quickly and efficiently the courts enforce contracts. The apparent level of corruption and the likelihood of expropriation are also considered.

¹⁰ Other indexes (e.g. tariffs, business freedom, financial freedom) were tested but found to be insignificant and to reduce the adjusted R-squared. As such, they were dropped from the regression analysis.

merger. The hypothesis is that cross-border financial service mergers follow the pattern of economic integration, which is more likely to occur among countries that share a geographic border. In addition, a binary variable is used to indicate language similarity or difference. This variable is used to assess the gains from mergers being in culturally similar or different countries. The other important binary variable for country location relates to the target or acquirer residing in a developed versus developing market country. Our hypothesis is that firms will pay higher premiums to acquire financial services firms in developing markets where limited competition exists, so there is a greater opportunity to gain market power, and therefore, higher, sustainable profit margins. Also, firms may seek to acquire a financial services firm in a developing market to gain access to markets where credit is relatively scarce. We also hypothesize that ownership may play an important role in mergers where a target or acquirer resides in a developing versus a developed market.

Profitability is analyzed by examining the influence that variables for size, concentration, and diversification have on the projected synergy in the transaction. We include acquirer and target GDP per capita in logs to examine potential economies of scale effects from the merger. The hypothesis is that a financial services merger (domestic and cross-border) will increase a firm's customer reach and thereby lower transaction and operating costs. In addition, we test whether increased market concentration, which would potentially lead to pricing power, is driving banking mergers. We measure this effect by examining the market concentration¹¹ in the banking industry of the target country. Also, dummy variables are used to indicate the year of the merger to account for macroeconomic effects. Finally, a dummy variable is used to control for differences between a

¹¹ We examined Herfindahl Hirschman Index (HHI) and four firm concentration ratio in each country measured by deposits. While neither coefficient was significant in the regression analysis, we chose bank HHI as the significance level for this variable was higher than it was for the four firm concentration ratio.

horizontal versus a diversifying merger.

In addition, control variables were used to account for the effect of exchange rates and economic growth. As such, the monthly index for acquirers' and targets' real effective exchange rate was used. The hypothesis is that the higher the acquirer's real effective exchange rate, the more an acquirer can pay in deal premium given the implied discount from the exchange rate (Sonenshine and Reynolds, 2013). Alternatively, the effective exchange rate of the target should have the same effect. Also, we use a GDP growth factor¹² to account for the macro economic growth of the target country.

III.1. Summary Statistics

Summary statistics for several binary statistics are broken out in Table 2. Here we see that the deal premium of 28.0 percent for cross-border mergers is substantially larger than the deal premium of 18.1 percent for domestic mergers. We also see that deal premiums were higher for mergers where one or both of the merging firms were located in a developing country¹³. Finally, we see that deal premiums on average were higher for mergers in the same industry versus diversifying products. We will test the significance of these results in our regression analysis.

Table 3 shows differences in the binary statistics segmented by the three largest acquirer regions. Here we see premiums were higher among acquirers in Europe and Austral-Asia for cross-border mergers, but not in North America. Also, we see the premiums were higher among acquirers in Europe and North America, but not in Austral-Asia, where the target was located in a developing country¹⁴. Also, premiums were far higher for horizontal versus diversifying mergers among acquirers in Europe. The opposite is true for financial services mergers among Austral-Asian

¹² A growth factor is used instead of a growth rate as all the continuous variables are logged. With a growth factor, a negative growth rate, which would be slightly less than one, can be logged.

¹³ We used the IMF's April 2012 World Economic Outlook Report to categorize developing countries.

¹⁴ There were only two mergers in North America and Austral-Asia involving a target in a developing country.

acquirers. Only a small difference between horizontal and diversifying mergers was found on average among North American acquirers.

Table 4 shows the differences in deal premiums by variable between domestic and cross-border mergers. A Ttest reveals that the difference between the two samples is significant. In addition, we see that a greater percent of ownership on average is acquired with cross-border mergers relative to domestic mergers. Two other significant differences between the samples lie in the Property and Corruption Index, both of which have a higher value when the target is engaged in a cross-border versus a domestic merger. We also see that the loan to GDP ratio is not significantly different for domestic versus cross-border mergers. Finally, we observe that the HHI Index (measured in deposits) for banking for cross-border mergers was significantly higher than the HHI index for domestic mergers.

III.2. Empirical model

Our model can be summarized as follows:

$$\begin{aligned} (\text{Deal premium}) = & \beta_0 + \sum_1^5 \beta_n \text{ Adj. Regulatory indexes} + \sum_1^4 \beta_n \text{ DevelopingMkt} \\ & + \sum_1^4 \beta_n \text{ EconIntegration} + \sum_1^5 \beta_n \text{ Profitability} + \sum_1^3 \beta_n \text{ Control} + \sum_1^4 \beta_n \text{ Sector} + \sum_1^{10} \beta_n \text{ Year} + \varepsilon \end{aligned}$$

The independent variables shown above are variable categories summarized in Table 4. The first variable, regulator indexes, includes measurements for corruption, property rights, financial freedom, corporate tax, and a composite of all indexes. We used adjusted regulatory indexes, because we found a high correlation between the regulatory index (e.g. Corruption, Property, Financial, and Composite) and GDP per capita. As such, we regressed GDP per capita on each of the regulatory indexes and used the residuals in the regression equation. Developing market includes a binary

variable with 1 indicating that one of the parties in the merger is located in a developing country. Percent ownership as well as ownership percentage interacted with the developing market variable are the other variables in this category.

Economic integration includes a variable for contiguous borders of the countries where the merging firms reside. Also included in this category is a binary variable indicating whether the two countries have the same or different languages. Profitability includes GDP per capita as well as loan to GDP interacted with a binary variable indicating whether the target is a bank. In addition, we include bank HHI for the target country interacted with the bank binary variable. Also, a binary variable indicates whether merger is horizontal or diversifying. Finally, the acquirers' real effective exchange rate is used as a control variable, in addition, to year and sector dummies for the five financial service categories, and an annual growth factor for the target country.

. This model is run for first for all mergers (domestic and cross-border) and is then restricted to domestic and cross-border mergers. In addition, a separate regression is run to examine variations between acquirers (North American, European, and Austral-Asians). The results are the following.

IV. Results

Table 5 shows the results from the regression analysis. The dependent variable is the deal premium. All continuous variables¹⁵ are measured in logs; thus the parameter estimates can be interpreted as elasticities. The three columns show the results for all mergers, cross-border mergers, and domestic mergers.

From the results, we see the importance of the regulatory environment in the target country for all mergers and domestic merger, but not for cross-border mergers. In column one, we see that

¹⁵ There were 117 transactions that were not included in the analysis because of missing explanatory variables, primarily exchange rates and HHI levels. Let's work on this over the summer. There is no way we should have missing variables due to exchange rates.

the coefficient for the corruption index in the target country is positive and significant, while the coefficient for the property index has a negative, significant effect on the deal premium. These results would indicate that financial service acquirers will pay a higher deal premium to acquire financial service firms when there is a higher corruption index but a lower index for property protection. This result would seem surprising, but it supports the findings of Demircuc –Kunt et. al. (2004) who find that better institutions to include property right protection are negatively correlated with bank interest margins. They explain that countries where the overall institutional environment is conducive to private sector competition tend to have lower interest margins. In contrast, we find the coefficient for the corruption index to have a positive, significant effect on the deal premium indicating that higher (better) corruption indexes may lower the riskiness of the asset and, therefore, lead to greater synergies. The finding regarding the property index also holds at the 10 percent level for domestic mergers as shown in column 3.

We also find the coefficient for financial freedom index to have a negative, significant effect on the deal premium for domestic mergers. This result indicates that the lower the banking efficiency in the country and / or the more involved the government is in the banking sector, the higher the expected synergy from a domestic financial services merger. Perhaps, higher levels of liberalization enhance competition, while lower levels create conditions that can lead to greater market power thus provide incentives for financial services firms to merge. We do not find the financial freedom index or other regulatory variables to have a significant effect on the deal premium in cross-border mergers.

For cross-border mergers the profitability measures appear to have a greater effect on the expected synergies than the regulatory environment. Most likely, the different result between cross-border and domestic mergers is due to the uncertainty in engaging in a cross-border merger. Instead,

we find the coefficient for horizontal in cross-border mergers (column two) to be positive and significant to the one percent level. This finding suggests that acquirers expect greater synergies from cross-border financial service mergers that are in the same industry versus diversifying. This finding contradicts the results from Ottone and Murgia (2000), who found product diversification to influence cross-border mergers in Europe, while we find greater synergies to accrue from cross-border mergers in the same industry.

It interesting to note that the GDP per capita level was not significant, suggesting that standard of living is too broad a measure to influence the expected synergies from a financial service merger. Also, the coefficient for the interactive term banking*HHI index, or the measurement of concentration in the banking sector was not significant in any of the samples. This finding suggests that market concentration alone does not have a significant impact on the expected synergies from a merger in the banking industry.

We also see in column one that the presence of a cross-border merger has a negative effect at the 10 percent level on the deal premium. In looking at cross-border mergers, we find a target in a developing market country, to have a large, positive significant effect on the deal premium. The regression results show that a financial service target in a developing economy adds 1.25 to the premium for all mergers and 1.46 percent to the deal premium for cross-border mergers. One possible explanation is that developing market firms are financially constrained, which has put downward pressure on their stock price or market value. It is also possible that acquirers can reap higher profits in developing markets by introducing better management practices that will lead to higher, long term profits and greater financial strength. Crystal et al and Dages et al (2001) emphasize that both the larger capital bases of developed country banks, and the fact that business

cycles in the home and host countries will not be synchronized, allows foreign banks to expand just when domestic banks cannot.

We also see that the coefficient for the interactive term $\text{ownership*Developing}$ is negative and significant in columns one and two. This finding would suggest that acquirers will pay a higher premium for cross-border, financial service mergers where their ownership stake is lower. Perhaps, financial service acquirers want local owner/managers to help with the transition and the cultural adaptation.

In addition, we find the loan to GDP ratio in banking to have a negative, significant effect on the deal premium for domestic and all financial services mergers. It would appear that financial service firms view the potential for greater synergies from mergers to accrue in countries where loan levels as a percent of economic activity are smaller (in other words, they see more potential growth of banking services in underdeveloped banking markets). Perhaps, markets with lower loan to GDP levels signal higher growth opportunities. However, this finding was not significant for cross-border mergers.

Finally, in examining the economic integration variables, same language and contiguous borders, we do not find the coefficients for these variables to be significant. As such, it appears that acquirers do not pay significantly different premiums for financial service firms that share borders or are culturally similar. There are differences in this pattern, however, between North American, European, and Austral-Asian acquirers as shown in table 6, where the sample is restricted to acquirers in each region.

Table 6 shows the results for the sample between the 214 European acquirers, 93 North American acquirers, and 101 Austral-Asian acquirers. For these regressions a dummy variable was

added to indicate the presence of a primary preferential treatment area (EU for Europe, NAFTA for North America, and a group of preferential trading areas for Australia/New Zealand). From the results we see the coefficient for cross-border is negative and significant to the one percent level for North American and European acquirers suggesting there are high costs to cross-border financial services mergers that are detracting from the expected synergies from the merger for financial services acquirers in these regions.

We also see membership in a PTA (EU for Europe and NAFTA for North America) to have a positive and significant effect on the deal premium. Likely, the presence of a PTA lowers transaction costs in doing business and thus makes a financial services merger in another member country more attractive.

We see from Table 7 that there are differences between the factors affecting European and North American financial services acquirers. Both acquirers show the corporate tax rate index (higher levels mean lower tax rates) to have a positive, significant impact on the deal premium, though the coefficient in the North American regression of 2.01 is far larger than the 0.27 coefficient in the European regression. In addition, the coefficient for the corruption index is positive and significant for North American but not European acquirers, indicating that North American acquirers view greater synergies to arise from lower levels of insecurity and uncertainty in economic relationships. Also, we find the coefficient for same language to be negative and significant for North American acquirers but not European. These results would indicate that North American financial service acquirers view greater synergies to result from mergers where the corruption levels are lower and the language and possibly cultural similarities are higher. This effect is not found for European acquirers. Perhaps, when there is greater cultural homogeneity within the acquirer group,

as found among North American versus European acquirers, there is greater value placed on an acquisition that is culturally diversifying. In contrast, in Europe where there is a wide variety of languages spoken and perhaps greater diversity in the customer base, acquirers place less value on a culturally diversifying mergers.

Europeans, instead, appear to view greater synergies to accrue from acquiring financial services firms in developing countries given the large, positive, significant coefficient for this variable¹⁶. In contrast, the ownership levels interacted with the target being in a developing country has a negative, significant effect on the deal premium, indicating that higher ownership detracts from the expected synergy, possibly due to the increased risk. Similarly, Austral-Asian acquirers, appear to place lower value on higher ownership levels though this effect is not found for the interactive term ownership of a target in a developing country. The other effects found in the European and North American regressions were not found when the model is restricted to Austral-Asian acquirers.

V. Conclusions

The results from this study indicate that the institutional and regulatory environment in a country has a strong influence on the expected synergy from financial services mergers. We examined the regulatory environment using indexes for corruption levels, property right protection, financial freedom, corporate taxes, and a composite index. We found across all mergers that lower corruption had a positive effect on the premiums paid while stronger property rights had a negative effect. Our conjecture is that these two variables measure different phenomena. Corruption may be costly, requiring bribes and decreasing legal certainty, therefore raising deal premiums. Stronger

¹⁶ Almost all of the cross-border mergers within Europe occurred between developed countries.

property rights may allow more entry and more competition, therefore, lowering deal premiums.

Also, different factors appear to affect cross-border versus domestic mergers. In domestic mergers, the financial freedom index had a negative effect on the premiums paid. The regulatory environment did not appear to have a significant effect on the deal premium in cross-border mergers.

Also, there are significant differences in factors affecting the deal premium among the groups of acquirers. Premiums paid by North American and European acquirers were positively influenced by the corporate tax index and the presence of a key regional PTA. In addition, deal premiums in both regions were negatively affected if the merger was cross-border. However, European acquirers seem to find greater synergies to result from a merger with the target being in a developing country. In contrast, North American acquirers appear to value culturally diversifying mergers, at least in acquiring financial services firms in countries with different languages.

Our findings suggest that, while institutions and regulatory environment matter for deal premiums, it is too simple to say that better institutions encourage mergers. Some institutional improvements raise premiums, others lower them. Investors are most interested in acquisitions in markets that have environments that provide high levels of protection of their investment, but also low levels of competition and significant growth potential. Deal premiums seem to be higher when the market is less competitive and less developed, but still developed enough and with a strong enough institutional and regulatory environment to provide reasonable prospects that property rights will be respected, corruption costs will be manageable, and regulation will be effective enough but not overly burdensome.

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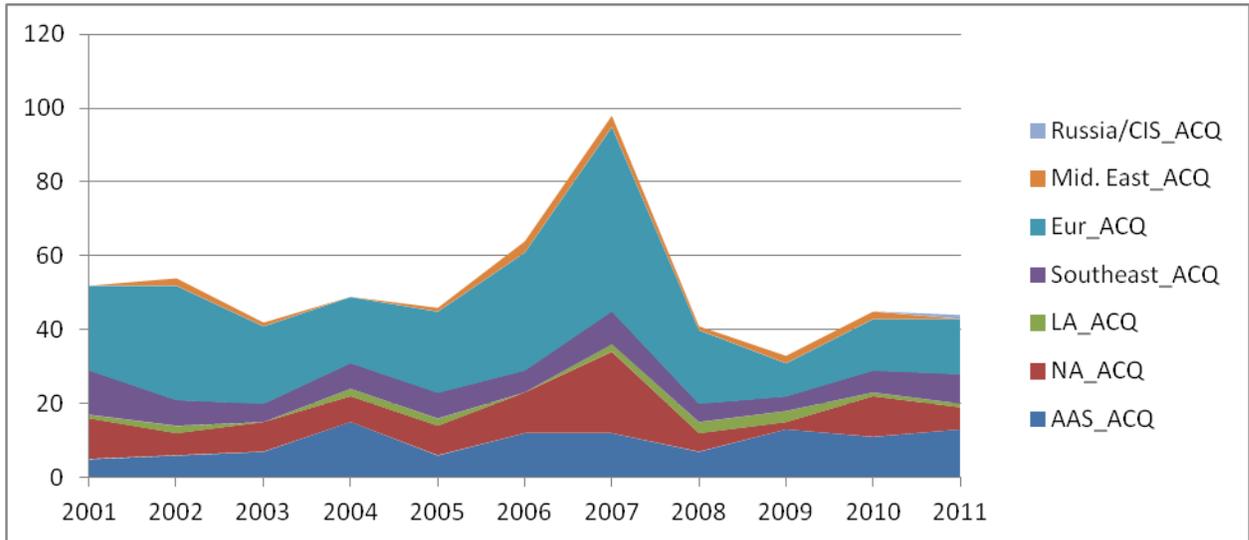
Competition and Concentration in the New European Banking Landscape. Natassa Koutsomanoli-Fillipaki

Christos Staikouras* Department of Accounting and Finance, Athens University of Economics and Business, 76 Patission Str., 104 34, Athens, Greece (where some HHI data came from)

Table 1. Domestic versus Cross-border Mergers by Region

Region	Acquirers			Target		
	Domestic Mergers	Cross-border Mergers	Total	Domestic Mergers	Cross-border Mergers	Total
Austral Asia	99	8	107	100	15	115
North America	58	39	97	59	52	111
Latin America	10	7	17	9	6	15
Southeast Asia	56	20	76	55	23	78
Europe	160	95	255	160	67	227
Middle East/Africa	9	6	15	7	6	13
Russia/CIS	1	0	1	3	6	9
Total	393	175	568	393	175	568
Percent of total	69%	31%	100%	69%	31%	100%

Figure 1. Annual Frequency of Cross Border Mergers by Acquirer Region



Regions include

Russia/CIS includes Russia and former Soviet Republics

Middle East and North Africa (Mid East),

Europe (Eur),

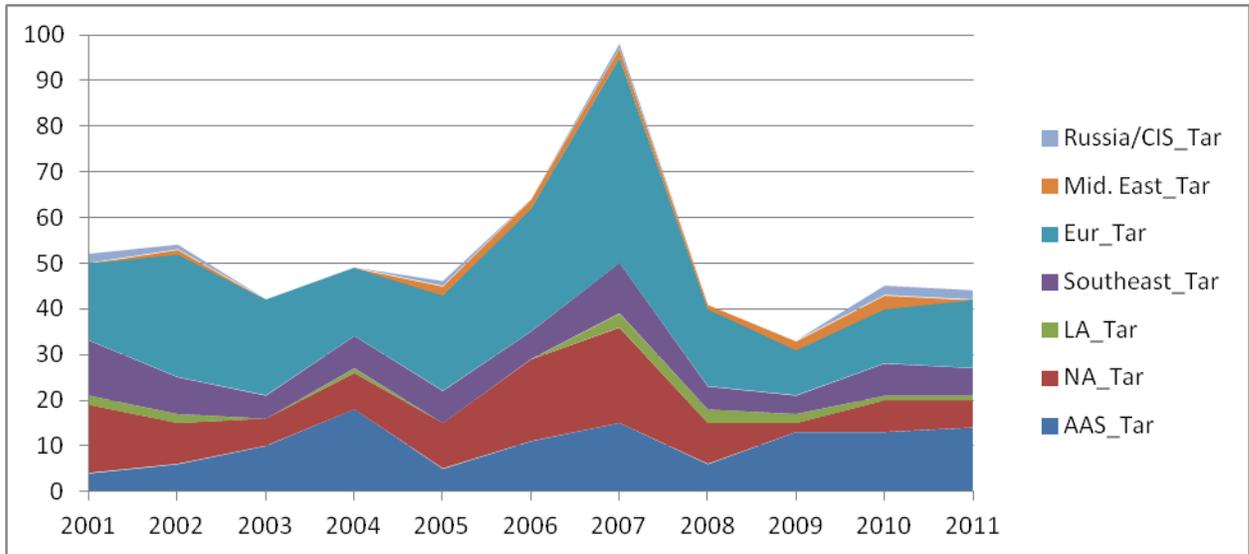
Southeast Asia (Southeast) (includes China, Philippines, Vietnam, Indonesia, Malaysia, and Singapore)

Latin America (LA) (includes Brazil and Mexico)

North America (NA) (includes Canada and USA)

Austral Asia (AAS) includes Australia, Japan, and South Korea

Figure 2. Annual Frequency of Cross Border Mergers by Target Region



Regions include

Russia/CIS includes Russia and former Soviet Republics

Middle East and North Africa (Mid East),

Europe (Eur),

Southeast Asia (Southeast) (includes China, Philippines, Vietnam, Indonesia, Malaysia, and Singapore)

Latin America (LA) (includes Brazil and Mexico)

North America (NA) (includes Canada and USA)

Austral Asia (AAS) includes Australia, Japan, and South Korea

Table 2: Summary Statistics – Average Deal Premiums By Binary Variable

Variable	N	Binary Categories	Deal Premiums
Cross-border	198	Cross-border	28.0%
	370	Domestic	18.1%
Developing Target	93	In Developing Country	25.1%
	475	Not In Developing Country	20.8%
Horizontal	219	Diversifying	19.2%
	349	Not Diversifying	23.0%
Total			21.5%

Table 3: Summary Statistics – Average Deal Premiums By Region by Binary Variable

Binary Category	Binary Variable	Europe	North America	Austral-Asia
Cross Border/ domestic	Cross-border	28.9%	26.7%	35.0%
	Domestic	15.5%	26.9%	14.0%
Target in developing country	In developing	30.1%	26.8% ¹⁷	-3.6% ¹⁸
	Not in developing	20.2%	29.1%	16.3%
Horizontal / Diversifying	Horizontal	22.7%	27.6%	12.6%
	Diversifying	18.5%	25.1%	23.2%
Total		20.9%	26.8%	15.9%

¹⁷ There were only two financial services mergers in which the acquirer is North American and the target is located in a developing market.

¹⁸ There were only two financial services mergers in which the acquirer is Austral Asian and the target is located in a developing market.

Table 4. Summary Statistics by Target Type¹

Variable	Domestic Mergers		Cross-border Mergers	
	Mean	Standard Deviation	Mean	Standard Deviation
Deal Premium (in percent)*	18.1	1.4	28.0	2.02
Target Economic Freedom	72.1	0.401	71.8	0.62
Target Property Index*	78.6	0.77	76.1	1.40
Target Corruption Index*	70.9	0.86	67.0	1.42
Related	0.61	0.025	0.62	0.034
Percent Ownership*	76.7	2.04	78.2	1.46
GDP Per Capita (Acquirer)	36.3	0.55	37.1	0.91
GDP Per Capita (Target)	36.0	0.55	38.2	1.1
Developing (Target)**	25.0	4.0	31.5	4.2
Real Exchange Rate Index, Acquirer Country	-	-	103.1	0.979
Real Exchange Rate Index, Target Country	-	-	102.9	0.921
Contiguous	-	-	0.41	0.03
Common Language	-	-	0.65	0.03
Growth Factor	1.02	0.01	1.02	0.01
HHI Index*	1032	37	1228	84
Loan to GDP	138.1	2.3	131.5	4.2

¹ Starred variables are those in which there are significant differences in the sample means between mergers with firms in industrialized countries compared to those with firms in developing countries. Does this mean that both firms are in industrialized and both in developing?

Table 5. Variables by Category

Category	Variables
Regulatory indexes	Heritage Economic Freedom Composite, Financial, Property, Corruption, Income Tax Indices
Emerging Mkt	Target in Emerging Market, Ownership, Ownership*EmergingMkt
Economic integration	Same language, contiguous
Profitability	Acquirer GDP per capita, Target GDP per capita, Banking HHI, loan to GDP, Loan to GDP*banking
Control Variables	Acquirer real exchange rate index, Target real exchange rate index, Growth factor
Sectors	Insurance, Banking, Investment, Real Estate, Other
Years	2000-2011

Table 6. Regression Results

<u>Dependent: Premium</u>	(1) All Mergers	(2) Cross-border	(3) Domestic Mergers
Economic Freedom Index, Target	0.01 (0.01)	-0.01 (0.03)	-
Acquirer Economic Freedom	0.26 (0.25)	0.12 (0.40)	-0.21 (0.38)
Financial Freedom Index	-0.02 (0.02)	0.01 (0.04)	-0.08*** (0.03)
Corruption Index	0.05** (0.02)	0.01 (0.04)	0.02 (0.04)
Property Index	-0.42*** (0.16)	-0.30 (0.20)	0.58 (0.47)
Corp Tax rate index	0.11 (0.08)	0.12 (0.13)	0.14 (0.11)
Bank*Loan to GDP	-0.17*** (0.06)	0.02 (0.06)	-0.30*** (0.10)
Cross-border	-0.08* (0.04)	-	-
Horizontal	0.05 (0.04)	0.18*** (0.06)	-0.06 (0.04)
Same language	-0.01 (0.06)	-0.02 (0.07)	-0.01 (0.35)
Percent ownership	-0.01 (0.03)	0.02 (0.08)	-6.03 (3.46)
Target in Developing Country	1.25*** (0.32)	1.46*** (0.41)	0.89 (0.61)
Ownership*Target in Developing country	-0.27*** (0.07)	-0.32*** (0.08)	-0.16 (0.15)
Bank* HHI	0.02 (0.05)	0.02 (0.08)	0.06 (0.09)
Real Exchange Rate Index, Acquirer	0.23* (0.13)	0.35 (0.23)	0.09 (0.20)
Sector Dummies	Yes	Yes	Yes
Year Dummies	Yes	Yes	Yes
No. of Observations	451	157	294
R ²	0.13	0.30	.14

Notes: Robust standard errors are in parentheses. ***, **, and * denote statistical significance levels of 1%, 5%, and 10% respectively. MSE denotes means square error.

Are there unreported

Table 7. Regression Results

<u>Dependent: Premium</u>	(1) European Acquirers	(2) North American Acquirers	(3) Austral Asian Acquirers
Economic Freedom Index, Target	0.01 (0.02)	0.05 (0.13)	0.17 (0.33)
Acquirer Composite Index	0.28 (0.35)	5.03 (3.57)	-0.09 (0.60)
Financial Freedom Index	0.01 (0.03)	0.19 (0.12)	0.04 (0.33)
Corruption Index	0.04 (0.03)	0.55*** (0.20)	0.63 (0.54)
Property Index	-0.37 (0.30)	-1.26 (1.17)	-4.05 (6.21)
Corp Tax rate index	0.27*** (0.11)	2.01*** (0.61)	-0.62 (1.95)
Bank*Loan to GDP	-0.14 (0.09)	-0.02 (0.02)	-0.39** (0.20)
Cross-border	-0.18*** (0.06)	-0.49*** (0.18)	0.16 (0.50)
Horizontal	0.05 (0.05)	-0.05 (0.07)	-0.03 (0.10)
Same language	0.07 (0.06)	-0.85*** (0.31)	-0.57 (0.63)
Percent Ownership	0.03 (0.02)	-0.07 (0.09)	-0.31*** (0.10)
Target in Developing Country	1.75*** (0.37)	1.03 (3.46)	-
Ownership*Target in Developing country	-0.40*** (0.09)	-0.30 (0.82)	0.21 (0.23)
Bank* HHI	0.04 (0.05)	0.17 (1.71)	-0.41 (1.73)
Real Exchange Rate Index, Acquirer	0.09 (0.21)	0.37 (0.33)	0.68 (0.53)
PTA membership	0.15*** (0.06)	1.58*** (0.48)	0.39 (0.92)
Sector Dummies	Yes	Yes	Yes
Year Dummies	Yes	Yes	Yes
No. of Observations	214	93	101
R ²	0.30	0.29	0.31

Notes: Robust standard errors are in parentheses. ***, **, and * denote statistical significance levels of 1%, 5%, and 10% respectively. MSE denotes means square error.