The Determinants of Cross-Border Merger and Acquisition Activity in the Banking Sector in Asia
–Did the Asian Financial Crisis Change Them?

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Abstract

This paper studies the motivation that drives financial institutions to engage in cross-border M&A activity in ten Asian countries before and after the 1997 financial crisis. Our results suggest that *following the client hypothesis* and the *regulatory restriction hypothesis* are applicable for both periods, The information cost hypothesis is only support after the Asian crisis.

We study the motivation that drives financial institutions to engage in cross-border M&A activity in Asian countries prior to and subsequent to the Asian crisis. Five hypotheses are examined, which are the *gravity hypothesis*, the *following the client hypothesis*, the *market opportunity hypothesis*, the *information cost hypothesis* and the *regulatory restriction hypothesis*. Each hypothesis includes two or three proxies and therefore results are better interpreted based on the proxies.

The first conclusion are those proxies which are effective for both periods. DISTANCE which has a negative impact in both periods, supporting the *gravity hypothesis* and *information cost hypothesis*. GDP also has a negative impact during both periods, contrary to the *gravity hypothesis* in this case. The *following the client hypothesis* is supported for both periods too, but only when TRADE is employed as the proxy. Foreign direct investment also seems to have a positive effect, which again supports the *information cost* and the *following the client hypothesis*.

Next, some determinants are only effective before the Asian crisis. For example, GDP growth rate at t+1 has a negative impact before the Asian crisis but no effect after it, indicating that acquirers have conjectured that the boom

in GDP growth would be short-lived. Thus, *market opportunity hypothesis* was at play before the crisis but was not important after it. Also, the gap in regulation barriers between two countries, when proxied by (△KKZ_CORRUP and △KKZ_RULELAW are also important before the crisis but are no longer crucial after it. Thus, the *regulation barrier hypothesis* must have become less in force after the crisis.

Keywords: Cross-border Mergers and Acquisitions; Asian crisis; information cost ; Regulations

JEL classification: G34, C23

1 Introduction

Since the Asian financial crisis in 1997, the banking sector in Asian countries has been experiencing a period of consolidation. But at the time of the crisis, local currencies and equity prices plummeted, and real estate bubbles burst. Reduced collateral values, meanwhile, put banking institutions under severe stress, but worse still, the number of non-performing loans soared, intensely shaking the banking sector. Because one of the suspected culpable factors at the root of the banking crisis was over-competition, i.e., there were too many banks in the market, policy makers were committed to reducing their number in an attempt to solve the crisis. Among the methods to accomplish this, policy markers seemed particularly to favor bank mergers (Shih, 2003). To cite a few examples, in 1998, the governor of the central bank of the Philippines stated, "The central bank favors mergers as a way to keep the number of bank failures to a minimum $\cdots$". In the meantime, the Malaysian government urged that all banks be merged into six (which later became 10) (Chong, Liu and Tan, 2006), and soon thereafter Taiwan's president announced the so-called " Second Phase of Financial Reform" invigorated banks to consolidate or form strategic alliances with foreign financial institutions. Thus began the welcoming of mergers and acquisitions (M&As) that were about to start their new journey across the wide financial landscape of Asia.

Before the crisis, foreign banks were, for the most part, restricted from entering Asian financial markets, but to be sure, the markets became much more open and much more accessible after the crisis. It is therefore interesting, if not even puzzling, to try to better understand whether the determinants of mergers and

acquisitions were different before and after the Asian crisis.

The purpose of this paper is to empirically investigate whether the Asian crisis has changed the determinants of cross-border mergers and acquisitions among financial institutions in ten Asian countries. To date, the literature on international banking has mainly considered three types of operations abroad: loan provision and asset and liability management with foreign counterparts, foreign branching and the acquisition of shareholdings in foreign banks.[1] We collect annual data on the number of M&As involving financial institutions in Asian countries from 1990-2006. Although the use of long-span data allows us to have enough data to cover two periods, pre- and post-crisis, regrettably this comes at the expense of some individual bank information.[2]

Our study belongs to the "from-many-to-many" category in the field of multinational enterprises, which means that acquirers are from many countries and their targets are in many countries. In this regard, Clarke et al. (2001) have explained that "from-many-to-many" studies are probably fewer in number because of difficulties associated with data collection.

To the best of our knowledge, this is the first study to explore the impact of the Asian crisis on the determinants of cross-border M&A activity among financial institutions. In this line of research, most of the relevant literature has focused on OECD countries (Focarelli and Pozzolo, 2000, 2001 and 2002), high-income countries (Portes and Rey, 2001) and on the U.S. and four European countries (Vascon-

[1]This paper focuses on the third type and uses the terms cross-border M&As and foreign direct investment (FDI) in banking interchangeably.

[2]BankScope, a data bank, compiles the financial statements of individual banks, but only starting from 1995.

cellos and Kish, 1998). Two exceptions are the works of Buch and DeLong (2001) and Giovanni (2002) who use some 150 countries in their sample, but their studies neither cover the period of the Asian crisis, nor do they take similar crises, such as the European currency crisis and the Tequila crisis, into account. Because the Asian crisis significantly changed the attitude of governments towards M&As , it is expected that the present study which focuses on Asian countries and the Asian crisis should complement existing studies considerably.

Some parallels can be drawn between our paper and others in the field of location choice, the study of the determinants of choosing a city to set up subsidiaries, branches, representative offices and agents by foreign banks. Brealey and Kaplanis (1996), for example, used the location of the overseas offices of 1,000 of the world's largest banks to examine the determinants of foreign bank location. Shen and Chou (2007) recently study the determinants of foreign banks' choice of Asian cities to establish new branch offices, and they point to a significant relationship between the choice of bank location, foreign trade and foreign direct investment. Our paper, however, differs from those studies in that it focuses on cross-border consolidation rather than the establishment of foreign offices, though all three of these papers belong to the field of FDI in banking.

There are very few theories about cross-border M&As among financial institutions, which explains the rationale behind the fact that most current empirical studies borrow theories from international trade. And, this paper is not an exception. We explore whether or not the following five existing hypotheses affect cross-border M&A activity in Asian countries. They are the *gravity hypothesis*, *following the client hypothesis*, *market opportunity hypothesis*, *information cost hypothesis*

and the *regulation barrier hypothesis*. These five hypotheses are explained in detail in the following section.

This paper proceeds as follows. The next section provides a survey of the literature. Section 3 presents the empirical model, and Section 4 gives the source of the data and the basic statistics. Section 5 summarizes the estimated results of our model, and Section 6 reviews the conclusions.

2 Literature Review on Cross-Border Consolidation

There is a paucity of studies in the literature related to the determinants of M&As (FDI in banking), largely stemming from the fact that some researchers may have been impeded by problems with data collection and by the fact that cross-border M&As in the banking sector have been relatively rare. This section introduces the five hypotheses we examine.

2.1 Gravity Hypothesis

The gravity hypothesis, first adopted by Tinbergen (1962), explains trade flow between two countries, say i and j, using two masses, usually GDP and distance, where the former and the latter are suggested to have positive and negative effects, respectively. Most commonly, distance has been reported to have a very significantly negative impact on M&As among financial institutions. This is slightly mystifying given that most assets in financial institutions are "weightless," and distance is not a good proxy for transportation cost in transacting financial assets (Portes and Rey (2001)).

As regards this conundrum, Portes and Rey (2001) suggest that distance might also be a proxy for information asymmetry. To explain, countries which are geographically near each other tend to know more about each other, either because of direct interaction between their citizens for business or tourism or because of more extensive media coverage. Thus, the significance of distance may reflect the validity of the gravity hypothesis or the asymmetric information hypothesis.

Our model considers GDP after logarithmic transformation (GDP) and distance (DISTANCE)as the measures of the gravity hypothesis

2.2 Following the Client Hypothesis

Following the customer is a defensive expansionary strategy that argues that international banks follow their customers when they go abroad in order to protect their existing relationship with them. See Williams (2002) for a detailed survey. The typical proxy for this (hypothesis) is the trade between two countries (the sum of exports and imports divided by GDP). However, Focarelli and Pozzolo (2003) propose a similar term which they refer to as "economic integration", and as additional measures, they consider not only bilateral trade but also foreign direct investment as well as linguistic and cultural similarities. They argue that institutional characteristics and profit opportunities are indeed the driving forces behind bank internationalization. They show–likely justifiably–that integration, or so–called common ground, between the home country and the destination country has a positive effect on the location choice of multinational banks.

We use the degree of openness of a country to proxy this concept, where the degree of openness is the sum of exports and imports divided by GDP (TRADE).

2.3 Market Opportunity

The decision to expand abroad is likely spurred by banks' search for profit opportunities beyond those offered by traditional banking activity at home. Banks in a more profitable, better developed banking sector in their home country most probably have a competitive advantage over their competitors in the destination market. Focarelli and Pozzolo (2001) use the size of the banking sector (measured as the ratio of total credit to GDP) and the average ROA of banks in home countries as proxies for market opportunity. They find that the two variables are positively related to international expansion, Also, economic growth in the host market is important. Focarelli and Pozzolo (2001) also point out that individual bank's size is another critical factor.

Focarelli and Pozzolo (2000) define market opportunity such that it includes the expected rate of economic growth and banks' efficiency in the destination country. The use of the former is the same as that in their 1991 paper, but the use of the latter is probably dependent on the individual banks they adopt, which allows them to estimate banks' efficiency. They then investigate those factors that affect foreign shareholding. Vasconcellos and Kish (1998) study the M&A activity between the U.S. and four European countries (France, German, Italy and the UK) and find that an increase in stock returns in the U.S. discourages the foreign acquisition of American firms. Conversely, an increase in European country stock returns results in an escalation in the acquisition of American firms. Thus, increases in the stock returns of acquirers seem to augment acquisitions, but an increase in the stock returns of target companies has the opposite effect.

In this study, our *Market Opportunity Hypothesis* comprises the expected rate

of economic growth and expected stock returns effect on M&As. For the former, given the currently fast economic growth, we surmise that acquirers may continuingly feel optimistic about the future economic growth of the target market. This optimistic economic growth view suggest that the impact of the economic growth is positive. Focalli and Pozllo's (2000) findings, for example, support the optimistic economic growth view since they find that banks prefer to invest in countries with high expected rates of economic growth.

On the other hand, given the high stock prices, the cost of acquiring costs is too high because the high stock price is not sustainable. Thus, potential acquirers likely tend to wait for the next opportunity, making the impact negative. Vasconcellos and Kish's (1998) findings support the high stock cost view. They found that a depressed U.S. stock market relative to foreign stock markets encourages the foreign acquisition of U.S. companies.

The proxy for market opportunity in our paper is the expected GDP growth rate at time $t+1$ (GDPGROW) and expected stock returns at time $t+1$ (STOCKRET).

2.4 Information Cost Hypothesis

Berger et al. (2000) contend that such efficiency barriers as distance as well as differences in language, culture, currency and regulatory/supervisory structures inhibit cross-border bank mergers within Europe. Buch and Delong (2001) examine three different measures of information cost, i.e., distance, common language and common legal system. They find that partners in bank mergers tend to speak the same language and to be close in terms of geographical distance. DISTANCE is also the proxy for the *information cost hypothesis* because, as mentioned earlier, countries

which are in close geographical proximity tend to know more about each other.

Many studies have shown that foreign direct investment is negatively related to information cost (Sabi, 1988; Dunning 1998; Wei et al., 1999). That is, large FDI means that firms are familiar with the transaction behavior of the host countries, which in turn reduces information cost. Therefore, foreign direct investment could also include the cost of the information.

Accordingly, our information cost covers common language (LANGUAGE), common religion (RELIGION), foreign direct investment (FDI) and distance (DISTANCE). The former two are dummy variables, that is, if the shared official language is English, for instance, or the shared religion is the same, the dummy is unity; otherwise, it is zero. For example, in our sample, the official language of Singapore, Hong Kong, the Philippines and India is English (see world bank website) Thus, their LANGUAGE is uniform. FDI is foreign direct investment divided by GDP.[3] DISTANCE refers to geographic distance, which is published in the CIA (Central Intelligence Agency) *Factbook*.

It is important to note that the movement of a variable may be the interactive outcome of more than one hypothesis. For example, DISTANCE may reflect both the gravity hypothesis and informational friction, where both indicate a pull factor for acquirers. Similarly, FDI also has intertwined implications. It is the proxy for the *information cost hypothesis* here but could also reflect the *following the client*

[3]Foreign direct investment is the net inflows of investment to acquire a lasting management interest (10 percent or more of voting stock) in an enterprise operating in an economy other than that of the investor. It is the sum of equity capital, reinvestment of earnings, other long-term capital and short-term capital, as shown in the balance of payments.

hypothesis.

2.5 Regulatory Restrictions

It is conceivable that the attitude towards M&As by the local authority of a particular country could be a critical factor in affecting a firm's decision as to whether or not to engage in a cross-border M&A. On the one hand, putting explicit limits on cross-border M&As or blocking single takeovers would definitely reduce the number of the cross-border M&As, and More than that, regulatory restrictions would, in all likelihood, reduce the international competitiveness of banks, thereby hindering their opportunities for international expansion. On the other hand, restrictions could reduce the degree of information asymmetry – for example, by making the relationship between banks and depositors more transparent; in an environment with such regulatory restrictions, those banks would likely have a greater incentive to expand their activities abroad in order to bypass their home country's restrictions.

Two categories of regulatory restrictions are often used. Of note, the regulatory restrictions here are considered in a broad sense, and as such, they include the rule of law as well as those governing institutional quality. Restrictions that comprise the first category of regulatory restrictions are related to the rule of law, institutional quality and government effectiveness. Thus, the proxies include legal origin (La Porta, Lopez-de-Silanes and Shleifer, 1997, 1998, LLSV), regulatory burden and corruption as well as rule of law (Kaufmann, Kraay and Zoido-Lobaton, KKZ, 2002). Focarelli and Pozzolo (2000) claim that, as a rule, countries with a relatively more efficient judicial system are preferred by foreign acquirers since their

market transactions would be better guaranteed.[4] Note that Galindo, Micco and Serra (2003) do not use these regulatory indices to measure cross-border activities but argue that it is the differences between home and host countries that have positive effects on bilateral cross-border banking activity.

The second category of regulatory restrictions are taken from Barth et al. 's (2000) survey and comprise restrictions on banking activities in securities, insurance and real restate, with higher values denoting more stringent restrictions. Shen and Chang (2005) hypothesize that though these restrictions may harm the performance of banks, sound government governance can reduce the adverse effects. Focarelli and Pozzolo (2000) argue that these restrictions may be a proxy for actual limitations on firms from entry into a country from abroad. Both their 2000 and 2001 results show that stricter restrictions actually reduce the number of acquisitions. Focarelli and Pozzolo (2001) find similar results.

We adopt two sets of regulatory variables. The first set is related to government governance. We adopt KKZ's indices of corruption (KKZ_CORRUP), rule of law (KKZ_RULELAW), quality of regulation (KKZ_REGQULA) and government efficiency (KKZ_GOVEFF) . The indices of KKZ are renewed every two years and contains six governance clusters. See Table 1 for the definition of each proxy.

Recall that Rossi and Volpin (2004) and Galindo, Micco and Serra (2003) suggest to use the difference of indices as one of the determinates. Following their procedure, we also use the gap indices, which are denoted as $\triangle$KKZ. Then we proceed to examine whether these regulatory gap indices affect those countries' firms' propensity to engage in cross–border M&A activity. Thus, while the origi-

[4]Shen and Lee (2006) suggest that good governance is beneficial for economic growth.

nal KKZ's indices range from –2.5 to 2.5 (see Table 1), with a higher number denoting better governance, the transformed gap indices now range from –5 to 5. And, the better the governance in the home country is, the greater is the propensity for financial institutions in the host country to be mergered.[5]

The second set of regulatory variables comprises restrictions on banking activities that engage in securities (RESTRIC_S), insurance (RESTRIC_I), real estate (RESTRIC_R) and NonFinancial (RESTRIC_NF) (from Barth et al. (2000)). We perform similar transformations to use gap indices. In this case, the gap series range from –3 to 3. Therefore, the higher the number of the gap indices is, the more restrictive the acquiring country is relative to the target country.

The definition and source of each variable are listed in Table 1.

3 Econometric model

As suggested by Buch and Delong (2001), we include a dummy variable for the presence of an international financial center in the target country since we expect that these countries would have a more liberal regulatory regime and that they must be preferred destinations for cross-border copartnersips.

We employ the Poisson regression model because the dependent variables are countable numbers. That is,

$$N_{ij} = \exp(\alpha + \mathbf{X_i}\boldsymbol{\beta}' + \varepsilon_{ij}) \tag{1}$$

where N_{ij} is the number of partnerships, i.e., M&As, between home country i and host country j, $\mathbf{X}$ is the vector of the explanatory variables and ε represent errors.

[5]Note that Galindo, et al. (2003) also take the absolute value of the differences.

Our **X** contains the five sets of variables, representing the five aforementioned hypotheses. We first examine any combination of two hypotheses and then gradually expand to three and four to avoid multicollinearity.

4 Data Description and Basic Statistics

Table 2 reports the number of M&As before (1990-1997) and after (1999-2006) the crisis, where all of our M&As exclusively involve financial institutions, such as banks, insurance companies, securities houses and other financial institutions. Five particularly interesting results emerge. First, the number of M&As is much higher after the crisis than before it. For example, for Singapore, the number before and after the crisis is 72 and 165, respectively; for Malaysia, 51 and 92, respectively; and for Hong Kong, 42 and 86, respectively. Therefore, Singapore, Malaysia and Hong Kong are the three most active acquirers in the post crisis period.

Secondly, as it has the highest number of 34 and 41 in targets before and after the crisis, financial institutions in Hong Kong are the most likely targets for consolidation. Indonesia has the second largest number of targeted financial institutions.

Thirdly, during both periods, in India, M&A activity is almost non-existent, while in Indonesia and Thailand, it is negligible.

Fourthly, though few targets and acquirers are found in Taiwan, there is a moderate increase in the number of acquirers after the crisis. Finally and somewhat bewildering, the number of M&As in Malaysia is relatively high. But, the financial centers that they are, Hong Kong and Singapore report the greatest amount of M&A activity. Overall, in light of the above basic statistics, it is abundantly clear

that there is a sharp escalation in number of cross-border M&As after the Asian crisis.

Table 3 presents the mean of each of the explanatory variables before and after the crisis. Of particular interest here are three findings, as summarized in the following. First, the level of GDP and TRADE are two variables that are obviously higher after the crisis, in large part because of higher economic growth. If the *gravity hypothesis* holds, then we can surmise that, ceteris paribus, M&A activity must have also increased. Somewhat surprisingly, the values of GDPGROW and STOCKRET do not always increase after the crisis.

Third, the $\triangle$KKZ regulatory gap indices are overwhelmingly negative for India, Indonesia, the Philippines and Thailand. Because these gap indices are the indices of acquiring countries minus those of target countries, the negative signs indicate that acquiring countries have higher regulatory indices than do these four countries.

Contrast the $\triangle$KKZ regulatory gap indices above, the positive gap indices for Hong Kong, Singapore and Taiwan signify that firms in those three countries have a greater tendency to form partnerships with targets from countries with the lower indices. As much as the former four countries (India, Indonesia, the Philippines and Thailand) have a smaller number of cross-border M&As compared with the latter three (Hong Kong, Singapore and Taiwan) which have greater number of M&As, it seems to follow that financial institutions in countries with sound governance tend to consolidate financial institutions in countries with less sound governance.

5 Empirical Results

A note must be made about the design of the methodology we employ for our estimations. In this study, we test five hypotheses, each of which contains more than two proxies; if we were to consider all of them in the regression, then we would have to estimate around 22 parameters. We must bear in mind that this would surely result in complex results on account of complex collinearity. The problem would be aggravated if we were to further divide the sample into two periods, as the number of unknown parameters would then be doubled. Therefore, we first take different pairs of hypotheses into account and then gradually increase the number of hypotheses.

Table 4 reports our estimated results based on different pairs of hypotheses. The numbers shown in the top row indicates that there are ten specifications, where the estimated results of each specification are further divided into two columns, i.e., before and after the Asian crisis. We first discuss the estimated results that pertain to the *gravity hypothesis*. The coefficients of DISTANCE are overwhelmingly significantly negative regardless of specification. For example, in the first column, they are -0.51 and -0.53 before and after the Asian crisis, respectively; hence, the *gravity hypothesis* gains momentum and support here.

This likely reflects the commonly-held notion that the greater the distance is, the higher the transaction cost is; if so, then this conceivably reduces the likelihood of firms engaging in trans-national M&A activity. This result is similar to that of Buch and Delong (2001). While this result is consistent with our earlier conjecture, in our case, it goes against our judgment because, as mentioned ear-

lier, financial assets are mostly intangible and transportation cost should not be of concern. One alternative explanation might be that distance is a proxy for the information asymmetry. When two countries are in close proximity, the extent of information asymmetry is substantially reduced, thus encouraging M&A activity.

The coefficients of GDP are mostly significantly negative both before and after the Asian crisis, compelling us to discount the *gravity hypothesis* in this case. The negative impact, however, is counter-intuitive since GDP is the proxy for the mass in the gravity theory and the mass attracts investors. One plausible explanation, nevertheless, is that a large GDP is typically different from GDP per capita, where the former is the proxy for the *gravity hypothesis* but the latter is related to the wealth of people. That is, countries with a high GDP do not necessarily attract more investors if the people in those countries are poor (i.e., GDP per capita is low). For example, there are many M&As in Singapore, but in the region, its GDP ranks second from the bottom. By way of comparison, not many M&As take place in Japan, but in the region, its GDP is the highest. The implication here could be that a lower GDP may be associated with greater M&A activity and vice versa. Therefore, GDP per capita might be a better proxy than GDP to represent the gravity. We thus repeat the exercise but using GDP per capita as the proxy and find its coefficients are positive. We discuss this issue in the robust testing.

The coefficients of TRADE are also overwhelmingly significantly positive, lending support to the *following the client hypothesis*. For example, in the first column, the coefficients are 0.61 and 0.65 in the pre- and post-crisis periods, respectively, which is a strong indication that greater trade between two countries increases the tendency for their financial institutions to merge. This is similar to the situation in

India and the Philippines. They have the lowest TRADE, and interestingly enough, they also have the fewest M&As . The situation in Singapore and Japan is just the reverse. The *following the client effect* is stronger after the crisis when TRADE is used.

The results for the *market opportunity effect* reveal an interesting pattern. The coefficients of GDPGROW are negative and positive for the pre- and post-crisis, respectively, regardless of specification. Three of the four specifications with negative coefficients are significant, whereas only one with a positive coefficient is significant. A negative sign before the crisis harnesses does not support for the optimistic economic growth view. Recall that GDPGROW is the GDP growth rate at *t+1*. Thus, during periods when economic growth in a host country is negative, potential acquirers likely hold the view that the downturn will be short-lived and that more promising times are ahead, prompting them not to consociate with financial institutions in the host country. Against this, a positive coefficient after the crisis seemingly support the optimistic economic growth view but to a lesser extent.

The coefficients of STOCKRET are insignificant for most specifications, except for one which is significantly negative before the Asian crisis. Thus, high stock cost view exists weakly. With the results of GDPGROW and STOCKRET taken together, Asian crisis strengthens the motivation of the *market opportunity hypothesis*, thought the effect is weak. We also use GROWTH and STOCKRET at time t+2 to proxy the expectations about future economic and stock market conditions, but the results do not change qualitatively. See results in the section of robust testing.

The coefficients of LANGUAGE are significantly positive for four of the eight

specifications. Note that three of the four significant coefficients show up during the post crisis period. Therefore, after the crisis, the problems caused by information cost are more severe because M&A activity is more likely to go on in those countries where the same language is spoken. Before the crisis, even when the countries that two firms come from share common language does not help t M&A activity. However, these results may not be surprising given that, in our sample, most M&As take place in Hong Kong and Singapore, where English is the officially shared language.[6]

The impact of RELIGION on M&A activity is dramatically different before and after the crisis. Before the crisis, all of the coefficients are negative, though only one is marginally significant. After the crisis, all of the coefficients are overwhelmingly significantly positive. It can be surmised that before the Asian crisis, it did not help firms consolidate if they come from countries that share the same religion but that after the crisis, it certainly did.

While the coefficients of FDI are mostly significantly positive, they are roughly the same before and after the Asian crisis. Thus, higher FDI increases M&A activity which is most likely due in large part to reduced information cost. As we have suggested, it could also represent the *hypothesis of following the client*.

The crisis evidently changed the impact of corruption on M&A activity. For both periods, the coefficients of $\triangle$KKZ_CORRUP are overwhelmingly positive, but only those before the crisis are significant. Readers are reminded that the gap index is the difference between the corruption index of acquirers and that of targets. Hence, a significant coefficient means that there is a larger gap in the corruption

[6]Results here are based on official language announced by the WORLD BANK.

index between two countries and that this does indeed encourage firms to engage in M&A activity. That is, before the crisis, financial institutions in countries with low corruption are more likely to acquire financial institutions in countries with high corruption. After the crisis, this corruption gap has no influence on firms' willingness to take advantage of M&A opportunities.

The crisis evidently did not change the impact of rule of law as the coefficients of △KKZ_RULELAW are all insignificant in both periods.

The effect of △KKZ_REGQUAL is interesting from two perspectives. First, those coefficients that are significant are all negative. Second, the coefficients are about equal in size before and after the crisis. A negative coefficient means that firms in countries with efficient regulation quality are less interested in buying those in countries with poor regulation quality. Combining the results here with those obtained from corruption, we can conclude that countries with little corruption but less regulation quality tend to be the impetus for firms to expand to merger firms in the greater corruption but more regulation quality. △KKZ_GOVEFF has no effect on M&A activity as almost none of the coefficients are significant in both periods.

The results from using the KKZ gap indices seem to suggest that regulations do affect the willingness of firms from different Asian countries to partake in cross-border M&A activity. Especially pertinent here is that when corruption or regulatory quality are different in the home and host countries, it seems to prompt firms from those countries to form partnerships (M&As) before the crisis but not after.

Table 5 repeats the estimation procedure as those of Table 4, but we consider three hypotheses simultaneously. As most of the results are similar, we skip the

discussion here.

Table 6 presents the results from using the restrictions on banks to engage in security, insurance, real estate and the non-financial industry to replace the KKZ regulatory variables. Recall that these restriction variables are the restrictive indices of acquirers minus the same indices of targets. The coefficients of $\triangle$RESTRCIT_S are all insignificantly positive before the crisis and insignificant after the crisis for seven of the ten specifications. Therefore, before the crisis, financial institutions in countries that allow banks to engage in securities tend not to form partnerships with those in countries which do not allow banks to engage in that industry. Similarly put consolidation is less frequent when the target country has relatively stiffer restrictions on banking activities. After the crisis, restrictions on banking activities do not affect cross-border M&A activity.

The coefficients of $\triangle$RESTRICT_I are overwhelmingly significantly negative for both periods, which indicates that financial institutions from relatively less restrictive countries with regard to insurance have a propensity to engage in M&A activity with those from relatively more restrictive countries. Because the coefficients in the two periods are similar, the crisis must not have affected this pattern.

The pattern vis-a-vis $\triangle$RESTRICT_R is ambiguous given that there are both positive and negative coefficients. Owing to the fact that the most of the significant coefficients are negative, we are inclined to say that, on balance, the variable has a negative effect. That is, financial institutions from countries that are relatively less restrictive when it comes to real estate tend to engage in M&A activity with those from countries that are relatively more restrictive. Because the coefficients are similar in both periods, once again, the crisis must not have affected this

pattern.

The coefficients of △RESTRICT_NF are all significantly positive. Thus, financial institutions in countries that do not allow banks to engage in non-financial industries tend to partake in M&A activity with those in countries with similar restrictions. Again, the crisis seems to not have had too much impact on this pattern as the coefficients in the two periods are roughly the same or there is no clear pattern.

6 Robustness Testing

6.1 GDP per capita as proxy for the Gravity Hypothesis

Tables 7 and 8 report the estimated results using GDP per capita as the proxy for the mass. Results, however, are sensitive to different specifications. When KKZ and bank restrictive variables are not present in the regression, the coefficients are significantly negative. However, the results change to become significantly positive when they are added in.

6.2 Market Opportunity using t+2

Tables 9 and 10 report the estimated results when GDPGROW and STOCKRET use future growth rate of t+2. Results change dramatically because coefficients of STOCKRET become almost all significantly positive. Therefore, market opportunity hypothesis gains strong support if the acquirers look at the long run effect stock return two years ahead. Results of GDPGROW, however, remain the same.

7 Conclusions

We study the motivation that drives financial institutions to engage in cross-border M&A activity in Asian countries prior to and subsequent to the Asian crisis. In other words, we delve into the impact of the Asian crisis on the determinants of cross-border M&As in Asian countries. Before discussing the conclusions, one caveat should be pointed out. While we posit five hypotheses, their multiple proxies may yield mixed results. Furthermore, some proxies may belong to more than one hypothesis. Thus, it is uneasy to decisively reject or non-reject the hypotheses by simply examining the significance of proxies (which are also referred to as determinants here). One way to overcome this shortcoming is to discuss more on the influence of each determinant and less about whether each hypothesis is supported or rejected. The conclusion can be highlighted in the following.

First, some determinants have an equal impact on M&A activity before and after the Asian crisis. For example, DISTANCE has a negative impact in both periods, which supports the *gravity hypothesis* and *information cost hypothesis*. GDP also has a negative impact during both periods, contrary to the *gravity hypothesis* in this case. The *following the client hypothesis* is supported for both periods too, but only when TRADE is employed as the proxy. When the regulatory gap is relatively narrow between two countries in terms of the number of restrictions on the banking industry engaging in insurance, then firms seem to be encouraged to partake in cross-border M&A activity. By contrast, when the regulatory gap is relatively wide between two countries in terms of restrictions on non-financial activities, it encourages firms to engage in M&A activity . Foreign direct investment also seems

to have a positive effect, which again supports the *information cost* and the *following the client hypothesis*.

Next, some determinants are only effective before the Asian crisis. For example, GDP growth rate at t+1 has a negative impact before the Asian crisis but no effect after it, indicating that acquirers have conjectured that the boom in GDP growth would be short-lived. We reason that the *market opportunity hypothesis* was likely very much at play before the crisis but was not important after it. Also, the gap in regulation barriers between two countries, when proxied by (△KKZ_CORRUP and △KKZ_RULELAW are also important before the crisis but are no longer crucial after it. Thus, the *regulation barrier hypothesis* must have become less in force after the crisis.

Third, some determinants are only effective after the Asian crisis. For example, sharing a common language and being of the same religious faith become more and more important in determining the extent of M&A activity after the crisis. That is, the *information cost hypothesis* based on these two determinants gains momentum after the crisis. Last, some determinants seem to have no affect whatsoever in both periods. For example, future stock return does not have any impact in our sample.

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Table 1: Data Specification and Sources

Variables	Definitions	Sources
Gravity		
DISTANCE	Compute as the shortest line between two countries' commercial centers according to the degrees of latutude and longitude	CIA
GDP	GDP in billion US–Dollar in 2000.	WDI
Follow the client		
TRADE	Bilateral trade volume (import+export) between acquirer and target country.	WDI
Market Opportunity		
GDPGROW(%)	GDP growth rate	WDI
STOCKRET(%)	stock return	DY
Information Cost		
LANGUAGE	Dummy variable set equal to 1 if the same legal system prevails in the target and acquirer country, 0 otherwise.	CIA
RELIGIOUS	Dummy variable set equal to 1 if the same religious prevails in the target and acquirer country, 0 otherwise.	CIA
FDI(%)	Foreign direct investment in percent of GDP.	WDI
Regulatory Restriction		
KKZ_CORRUP	Kaufman, Kraay and Zoido-Lobatón(KKZ) index,this variable measures the Control of Corruption dimension. The KKZ index is measured in units ranging from about -2.5 to 2.5, with higher values corresponding to better governance.	WB
KKZ_RULELAW	KKZ index,this variable measures the Rule of Law dimension. The KKZ index is measured in units ranging from about -2.5 to 2.5, with higher values corresponding to better governance	WB
KKZ_REGQUL	KKZ index,this variable measures the Requlatory Quality dimension. The KKZ index is measured in units ranging from about -2.5 to 2.5, with higher values corresponding to better governance	WB
KKZ_GOVEFF	KKZ index,this variable measures the Government Effectiveness dimension. The KKZ index is measured in units ranging from about -2.5 to 2.5, with higher values corresponding to better governance	WB
RESTRIC_S	Index of the restrcition on Bank's operation in securitites sector, Range from 1 to 4 with a higher value indictiog a more restrictive envronment.	Barth et al.

next

continue

Variables	Definitions	Sources
RESTRIC_I	Index of the restrcition on Bank's operation in Insurence sector, Range from 1 to 4 with a higher value indictiog a more restrictive envronment.	Barth et al.
RESTRIC_E	Index of the restrcition on Bank's operation in Real Estate sector, Range from 1 to 4 with a higher value indictiog a more restrictive envronment.	Barth et al.
RESTRIC_NF	Index of the restrcition on Bank's holding in Nonfinancial Institution, Range from 1 to 4 with a higher value indictiog a more restrictive envronment.	Barth et al.

Barth et al. : Barth et al. (2000) and Barth et al. (2003).

CIA : Central Intelligence Agency web site, USA.

DY : Datastream and Yahoo.

WB : World Bank website, www.worldbank.org.

WDI : World Development Indicators 2006.

Table 2: Cross-Border merger number in Asian countries.

	Acquiring Country																					
	Hong Kong		India		Indonesia		Japan		Korea		Malaysia		Philippines		Singapore		Taiwan		Thailand		Sum	
Target country	Bef	Aft	Bef	Aft	Bef	Aft	Bef	Aft	Bef	Aft	Bef	Aft	Bef	Aft	Bef	Aft	Bef	Aft	Bef	Aft	Bef	Aft
Hong Kong			0	0	2	1	9	16	2	3	14	34	0	1	20	41	7	10	5	2	59	108
India	2	4			0	1	2	2	0	0	0	0	0	0	2	9	0	0	1	0	7	16
Indonesia	1	6	0	2			7	4	2	2	10	20	1	0	13	35	1	1	0	3	35	73
Japan	0	3	0	0	0	0			0	1	0	0	0	0	3	2	0	1	0	0	3	7
Korea	0	11	0	0	0	0	4	9			0	1	0	0	1	2	0	0	0	1	5	24
Malaysia	12	14	0	0	0	0	3	6	0	0			2	0	17	24	0	0	0	1	34	45
Philippines	4	11	0	0	0	1	5	1	0	0	10	8			8	17	2	2	1	1	30	41
Singapore	8	26	0	0	7	1	1	6	0	2	13	24	1	0			0	2	0	0	30	61
Taiwan	6	8	0	0	0	0	3	8	0	1	0	0	0	0	0	7			0	0	9	24
Thailand	9	3	0	0	0	0	4	10	0	0	4	5	0	0	8	28	0	4			25	50
Sum	42	86	0	2	9	4	38	62	4	9	51	92	4	1	72	165	10	20	7	8	686	

Bef and Aft denote the Before and After the Asian crisis, respectively.

Table 3: Descriptive Statistics

	Acquirer Country																			
	Hong Kong		India		Indonesia		Japan		Korea		Malaysia		Philippines		Singapore		Taiwan		Thailand	
variable	Bef	Aft	Bef	Aft	Bef	Aft	Bef	Aft	Bef	Aft	Bef	Aft	Bef	Aft	Bef	Aft	Bef	Aft	Bef	Aft
GDP	129.59	169.07	318.30	500.64	143.73	176.20	4394.38	4769.11	370.80	546.99	63.57	94.15	60.47	79.56	59.89	92.30	258.30	324.44	105.21	131.45
GDPGROW(%)	5.32	4.54	5.43	5.97	7.38	3.98	1.84	1.02	7.25	6.08	9.24	5.37	3.13	4.18	8.82	4.60	6.10	4.49	−3.91	4.98
STOCKRET(%)	22.82	10.36	6.70	25.86	na	26.39	138.11	3.70	−16.16	23.10	−12.24	9.45	16.80	8.35	7.22	14.01	2.09	2.21	−10.07	13.49
Trade	10369.06	na	1094.95	2617.14	4207.43	5657.17	22106.53	27810.63	8102.62	13360.14	6720.40	11005.19	1857.57	4181.12	11774.01	18137.77	8893.07	15113.72	5044.18	7631.92
FDI	na	17.17	0.35	0.84	1.61	−0.94	0.03	0.19	0.32	1.14	6.29	3.23	1.61	1.45	11.15	14.43	na	na	1.78	2.34
△ KKZ_CORRUP	1.18	1.24	−0.98	−0.84	−1.22	−1.59	0.83	0.89	−0.00	−0.11	0.00	−0.12	−1.08	−1.05	2.01	2.15	0.27	0.26	−1.00	−0.81
△ KKZ_RULELAW	1.00	0.94	−0.90	−0.52	−1.34	−1.63	0.89	0.99	0.00	0.13	0.02	−0.04	−1.02	−1.20	1.47	1.44	0.23	0.32	−0.36	−0.42
△ KKZ_REQQULA	1.07	1.20	−0.98	−1.10	−0.61	−1.24	−0.07	0.36	−0.22	0.02	0.02	−0.18	−0.38	−0.60	1.28	1.39	0.29	0.43	−0.39	−0.27
△ KKZ_GOVEFF	1.16	0.74	−1.42	−0.91	−0.90	−1.36	0.51	0.43	−0.26	0.13	−0.12	0.14	−0.71	−0.86	1.63	1.71	0.47	0.47	−0.34	−0.51
KKZ_CORRUP	1.64	1.53	−0.31	−0.34	−0.52	−1.01	1.32	1.22	0.57	0.31	0.57	0.30	−0.40	−0.53	2.38	2.36	0.81	0.65	−0.32	−0.31
KKZ_RULELAW	1.66	1.39	−0.05	0.06	−0.44	−0.93	1.56	1.43	0.76	0.66	0.79	0.49	−0.15	−0.54	2.09	1.83	0.97	0.82	0.43	0.15
KKZ_REGQULA	1.73	1.71	−0.12	−0.36	0.20	−0.48	0.69	0.95	0.55	0.65	0.78	0.47	0.41	0.08	1.92	1.88	1.02	1.01	0.41	0.38
KKZ_GOVEFF	1.90	1.41	−0.42	−0.07	0.04	−0.47	1.31	1.14	0.61	0.86	0.74	0.87	0.21	−0.03	2.32	2.28	1.28	1.17	0.54	0.27
△ RESTRIC_S	−0.88		0.22		0.22		0.22		0.22		0.22		−0.88		−0.88		0.22		1.33	
△ RESTRIC_I	−0.88		0.22		1.33		−0.88		0.22		0.22		−0.88		−0.88		1.33		0.22	
△ RESTRIC_E	−2.44		0.88		0.88		0.88		0.88		−0.22		−1.33		−0.22		0.88		−0.22	
△ RESTRIC_NF	−1.11		0.00		1.11		0.00		0.00		0.00		−1.11		1.11		0.00		0.00	
RESTRIC_S	1		2		2		2		2		2		1		1		2		3	
RESTRIC_I	2		3		4		2		3		3		2		2		4		3	
RESTRIC_E	1		4		4		4		4		3		2		3		4		3	
RESTRIC_NF	2		3		4		3		3		3		2		4		3		3	

Bef and Aft denote the Before and After the Asian crisis, respectively.

Table 4: Determnants of international financial mergers : Poisson estimates

	1		2		3		4		5		6		7		8		9		10	
variable	Bef	Aft	Bef	Aft	Bef	Aft	Bef	Aft	Bef	Aft	Bef	Aft	Bef	Aft	Bef	Aft	Bef	Aft	Bef	Aft
CONST	−3.03**		1.90**		1.23**		−0.89**		−5.88**		−6.69**		−6.14**		−1.41**		−1.13**		−1.97**	
	(5.16)		(4.63)		(3.21)		(2.15)		(9.40)		(9.08)		(11.46)		(10.22)		(9.50)		(10.91)	
DISTANCE	−0.51**	−0.53**	−0.83**	−0.73**	−0.85**	−0.80**	−0.90**	−0.77**												
	(4.93)	(4.80)	(6.25)	(5.40)	(5.23)	(6.01)	(7.12)	(5.98)												
GDP	−0.48**	−0.49**	−0.27**	−0.24**	−0.22**	−0.14*	−0.12	−0.06												
	(6.45)	(5.51)	(3.60)	(3.01)	(2.94)	(1.91)	(1.44)	(0.75)												
TRADE	0.61**	0.65**							0.54**	0.52**	0.60 **	0.62**	0.56**	0.55**						
	(10.26)	(8.99)							(8.66)	(8.31)	(7.75)	(7.30)	(9.72)	(8.99)						
GDPGROW(%)			−0.06**	0.01					−0.01	0.08**					−0.09**	0.06	−0.03**	0.05		
			(3.95)	(0.28)					(0.30)	(2.51)					(4.11)	(1.49)	(2.02)	(1.49)		
STOCKRET(%)			−0.004	−0.001					0.001	0.004					−0.01**	−0.004	−0.004	−0.001		
			(1.27)	(0.30)					(0.26)	(1.03)					(2.95)	(0.08)	(1.31)	(0.35)		
LANGUAGE					0.03	0.60**					0.75**	1.12**			0.38	0.75**			−0.42*	0.30
					(0.11)	(2.16)					(2.38)	(3.35)			(1.19)	(2.33)			(1.83)	(0.89)
RELIGION					−0.04	0.76**					−0.55*	0.66**			−0.11	0.78**			−0.44*	0.99**
					(0.16)	(3.15)					(1.81)	(2.35)			(0.38)	(3.13)			(1.70)	(3.55)
FDI					0.03	−0.00					0.07**	0.00			0.09**	0.02			0.20**	0.07**
					(1.46)	(0.22)					(3.55)	(0.04)			(3.83)	(1.10)			(7.13)	(3.83)
△KKZ_CORRUP							0.83**	0.27					0.76**	0.06			0.84**	0.19	0.99**	0.64
							(2.89)	(0.78)					(2.13)	(0.16)			(2.32)	(0.57)	(3.15)	(1.27)
△KKZ_RULELAW							−0.26	0.16					−0.29	−0.03			−0.43	0.09	0.00	0.51*
							(0.69)	(0.62)					(0.56)	(0.14)			(0.85)	(0.37)	(0.01)	(1.84)
△KKZ_REGQULA							−1.71**	−0.61**					−0.90**	−1.63**			−1.57**	−0.79**	0.14	−0.06
							(3.53)	(2.25)					(2.01)	(5.58)			(2.99)	(2.13)	(0.27)	(0.21)
△KKZ_GOVEFF							0.88 *	0.57					0.33	2.05			0.89**	0.91*	−0.50	−0.31
							(1.94)	(1.17)					(0.64)	(4.80)			(1.79)	(1.66)	(1.09)	(0.57)
R^2	0.160		0.100		0.129		0.205		0.064		0.148		0.192		0.088		0.111		0.136	

Bef and Aft denote the Before and After the Asian crisis, respectively.

** denote significant at the 5% level.

* denote significant at the 10% level.

Table 5: Determnants of international financial mergers : Poisson estimates

	1		2		3		4		5		6		7		8		9		10	
variable	Bef	Aft	Bef	Aft	Bef	Aft	Bef	Aft	Bef	Aft	Bef	Aft	Bef	Aft	Bef	Aft	Bef	Aft	Bef	Aft
CONST	−2.47**		−3.77**		−2.88**		1.22**		1.16**		−1.37**		−6.97**		−5.70**		−6.36**		−2.55**	
	(3.45)		(4.90)		(4.64)		(2.43)		(2.13)		(2.50)		(7.56)		(9.05)		(8.79)		(11.96)	
DISTANCE	−0.57**	−0.51**	−0.51**	−0.67**	−0.60**	−0.55**	−0.97**	−0.77**	−0.91**	−0.73**	−0.86**	−0.80**								
	(4.92)	(4.36)	(3.81)	(5.50)	(4.34)	(3.35)	(5.35)	(5.37)	(6.53)	(5.26)	(5.25)	(6.20)								
GDP	−0.53**	−0.51**	−0.57**	−0.56**	−0.40**	−0.43**	−0.19**	−0.18*	−0.13	−0.14	0.07	0.23**								
	(6.37)	(4.98)	(5.04)	(5.26)	(3.64)	(2.89)	(2.27)	(1.88)	(1.35)	(1.51)	(0.67)	(2.54)								
TRADE	0.60**	0.57**	0.73**	0.75**	0.55**	0.57**							0.62**	0.59**	0.51**	0.45**	0.45**	0.54**		
	(8.54)	(7.61)	(8.69)	(7.94)	(6.94)	(5.60)							(6.76)	(6.29)	(7.84)	(6.67)	(5.62)	(6.46)		
GDPGROW(%)	−0.05**	0.03					−0.09**	0.02	−0.04**	0.02			−0.06*	0.08**	−0.01	0.07*			−0.06**	0.11**
	(3.14)	(0.77)					(5.08)	(0.37)	(3.00)	(0.28)			(1.81)	(2.37)	(0.37)	(1.82)			(4.14)	(2.34)
STOCKRET(%)	0.0007	0.003					−0.011**	−0.001	−0.004	−0.002			−0.006	0.005	−0.003	0.005			−0.009**	−0.0005
	(0.21)	(0.83)					(3.69)	(0.24)	(1.41)	(0.60)			(1.54)	(1.16)	(0.10)	(1.61)			(3.16)	(0.11)
LANGUAGE			0.65**	1.08**			0.46	0.73**			−0.19	0.28	1.17**	1.19**			0.20	0.43	−0.19	0.45
			(2.35)	(3.78)			(1.63)	(2.34)			(0.81)	(0.91)	(3.41)	(3.21)			(0.72)	(1.27)	(0.82)	(1.25)
RELIGION			−0.07	1.03**			0.16	0.72**			0.00	0.67**	−0.56*	0.68**			−0.48	0.53*	−0.50*	0.80**
			(0.25)	(4.27)			(0.62)	(2.74)			(0.01)	(2.73)	(1.66)	(2.48)			(1.52)	(1.85)	(1.89)	(2.76)
FDI			−0.03	−0.03			0.05**	−0.00			0.23**	0.06**	0.08**	0.01			0.23**	0.03*	0.27**	0.06**
			(1.12)	(1.55)			(2.14)	(0.14)			(8.45)	(3.83)	(3.40)	(0.81)			(7.76)	(1.65)	(8.88)	(3.93)
△KKZ_CORRUP					0.42	−0.23			0.74**	−0.13	0.84**	0.36			0.81*	−0.38	0.94**	0.22	1.18**	0.32
					(1.23)	(0.61)			(2.39)	(0.39)	(2.41)	(0.97)			(1.93)	(1.23)	(2.10)	(0.48)	(3.26)	(0.76)
△KKZ_RULELAW					0.16	−0.11			−0.41	0.20	0.32	0.75**			−0.37	0.10	0.41	0.22	−0.39	0.50*
					(0.33)	(0.34)			(1.08)	(0.74)	(0.79)	(2.94)			(0.59)	(0.40)	(0.64)	(0.80)	(0.79)	(1.74)
△KKZ_REGQULA					−0.29	−0.94**			−1.57**	−0.51	−1.09*	−0.25			−1.11**	−1.77**	0.68	−0.76**	0.19	−0.24
					(0.49)	(3.09)			(2.93)	(1.52)	(1.88)	(0.88)			(2.13)	(5.42)	(1.04)	(2.07)	(0.34)	(0.70)
△KKZ_GOVEFF					−0.21	1.73**			0.92*	0.87	0.32	−0.22			0.47	2.43**	−1.13*	0.86	−0.24	0.07
					(0.36)	(3.36)			(1.93)	(1.60)	(0.67)	(0.49)			(0.80)	(5.55)	(1.77)	(1.61)	(0.51)	(0.14)
R^2	0.154		0.307		0.242		0.172		0.198		0.254		0.209		0.171		0.250		0.182	

Bef and Aft denote the Before and After the Asian crisis, respectively.

** denote significant at the 5% level.

* denote significant at the 10% level.

Table 6: Determnants of international financial mergers : Possion estimates

	1		2		3		4		5		6		7		8		9		10	
variable	Bef	Aft	Bef	Aft	Bef	Aft	Bef	Aft	Bef	Aft	Bef	Aft	Bef	Aft	Bef	Aft	Bef	Aft	Bef	Aft
CONST	1.45**		−5.19**		−1.66**		−1.54**		−2.19**		1.73**		0.67		−5.66**		−5.52**		−1.75**	
	(3.26)		(9.17)		(9.92)		(10.46)		(3.31)		(3.30)		(1.23)		(8.83)		(8.30)		(10.30)	
DISTANCE	−0.80**	−0.74**							−0.48**	−0.58**	−0.85**	−0.70**	−0.76**	−0.72**						
	(6.33)	(5.88)							(3.63)	(4.22)	(6.10)	(5.35)	(4.63)	(5.39)						
GDP	−0.26**	−0.17*							−0.53**	−0.29*	−0.25**	−0.24**	−0.25**	−0.14						
	(2.77)	(1.95)							(4.82)	(1.77)	(2.57)	(2.40)	(2.20)	(1.29)						
TRADE			0.37**	0.46**					0.53**	0.42**					0.50**	0.47**	0.41**	0.48**		
			(6.15)	(7.18)					(6.94)	(3.28)					(7.89)	(6.87)	(5.75)	(6.18)		
GDPGROW(%)					−0.08**	0.11**					−0.05**	−0.00			−0.00	0.05*			−0.08**	0.08*
					(4.94)	(3.21)					(3.22)	(0.08)			(0.15)	(1.70)			(4.77)	(1.91)
STOCKRET(%)					−0.009**	0.0001					−0.005	−0.003			−0.002	0.003			−0.009**	−0.001
					(2.62)	(0.02)					(1.59)	(0.65)			(0.73)	(0.85)			(2.59)	(0.20)
LANGUAGE							−0.27	0.38					0.15	0.41			0.43	0.30	0.02	0.48
							(1.07)	(1.22)					(0.54)	(1.44)			(1.41)	(0.93)	(0.09)	(1.43)
RELIGION							−0.24	1.03**					0.15	0.81**			−0.20	0.63**	−0.16	0.86**
							(0.94)	(4.33)					(0.54)	(3.39)			(0.64)	(2.25)	(0.63)	(3.40)
FDI			0.18**	0.02**	0.20**	0.06**	0.15**	0.04**					0.12**	0.03*			0.17**	0.01	0.22**	0.04**
			(6.21)	(1.98)	(7.09)	(5.04)	(5.78)	(2.40)					(4.09)	(1.83)			(5.75)	(0.83)	(7.26)	(2.27)
△RESTRIC_S	0.14	0.18*	0.15	−0.03	0.11	0.06	0.05	0.17	0.16	0.13	0.15	0.23**	0.14	0.34**	0.12	−0.17	0.10	0.08	0.07	0.16
	(1.15)	(1.67)	(0.76)	(0.19)	(0.65)	(0.36)	(0.37)	(1.13)	(1.17)	(0.87)	(1.23)	(2.02)	(0.92)	(2.71)	(0.66)	(0.92)	(0.50)	(0.47)	(0.39)	(1.13)
△RESTRIC_I	−0.68**	−0.85**	−0.66**	−0.68**	−0.58**	−0.74**	−0.65**	−1.00**	−0.24	−0.73**	−0.53**	−0.78**	−0.79**	−1.05**	−0.23**	−0.32**	−0.62**	−0.71**	−0.57**	−0.77**
	(3.98)	(5.24)	(4.53)	(4.52)	(4.14)	(4.45)	(5.17)	(5.10)	(1.32)	(2.80)	(2.78)	(4.48)	(3.56)	(5.53)	(2.48)	(2.63)	(3.72)	(4.20)	(3.74)	(4.30)
△RESTRIC_R	0.15	0.01	−0.26**	0.12	−0.33**	−0.09	−0.17*	−0.12	−0.12	0.09	0.08	−0.01	−0.07	−0.17	0.14	0.36**	−0.21*	0.06	−0.36**	−0.08
	(1.34)	(0.08)	(2.21)	(1.00)	(2.92)	(0.63)	(1.73)	(0.87)	(0.95)	(0.65)	(0.69)	(0.08)	(0.42)	(1.07)	(1.52)	(3.21)	(1.65)	(0.50)	(2.95)	(0.60)
△RESTRIC_NF	0.32**	0.52**	0.69**	0.60**	0.83**	0.54**	0.60**	0.57**	0.44**	0.55**	0.35**	0.47**	0.43**	0.59**	0.47**	0.50**	0.62**	0.54**	0.87**	0.46**
	(2.39)	(3.53)	(4.49)	(3.86)	(5.61)	(3.34)	(5.39)	(3.59)	(3.04)	(3.00)	(2.23)	(2.83)	(2.91)	(3.75)	(2.59)	(2.61)	(4.40)	(3.39)	(5.81)	(3.12)
R^2	0.198		0.234		0.148		0.155		0.205		0.167		0.264		0.182		0.259		0.176	

Bef and Aft denote the Before and After the Asian crisis, respectively.

** denote significant at the 5% level.

* denote significant at the 10% level.

Table 7: Determnants of international financial mergers : Possion estimates(Robustness Test)

	1		2		3		4		5		6		7	
variable	Bef	Aft	Bef	Aft	Bef	Aft	Bef	Aft	Bef	Aft	Bef	Aft	Bef	Aft
CONST	−4.52**		0.66**		0.47**		−3.99**		−6.71**		0.35		−0.28	
	(7.90)		(3.22)		(2.05)		(5.93)		(8.85)		(1.49)		(1.43)	
DISTANCE	−0.61**	−0.63**	−0.90**	−0.81**	−0.96**	−0.78**	−0.67**	−0.63**	−0.56**	−0.72**	−0.96**	−0.83**	−0.91**	−0.83**
	(6.04)	(6.05)	(7.59)	(7.40)	(6.40)	(7.42)	(5.79)	(5.64)	(4.48)	(6.12)	(6.06)	(6.77)	(8.65)	(7.99)
GDPPER	−0.03**	−0.03**	0.00	0.00	−0.05**	−0.01	−0.03**	−0.01	−0.10**	−0.05**	−0.04**	−0.01	0.05**	0.06**
	(3.11)	(2.53)	(0.11)	(0.23)	(2.89)	(1.44)	(2.61)	(0.89)	(4.53)	(4.54)	(2.44)	(0.65)	(5.65)	(7.15)
TRADE	0.57**	0.59**					0.52**	0.47**	0.77**	0.80**				
	(9.77)	(9.35)					(7.80)	(7.36)	(10.63)	(9.75)				
GDPGROW(%)			−0.06**	0.03			−0.03*	0.06			−0.08**	0.02		
			(3.34)	(0.72)			(1.88)	(1.23)			(4.91)	(0.52)		
STOCKRET(%)			−0.003	−0.001			0.002	0.003			−0.010**	−0.009		
			(0.87)	(0.25)			(0.58)	(0.72)			(3.57)	(0.16)		
LANGUAGE					0.11	0.66**			0.87**	1.26**	0.48*	0.78**		
					(0.41)	(2.37)			(3.16)	(3.88)	(1.73)	(2.50)		
RELIGION					−0.08	0.81**			0.11	1.08**	0.16	0.73**		
					(0.30)	(3.47)			(0.41)	(4.34)	(0.65)	(2.84)		
FDI					0.09**	0.01			0.11**	0.02	0.11**	0.01		
					(3.30)	(0.82)			(3.69)	(1.14)	(3.65)	(0.38)		
△KKZ_CORRUP													0.94**	0.63
													(3.16)	(1.60)
△KKZ_RULELAW													−0.04	0.73**
													(0.09)	(2.97)
△KKZ_REGQULA													−1.84**	−0.68**
													(4.84)	(2.71)
△KKZ_GOVEFF													0.91**	−0.01
													(2.07)	(0.02)
R^2	0.127		0.090		0.136		0.106		0.306		0.175		0.228	

Bef and Aft denote the Before and After the Asian crisis, respectively.

** denote significant at the 5% level.

* denote significant at the 10% level.

Table 8: Determnants of international financial mergers : Possion estimates(Robustness Test)

	1		2		3		4		5		6		7	
variable	Bef	Aft	Bef	Aft	Bef	Aft	Bef	Aft	Bef	Aft	Bef	Aft	Bef	Aft
CONST	−2.16**		−0.43		−0.90**		0.13		−2.89**		0.21		−0.24	
	(2.91)		(1.56)		(3.57)		(0.62)		(4.44)		(0.80)		(0.95)	
DISTANCE	−0.80**	−0.80**	−0.83**	−0.88**	−0.94**	−0.75**	−0.87**	−0.77**	−0.71**	−0.65**	−0.84**	−0.82**	−0.91**	−0.75**
	(6.58)	(6.21)	(7.33)	(7.44)	(6.82)	(6.35)	(8.27)	(7.79)	(6.18)	(5.20)	(7.18)	(7.06)	(6.86)	(6.67)
GDPPER	0.03	0.05**	0.06**	0.07**	0.03	0.06**	0.02**	0.03**	−0.01	0.01	0.02**	0.03**	−0.01	0.02**
	(1.54)	(2.97)	(5.26)	(6.06)	(2.08)	(5.96)	(2.12)	(4.03)	(0.69)	(0.88)	(2.20)	(3.26)	(0.37)	(2.17)
TRADE	0.23**	0.21**							0.36**	0.32**				
	(2.37)	(2.28)							(4.48)	(3.78)				
GDPGROW(%)			−0.03	0.05							−0.05**	0.01		
			(1.37)	(1.00)							(2.54)	(0.18)		
STOCKRET(%)			−0.004	0.0004							−0.004	−0.002		
			(1.35)	(0.10)							(1.32)	(0.43)		
LANGUAGE					−0.24	0.10							0.26	0.43
					(1.03)	(0.37)							(0.92)	(1.57)
RELIGION					−0.05	0.55**							0.10	0.76**
					(0.19)	(2.10)							(0.38)	(3.15)
FDI					0.19**	0.04**							0.13**	0.02
					(7.51)	(2.83)							(5.03)	(1.14)
△KKZ_CORRUP	0.80**	0.31	1.05**	0.38	0.88**	0.51								
	(2.40)	(0.70)	(2.97)	(1.05)	(2.55)	(1.15)								
△KKZ_RULELAW	0.02	0.59**	−0.24	0.79**	0.28	0.97**								
	(0.04)	(2.32)	(0.50)	(2.90)	(0.68)	(3.67)								
△KKZ_REGQULA	−1.46**	−1.06**	−1.94**	−0.68**	−1.28**	−0.18								
	(2.74)	(3.38)	(4.55)	(2.01)	(2.48)	(0.66)								
△KKZ_GOVEFF	0.56	0.87	1.02**	0.15	0.48	−0.38								
	(0.95)	(1.62)	(2.04)	(0.33)	(1.03)	(0.87)								
△RESTRIC_S							0.14	0.20	0.16	0.12	0.17	0.25*	0.12	0.31**
							(1.11)	(1.45)	(1.18)	(0.74)	(1.21)	(1.90)	(0.79)	(2.36)
△RESTRIC_I							−0.78**	−1.08**	−0.40*	−0.93**	−0.68**	−0.99**	−0.77**	−1.17**
							(4.87)	(7.32)	(1.79)	(3.80)	(3.55)	(6.11)	(3.72)	(6.47)
△RESTRIC_R							0.16*	0.01	0.14	0.19**	0.11	−0.00	0.06	−0.11
							(1.70)	(0.08)	(1.44)	(1.96)	(1.07)	(0.00)	(0.35)	(0.77)
△RESTRIC_NF							0.35**	0.58**	0.29*	0.59**	0.42**	0.52**	0.34**	0.57**
							(2.52)	(3.93)	(1.71)	(2.97)	(2.45)	(3.04)	(2.33)	(3.63)
R^2	0.263		0.226		0.280		0.209		0.214		0.180		0.270	

Bef and Aft denote the Before and After the Asian crisis, respectively.

** denote significant at the 5% level.

* denote significant at the 10% level.

Table 9: Determnants of international financial mergers : Possion estimates(Robustness Test)

	1		2		3		4		5		6		7	
variable	Bef	Aft	Bef	Aft	Bef	Aft	Bef	Aft	Bef	Aft	Bef	Aft	Bef	Aft
CONST	1.84**		−5.64**		−1.44**		−1.21**		−2.24**		1.08**		1.12**	
	(5.08)		(9.67)		(9.39)		(10.45)		(3.31)		(2.14)		(2.42)	
DISTANCE	−0.86**	−0.76**							−0.58**	−0.56**	−0.98**	−0.80**	−0.93**	−0.75**
	(6.27)	(5.25)							(5.07)	(4.01)	(5.58)	(5.29)	(6.69)	(5.51)
GDP	−0.27**	−0.22**							−0.54**	−0.49**	−0.17**	−0.15	−0.14	−0.09
	(3.98)	(2.32)							(6.28)	(4.29)	(2.10)	(1.34)	(1.59)	(0.84)
TRADE			0.50**	0.50**					0.57**	0.55**				
			(8.51)	(8.15)					(8.76)	(7.23)				
GDPGROW(%)	−0.05**	−0.05	0.01	0.02	−0.05**	0.00	−0.02	0.02	−0.04**	−0.04	−0.05**	−0.04	−0.03*	−0.08
	(2.97)	(0.90)	(0.40)	(0.53)	(2.95)	(0.10)	(1.13)	(0.59)	(2.84)	(0.76)	(2.86)	(0.78)	(1.88)	(1.12)
STOCKRET(%)	0.01**	0.01**	0.01**	0.01*	0.01**	0.01**	0.00*	0.00	0.01**	0.02**	0.01**	0.01**	0.00*	0.01
	(2.14)	(2.08)	(2.07)	(1.69)	(2.51)	(2.13)	(1.74)	(0.65)	(2.43)	(2.25)	(3.09)	(2.49)	(1.85)	(1.57)
LANGUAGE					0.09	0.82**					0.19	0.79**		
					(0.31)	(2.42)					(0.67)	(2.33)		
RELIGION					−0.17	0.79**					0.13	0.70**		
					(0.57)	(3.05)					(0.46)	(2.52)		
FDI					0.09**	0.02					0.05**	0.00		
					(3.98)	(1.37)					(2.02)	(0.08)		
△KKZ_CORRUP							0.84**	0.34					0.79**	0.03
							(2.34)	(0.79)					(2.42)	(0.06)
△KKZ_RULELAW							−0.32	0.10					−0.44	0.32
							(0.64)	(0.40)					(0.99)	(1.19)
△KKZ_REGQULA							−1.30**	−0.75*					−1.52**	−0.51
							(2.44)	(1.94)					(2.70)	(1.60)
△KKZ_GOVEFF							0.62	0.78					0.91*	0.63
							(1.21)	(1.14)					(1.73)	(0.88)
R^2	0.099		0.052		0.091		0.112		0.157		0.178		0.207	

Bef and Aft denote the Before and After the Asian crisis, respectively.

** denote significant at the 5% level.

* denote significant at the 10% level.

Table 10: Determnants of international financial mergers : Possion estimates(Robustness Test)

	1		2		3		4		5		6		7	
variable	Bef	Aft	Bef	Aft	Bef	Aft	Bef	Aft	Bef	Aft	Bef	Aft	Bef	Aft
CONST	−6.55**		−5.50**		−2.34**		−1.78**		1.80		−5.46**		−1.84**	
	(7.90)		(8.62)		(10.84)		(10.32)		(3.70)		(9.92)		(9.98)	
DISTANCE									−0.87**	−0.69**				
									(6.21)	(5.12)				
GDP									−0.28**	−0.23**				
									(3.01)	(2.07)				
TRADE	0.57**	0.55**	0.48**	0.42**							0.47**	0.44**		
	(6.76)	(6.33)	(7.19)	(6.24)							(8.33)	(7.40)		
GDPGROW(%)	−0.02	0.01	0.01	0.01	−0.04**	0.05	−0.05**	0.08	−0.03**	−0.09	0.01	−0.01	−0.05**	0.03
	(0.75)	(0.11)	(0.34)	(0.28)	(2.88)	(1.04)	(4.39)	(1.53)	(2.28)	(1.44)	(0.41)	(0.17)	(4.20)	(0.70)
STOCKRET(%)	0.01**	0.01**	0.01*	0.01*	0.01**	0.01	0.01	0.01	0.00*	0.01*	0.00	0.01*	0.01**	0.01*
	(2.33)	(2.23)	(1.82)	(1.65)	(2.55)	(1.25)	(2.55)	(1.64)	(1.82)	(1.86)	(1.42)	(1.94)	(2.67)	(1.89)
LANGUAGE	0.90**	1.25**			−0.35	0.48							−0.16	0.51
	(2.69)	(2.98)			(1.40)	(1.24)							(0.59)	(1.36)
RELIGION	−0.51	0.79**			−0.43	0.89**							−0.16	0.90**
	(1.55)	(2.71)			(1.55)	(2.80)							(0.59)	(3.40)
FDI	0.07**	0.01			0.26**	0.07**	0.20**	0.07**					0.22**	0.05**
	(3.11)	(0.74)			(8.99)	(3.65)	(7.09)	(4.57)					(7.42)	(2.33)
△KKZ_CORRUP			0.82**	−0.63	1.23**	0.38								
			(2.14)	(1.55)	(3.11)	(0.67)								
△KKZ_RULELAW			−0.30	0.20	−0.40	0.66**								
			(0.53)	(0.72)	(0.72)	(2.08)								
△KKZ_REGQULA			−0.90*	−1.83	0.14	−0.03								
			(1.74)	(6.13)	(0.23)	(0.08)								
△KKZ_GOVEFF			0.26	2.85**	−0.25	−0.22								
			(0.46)	(5.55)	(0.45)	(0.32)								
△RESTRIC_S							−0.01	0.07	0.11	0.24**	0.05	−0.23	−0.04	0.20
							(0.06)	(0.39)	(0.82)	(1.99)	(0.29)	(1.07)	(0.23)	(1.15)
△RESTRIC_I							−0.60**	−0.80**	−0.57**	−0.79**	−0.21**	−0.35**	−0.59**	−0.84**
							(4.45)	(4.36)	(3.05)	(4.50)	(2.29)	(3.00)	(4.03)	(4.35)
△RESTRIC_R							−0.25**	−0.18	0.08	−0.10	0.13	0.40**	−0.29**	−0.18
							(2.34)	(0.93)	(0.68)	(0.51)	(1.46)	(3.15)	(2.55)	(0.94)
△RESTRIC_NF							0.74**	0.60**	0.32**	0.57**	0.42**	0.58**	0.79**	0.53**
							(5.33)	(3.13)	(2.18)	(3.25)	(2.49)	(2.87)	(5.67)	(3.00)
R^2	0.158		0.194		0.189		0.144		0.174		0.173		0.187	

Bef and Aft denote the Before and After the Asian crisis, respectively.

** denote significant at the 5% level.

* denote significant at the 10% level.