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The Determinants of Cross-Border Merger and Acquisition Activity in the Financial Sector in Asia

Did the Asian Financial Crisis Change Them?

Chung-Hua Shen and Mei-Rong Lin

6.1 Introduction

Since the Asian financial crisis in 1997, the financial 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 nonperforming loans soared, intensely shaking the financial sector. Because one of the suspected culpable factors at the root of the banking crisis was overcompetition, that is, there were too many banks in the market, policymakers were committed to reducing their number in an attempt to solve the crisis. Among the methods to accomplish this, policymakers seemed particularly to favor bank mergers (Shih 2003, 32). 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 . . .” In the meantime, the Malaysian government urged that all banks be merged into six, which later became ten, and soon thereafter Taiwan’s president announced the so-called Second Phase of Financial Reform, which 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

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more open and much more accessible after the crisis.¹ It is, therefore, interesting, if not even puzzling, to try to better understand whether the determinants of mergers and acquisitions of financial institutions were different before and after the Asian crisis.

The purpose of this chapter 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 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 Organization for Economic Cooperation and Development (OECD) countries (Fecher and Pestieau 1993; Focarelli and Pozzolo 2000, 2001, 2005), European countries (Campa and Hernando 2006; Altunbas and Marques 2004), high-income countries (Portes and Rey 2005), and the United States and four European countries (Vasconcellos and Kish 1998). Two exceptions are the works of Buch and DeLong (2004) 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 toward M&As, it is expected that the present study that focuses on Asian countries and the Asian crisis should complement existing studies considerably.

To be more specific, some parallels can be drawn between our chapter 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 chapter, however, differs from those studies in that it focuses on cross-border consolidation rather than the establishment of foreign offices.² Our chapter differs from the past studies in three aspects. First, be-

1. For example, in Singapore, the authority announced a five-year program to liberalize access by foreign bank. See the appendix for the openness of each country.

2. In a broad term, our chapter is also part of foreign direct investment. Most studies of foreign direct investment is related to economic growth. For example, De Mello (1999) reported that in the first international capital flow, foreign direct investment, inflows appear to enhance economic growth in both developing and OECD countries, but Borenzstein, De Gregorio, and Lee et al. (1998) found that the positive effects of foreign direct investment can only be detected when a recipient country has a sufficiently high level of human capital. Carkovic and Levine (2005), however, concluded that foreign direct investment does not have an unconditional robust, positive effect on economic growth but that rather the effect is dependent on national in-

cause we compare the determinants before and after the Asian crisis, our sample periods cover a long span from 1990 to 2006. Past studies focus on the determinants that may affect M&As and do not consider the related important event that may change the impact of the determinants. Also, the studies commonly are limited to one particular year.

Next, 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. Because our samples include “all” M&As of financial institutions, not only in Asia but also G7 countries, as the acquirers, our chapter could be the most comprehensive study of M&As in Asian financial institutions.

Third, our financial institutions contain all targets, and acquirers in the financial industry from Asian countries are included. The financial institutions include investment banks, mutual funds, insurance and security companies, banks, credit unions, credit cooperatives, and so on. Therefore, the use of firm-level data is not possible because except for banks, other firm-level data are not available. Even the bank-level data is not available before 1995, making the use of firm-level data impossible.³

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 chapter is not an exception. We explore whether the following five existing hypotheses are related to 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 chapter proceeds as follows. The next section provides a survey of the literature. Section 6.3 presents the empirical model, and section 6.4 gives the source of the data and the basic statistics. Section 6.5 summarizes the estimated results of our model, and section 6.6 presents the estimated reports of the robustness testing. Section 6.7 reviews the conclusions.

come, school attainment, and so on. For a survey, see Prasad et al. (2003). Wei (2001) studies the effect of taxation and corruption on international direct investment from fourteen source countries to forty-five host countries; he finds that increase in either the tax rate on multinational firms or the corruption level in the host governments would reduce inward direct investment. Wei (2000b) points out the corruption can be interpreted more broadly as “poor public governance” rather than as bureaucratic corruption narrowly defined, and the corruption in a developing country may increase its chances of suffering a crisis.

3. Therefore, those using cross-border firm-level data to do the location choice studies focus only on banks. Also, because researchers’ bank-level data is taken from BankScope, a data bank launched in the market in 1995, its coverage of the earlier years is limited, especially before 1996.

6.2 Literature Review on Cross-Border Consolidation

There is a paucity of studies in the literature related to the determinants of M&As of financial institutions, 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 financial sector have been relatively rare. This section introduces the five hypotheses we examine.

It is noted that though the conditions discussed in the following are mostly based on bank systems or regulations, our data contains other type of financial institutions. We use only bank conditions on regulation because similar types of data for other financial institutions are released less often. Thus, our results should be interpreted cautiously.

6.2.1 Gravity Hypothesis

The gravity hypothesis, first adopted by Tinbergen (1962), explains trade flow between two countries, say i and j , using two masses, usually gross domestic product (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 2005).

As regards this conundrum, Portes and Rey (2005) suggest that distance might also be a proxy for information asymmetry. To explain, countries that 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.

6.2.2 Following the Client Hypothesis

Following the customer is a defensive expansionary strategy that argues that international financial institutions 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 (that is, the sum of exports and imports) between two countries. However, Focarelli and Pozzolo (2005) propose a similar but broad term that they refer to as “economic integration.”

This chapter follows the convention by using the degree of openness of the country, that is, the sum of exports and imports divided by GDP

(TRADE), to proxy this concept. The following the clients hypothesis suggests that TRADE should be positively related to M&As.

6.2.3 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 total credit of the banking sector (measured as the ratio of total credit to GDP) and the average return on assets (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 the 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 United States and four European countries (France, German, Italy, and the United Kingdom) and find that an increase in stock returns in the United States 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 continually feel optimistic about the future economic growth of the target market. This optimistic economic growth view suggests that the impact of the economic growth is positive. Focarelli and Pozzolo's (2000) findings, for example, support the optimistic economic growth view because 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 chapter is the expected GDP growth rate at time $t + 1$ (GDPGROW) and expected stock returns at time $t + 1$ (STOCKRET).

6.2.4 Information Cost Hypothesis

Berger, Davies, and Flannery (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 (2004) examine three different measures of information cost, that is, 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 that 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; Kim and Wei 1999). That is, large foreign direct investment 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), 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 the World Bank Web site) Thus, their LANGUAGE is uniform. DISTANCE refers to geographic distance, which is published in the Central Intelligence Agency (CIA) *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.

6.2.5 Regulatory Restrictions

It is conceivable that the attitude toward M&As by the local authority of a particular country could be a critical factor in affecting a firm's decision as to whether 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. 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 et al. 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 because their market transactions would be better guaranteed. Note that Galindo, Micco, and Serra (2003) do not use these regulatory indexes 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, 2006) survey and comprise restrictions on banking activities in securities, insurance, and real estate, with higher values denoting more stringent restrictions. Shen and Chang (2006) 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 indexes of corruption (Δ KKZ_CORRUP), rule of law (Δ KKZ_RULELAW), quality of regulation (Δ KKZ_REGQUAL), and government efficiency (Δ KKZ_GOVEFF). The indexes of KKZ are renewed every two years and contain six governance clusters. Wei (2000a, 2001) also mentioned the importance of governance in studying cross-board capital flow. See table 6.1 for the definition of each proxy. Recall that Rossi and Volpin (2004) and Galindo, Micco, and Serra (2003) suggest using the difference of indexes as one of the determinates. Following their procedure, we also use the gap indexes, which are denoted as Δ KKZ. Then we proceed to examine whether these regulatory gap indexes are related to those countries' firms' propensity to engage in cross-border M&A activity. Thus, while the original KKZ's indexes range from -2.5 to 2.5 (see table 6.1), with a higher number denoting better governance, the transformed gap indexes now range from -5 to 5 . And

Table 6.1 **Data specification and sources**

Variable	Definition	Source
DISTANCE	Compute as the shortest line between two countries' commercial centers according to the degrees of latitude and longitude	CIA
GDP	GDP in billion US. dollar in 2000	WDI
TRADE	Bilateral trade volume (import + export) between acquirer and target country divided by GDP.	DOTSY
GDPGROW (%)	GDP growth rate	WDI
STOCKRET (%)	Stock return	DY
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
KKZ_CORRUP	Kaufman, Kraay, and Zoido-Lobaton (KKZ) index 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 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_REGQUAL	KKZ index variable measures the Regulatory 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 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 restrictions on Bank's operation in Securities sector; range from 1 to 4 with a higher value indicating a more restrictive environment	Barth, Caprio, and Levine (2000, 2006)
RESTRIC_I	Index of the restriction on Bank's operation in Insurance sector; range from 1 to 4 with a higher value indicating a more restrictive environment	Barth, Caprio, and Levine (2000, 2006)
RESTRIC_E	Index of the restriction on Bank's operation in Real Estate sector; range from 1 to 4 with a higher value indicating a more restrictive environment	Barth, Caprio, and Levine (2000, 2006)
RESTRIC_NF	Index of the restriction on Bank's holding in Nonfinancial Institution; range from 1 to 4 with a higher value indicating a more restrictive environment	Barth, Caprio, and Levine (2000, 2006)

Sources: CIA: Central Intelligence Agency Web site; DOTSY: Direction of Trade Statistics Yearbook, published by IMF; DY: DataStream and Yahoo! WB: World Bank Web site, www.worldbank.org. WDI: World Development Indicator, 2006.

the better the governance in the home country is, the greater is the propensity for financial institutions in the host country to be merged.⁴

The second set of regulatory variables comprises restrictions on banking activities that engage in securities ($\Delta\text{RESTRIC_S}$), insurance ($\Delta\text{RESTRIC_I}$), real estate ($\Delta\text{RESTRIC_R}$) and nonfinancial ($\Delta\text{RESTRIC_NF}$). (See Barth, Caprio, and Levine 2000.) We perform similar transformations to use gap indexes. In this case, the gap series range from -3 to 3 . Therefore, the higher the number of the gap indexes is, the more restrictive the acquiring country is relative to the target country.

6.3 Econometric Model

We use the number of M&As as our dependent variable for the following two reasons. First, we study whether the Asian crisis has changed the attitude toward the consolidation. For example, it is generally thought that the authority is more welcome to the foreign buyers after the crisis. Thus, the number of transactions seems preferable to reflect this attitude change. The value of transaction, however, is often more related to the performance and financial condition.

Next, the data of value of transaction are often unavailable to the public because the actual money transaction is sometimes a business secret. The data of the number of M&As are complete and thus are a more accurate measure in this case.

We, therefore, employ the Poisson regression model given our dependent variable is countable numbers. That is,

$$(1) \quad N_{ij} = \exp[\alpha + \beta_1 \mathbf{X}\mathbf{D} + \beta_2 \mathbf{X}(1 - \mathbf{D}) + \varepsilon_{ij}],$$

where i and j denote the home i and host country j , respectively, thus, N_{ij} is the number of M&As, between home country i and host country j , \mathbf{D} is the dummy variable of the Asian crisis, which is equal to unity before the crisis and zero after it. \mathbf{X} is the vector of the explanatory variables, β_1 and β_2 are the corresponding coefficients of the explanatory variables before and after the crisis, respectively, and ε represents errors.

Our \mathbf{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.

6.4 Data Description and Basic Statistics

Our selection of M&A data is based on the following simple rules. First, all targets and acquirers in the financial industry from Asian countries are

4. Note that Galindo, Micco, and Sierra (2003) also take the absolute value of the differences.

included. Furthermore, to examine the robustness, all acquirers from G7 countries are included. Next, the announcement day of M&As is used instead of the day the transaction is complete. This is simply because the former is available consistently, but the latter is often lacking the complete day and is difficult to define. Third, our financial institutions include banks, security houses, insurances, mutual funds, and so on, which help us to know the impact of the crisis on the financial industry. Fourth, the sample period covers January 1, 1990, to December 31, 2006.

We divide the whole sample into pre- and post-Asian subsample using the year of 1998 for the following reasons. Following the Thai Baht's devaluation in mid-1997, the region entered severe economic crisis. Growth was negative in 1998 in most countries in the region. The economics indexes have shown dramatical changes in 1998. Corsetti, Pesenti, and Roubini (1998) and Berg (1999) all point out a change in the Asian financial market in 1998.

Table 6.2 reports the number of M&As before (1990 to 1997) and after (1999 to 2006) the crisis. 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 postcrisis period. Furthermore, in terms of the percentage, the acquiring rate of Singapore is the highest, up to 6 percent. The higher number after the crisis is probably because of the policy of openness toward the financial consolidation after the crisis. It is, nevertheless, difficult for the present chapter to examine the effect of policy on the consolidation. See the appendix for the policy of openness.

Second, as it has the highest number of thirty-four and forty-one 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.

Third, Japan shows the most asymmetric patterns as a target and an acquirer. It acquires 100 foreign banks, but only ten Japanese financial institutions are acquired in all sample periods. This asymmetric attitude that Japanese financial institutions can buy foreign banks but foreigners are not welcome to buy Japanese financial institutions is worth future study. An opposite asymmetric case can be found in Thailand. That is, seventy-five financial institutions from Thailand are the targets, but only fifteen are acquirers.

Fourth, during both periods, in India, M&A activity is almost nonexistent, while in Indonesia and Thailand, it is negligible. Furthermore, 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.

Table 6.2 Cross-border merger number in Asian countries

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

Note: B and A denote before and after the Asian crisis, respectively.

But the financial centers that they are, Hong Kong and Singapore report the greatest amount of M&A activity. Overall, in light of the preceding basic statistics, it is abundantly clear that there is a sharp escalation in number of cross-border M&As after the Asian crisis.

Table 6.3 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 may have also increased. Somewhat surprisingly, the values of GDPGROW and STOCKRET do not always increase after the crisis.

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

Contrasting the Δ KKZ regulatory gap indexes in the preceding, the positive gap indexes 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 lower indexes. 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.

6.5 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 twenty-two 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 6.4 reports our estimated results based on different pairs of hypotheses. The numbers shown in the top row indicate that there are ten specifications, where the estimated results of each specification are further divided into two columns, that is, before and after the Asian crisis.

Table 6.3 Descriptive statistics

Variable	Acquiring country																			
	Hong Kong		India		Indonesia		Japan		Korea		Malaysia		The Philippines		Singapore		Taiwan		Thailand	
	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A
GDP	129.59	169.07	318.3	500.64	143.73	176.2	4,394.38	4,769.11	370.8	546.99	63.57	94.15	60.47	79.56	59.89	92.3	258.3	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	4.6	6.1	4.49	-3.91	4.98
STOCKRET (%)	22.82	10.36	6.7	25.86	n.a.	26.39	138.11	3.7	-16.16	23.1	-12.24	9.45	16.8	8.35	7.22	14.01	2.09	2.21	-10.07	13.49
TRADE	0.46	n.a.	0.07	0.13	0.21	0.23	1.83	1.60	0.39	0.50	0.48	0.56	0.09	0.17	0.89	1.01	0.48	0.61	0.28	0.30
FDI	n.a.	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	n.a.	n.a.	1.78	2.34
AKKZ_CORRUP	1.18	1.24	-0.98	-0.84	-1.22	-1.59	0.83	0.89	0	-0.11	0	-0.12	-1.08	-1.05	2.01	2.15	0.27	0.26	-1	-0.81
AKKZ_RULELAW	1	0.94	-0.9	-0.52	-1.34	-1.63	0.89	0.99	0	0.13	0.02	-0.04	-1.02	-1.2	1.47	1.44	0.23	0.32	-0.36	-0.42
AKKZ_REGQUAL	1.07	1.2	-0.98	-1.1	-0.61	-1.24	-0.07	0.36	-0.22	0.02	0.02	-0.18	-0.38	-0.6	1.28	1.39	0.29	0.43	-0.39	-0.27
AKKZ_GOVEFF	1.16	0.74	-1.42	-0.91	-0.9	-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
AKKZ_CORRUP	1.64	1.53	-0.31	-0.34	-0.52	-1.01	1.32	1.22	0.57	0.31	0.57	0.3	-0.4	-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_REGQUAL	1.73	1.71	-0.12	-0.36	0.2	-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	1.9	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
ARESTRIC_S	0.88			0.22				0.22		0.22		0.22		-0.88		-0.88		0.22		1.33
ARESTRIC_I	0.88			0.22		1.33		-0.88		0.22		0.22		-0.88		-0.88		1.33		0.22
ARESTRIC_E	2.44			0.88		0.88		0.88		0.88		-0.22		-1.33		-0.22		0.88		-0.22
ARESTRIC_NF	1.11			0		1.11		0		0		0		-1.11		1.11		0		0
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

Notes: B and A denote before and after the Asian crisis, respectively. We assume that missed values are coded as n.a. (not available).

Table 6.4 Determinants of Asian M&A: Specification I

Variable	Model 1		Model 2		Model 3		Model 4		Model 5		Model 6		Model 7		Model 8		Model 9		Model 10	
	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A
CONST	0.63* (1.83)		1.91** (4.61)		1.3** (3.90)		0.88** (2.15)		-1.43** (11.19)		-1.88** (13.16)		-1.63** (17.02)		-1.35** (9.52)		-1.11** (9.72)		-1.28** (9.58)	
DISTANCE	-0.62** (5.25)	-0.61** (4.75)	-0.82** (6.21)	-0.74** (5.58)	-0.78** (5.95)	-0.80** (6.02)	-0.89** (7.11)	-0.772** (5.98)												
GDP	-0.18** (-2.76)	-0.09 (1.39)	-0.26** (3.57)	-0.24** (3.07)	-0.23** (3.54)	-0.15** (2.16)	-0.12 (1.44)	-0.062 (0.74)												
TRADE	0.32** (6.94)	0.35** (4.68)							0.50** (11.08)	0.51** (8.22)	0.54** (11.48)	0.68** (9.37)	0.42** (6.62)	0.52** (6.26)						
GDPGROW			-0.06** (4.33)	0.02 (0.48)					-0.04** (2.47)	0.05** (2.01)				-0.05** (2.85)	0.04 (1.52)		-0.03** (2.36)	0.04 (1.45)		
STOCKRET			-0.00 (0.89)	-0.00 (0.20)					0.00 (0.10)	0.004 (0.87)				-0.003 (0.94)	0.000 (-0.03)	-0.004 (1.20)	-0.001 (0.28)			
LANGUAGE					0.26 (1.06)	0.56** (2.21)					0.78** (3.32)	1.17** (4.06)			0.81** (3.39)	0.86** (3.01)		0.31 (1.34)	0.85** (4.08)	
RELIGIOUS					0.37 (1.73)	0.74** (3.22)					0.33* (1.66)	1.02** (5.12)			0.63** (3.02)	0.86** (4.01)		0.22 (1.12)	0.85** (4.91)	
AKKZ_CORRUP							0.83** (2.88)	0.26 (0.78)					0.66* (1.79)	-0.06 (0.18)			0.83** (2.34)	0.18 (0.55)	0.80** (2.79)	0.23 (0.65)
AKKZ_RULELAW							-0.25 (0.68)	0.15 (0.62)					-0.13 (0.26)	-0.18 (0.74)			-0.27 (0.84)	0.08 (0.34)	-0.27 (0.72)	0.32 (1.56)
AKKZ_REGQUAL							-1.71** (3.53)	-0.60** (2.25)					-0.62 (1.03)	-1.53** (5.65)			-1.52** (2.94)	-0.79** (2.11)	-1.29** (3.10)	-0.67** (2.40)
AKKZ_GOVEFF							0.87* (1.94)	0.57 (1.16)					0.09 (0.16)	2.22** (5.07)			0.84* (1.73)	0.89 (1.62)	0.61 (1.59)	0.54 (1.18)
R ²	0.108		0.107		0.109		0.205		0.061		0.141		0.139		0.082		0.111		0.144	

Notes: This table presents the results of ten Poisson models estimated by maximum likelihood for the sample of Asian acquiring countries. Out of five hypotheses, two were chosen, and explained variables of those two hypotheses are used. B and A denote before and after the Asian crisis, respectively.

**Significant at the 5 percent level.

*Significant at the 10 percent level.

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 -0.62 and -0.61 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 transnational M&A activity. This result is similar to that of Buch and DeLong (2004). While this result is consistent with our earlier conjecture, in our case, it goes against our judgment because, as mentioned earlier, 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 counterintuitive because *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 use *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 0.32 and 0.35 in the pre- and postcrisis 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 postcrisis, 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 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 supports the optimistic economic growth view but to a lesser extent.

The coefficients of **STOCKRET** are insignificant for most specifications, except for one that is significantly negative before the Asian crisis. Thus, the high stock cost view exists weakly. With the results of **GDPGROW** and **STOCKRET** taken together, the Asian crisis strengthens the motivation of the market opportunity hypothesis, though 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**, while all positive, are dramatically different for different sample periods in the statistical sense. Before the crisis, however, only two of four are significant, but after the crisis are overwhelmingly significant. Furthermore, the coefficients are much larger after the crisis than before it. Accordingly, the problems caused by information cost are more severe after the crisis because M&A activity is more likely to go on in those countries where the same language is spoken. Before the crisis, even two firms sharing common language does not help 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 official shared language.⁵

The impact of **RELIGION** on M&A activity is similar to those of **LANGUAGE**. Before the crisis, only two of four are significant though all of the coefficients are positive. 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 after the crisis, it certainly did.

Information cost, therefore, when proxied by language and religion, receives increasing attention by investors when they engage in consolidation. This evidence is also found by Qiu and Zhou (2006), Rossi and Volpin (2004), and Buch and DeLong (2004). We conjecture that this is because the same culture could shorten the friction periods between two financial institutions, for example, whether speaking the same language is important when the targets and acquirer are from Asian countries.

5. Results here are based on official language announced by the Central Intelligence Agency.

The crisis evidently changed the impact of corruption on M&A activity. For both periods, the coefficients of $\Delta\text{KKZ_CORRUP}$ 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 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.⁶

The crisis evidently did not change the impact of rule of law as the coefficients of $\Delta\text{KKZ_RULELAW}$ are all insignificant in both periods.

The effect of $\Delta\text{KKZ_REGQUAL}$ 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 in those 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 merge firms in the countries with greater corruption but more regulation quality. $\Delta\text{KKZ_GOVEFF}$ 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 indexes seem to suggest that regulations are indeed *associated with* 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 6.5 repeats the estimation procedure as those of Table 6.4, but we consider three hypotheses simultaneously. As most of the results are similar, we skip the discussion here.

Table 6.6 presents the results from using the restrictions on banks to engage in security, insurance, real estate, and the nonfinancial industry to replace the KKZ regulatory variables. Recall that these restriction variables are the restrictive indexes of acquirers minus the same indexes of targets.

The coefficients of $\Delta\text{RESTRCIT_S}$ 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 that do not allow banks to engage in that industry. Similarly put consolidation is less frequent when the target country has relatively

6. Wei (2000a,b, 2001) points out the corruption is similar to the tax in the foreign investment and deters the investment.

Table 6.5 Determinants of Asian M&A: Specification II

Variable	Model 1		Model 2		Model 3		Model 4		Model 5		Model 6		Model 7		Model 8		Model 9		Model 10	
	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A
CONST	1.11** (2.50)		-0.16 (0.39)		-0.18 (0.438)		1.38** (3.08)		1.20** (2.28)		0.41 (0.90)		-1.945** (11.32)		-1.61** (13.13)		-1.98** (13.78)		-1.49** (9.82)	
DISTANCE	-0.69** (5.72)	-0.61** (4.50)	-0.65** (5.25)	-0.70** (5.43)	-0.78** (6.09)	-0.67** (4.15)	-0.85** (6.20)	-0.78** (5.54)	-0.90** (6.48)	-0.73** (5.37)	-0.91** (7.16)	-0.8** (6.11)								
GDP	-0.20** (2.85)	-0.217 (-2.593)	-0.07 (1.12)	-0.053 (0.66)	0.016 (0.19)	0.01 (-0.12)	-0.21** (2.95)	-0.20** (2.32)	-0.13 (1.47)	-0.14 (1.52)	-0.05 (-0.68)	-0.03 (-0.38)								
TRADE	0.30** (5.49)	0.26** (3.58)	0.38** (7.34)	0.48** (6.04)	0.26** (4.14)	0.30** (3.24)							0.57** (11.51)	0.58** (8.49)	0.44** (6.51)	0.46** (5.85)	0.48** (7.20)	0.57** (6.49)		
GDPGROW	-0.06** (3.54)	0.038 (0.83)					-0.06** (4.57)	0.02 (0.52)	-0.04 (-3.33)	0.01* (0.19)			-0.05** (2.58)	0.03 (1.26)	-0.02 (1.53)	0.011 (0.48)		-0.03** (2.36)	0.03 (0.97)	
STOCKRET	-0.001 (0.30)	0.004 (0.87)					-0.003 (0.94)	-0.001 (0.15)	-0.004 (1.24)	-0.002 (0.46)			-0.002 (0.41)	0.005 (1.15)	-0.001 (0.29)	0.006 (1.71)		-0.005 (1.44)	-0.001 (0.30)	
LANGUAGE			0.57** (2.24)	0.99** (3.21)			0.52** (1.99)	0.64** (2.21)			0.354 (1.45)	0.53** (2.04)	1.09** (4.44)	1.23** (3.73)			0.82** (3.65)	0.53* (1.88)	0.77** (3.35)	0.76** (2.75)
RELIGIOUS			0.45** (2.02)	1.18** (4.67)			0.63** (2.77)	0.73** (2.91)			0.395* (1.86)	0.77** (3.39)	0.52** (2.40)	0.97** (4.50)			0.38* (1.86)	0.81** (3.76)	0.58** (2.79)	0.87** (4.14)
AKKZ_CORRUP					0.75** (2.26)	-0.15 (0.40)			0.72** (2.35)	-0.14 (0.44)	0.75** (2.79)	0.22 (0.65)			0.73* (1.68)	-0.43 (1.35)	0.60 (0.61)	-0.22 (0.66)	0.73** (2.16)	-0.05* (0.16)
AKKZ_RULELAW					-0.04 (0.09)	0.17 (0.60)			-0.371 (0.96)	0.21 (0.79)	-0.15 (-0.44)	0.35 (1.45)			-0.31 (0.49)	-0.05 (0.20)	-0.04 (0.09)	0.05 (0.21)	-0.33 (0.71)	0.37 (1.54)
AKKZ_REGQUAL					-1.38** (2.42)	-1.31** (4.15)			-1.485** (2.73)	-0.52 (-1.53)	-1.77** (3.86)	-0.50* (1.98)			-0.82 (1.18)	-1.63** (5.57)	-0.59 (3.26)	-1.04** (3.18)	-1.56** (3.18)	-0.55* (1.79)
AKKZ_GOVEFF					0.44 (0.80)	1.75** (2.96)			0.838* (1.71)	0.86 (1.64)	0.91** (2.04)	0.33 (0.75)			0.29 (0.44)	2.46** (5.7)	0.06 (0.10)	1.73** (4.04)	0.89* (1.90)	0.694 (1.59)
R ²		0.111		0.198		0.206		0.145		0.200		0.225		0.165		0.151		0.200		0.169

Notes: See table 6.4 notes.

**Significant at the 5 percent level.

*Significant at the 10 percent level.

Table 6.6 Determinants of Asian M&A: Specification III

Variable	Model 1		Model 2		Model 3		Model 4		Model 5		Model 6		Model 7		Model 8		Model 9		Model 10	
	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A
CONST	1.44** (3.26)		-1.53** (14.45)		-1.03** (9.30)		-1.16** (9.73)		0.59 (1.21)		1.74** (3.38)		1.26** (2.84)		-1.59 (11.84)		-1.86 (13.55)			
DISTANCE	-0.80** (6.32)	-0.74** (5.87)			-0.68** (5.45)	-0.77** (5.44)			-0.85** (5.41)	-0.71** (6.33)			-0.81** (5.94)							
GDP	-0.25** (2.76)	-0.17* (1.95)			-0.15* (1.68)	-0.07 (0.88)			-0.24** (2.61)	-0.23** (2.41)			-0.25** (2.73)							
TRADE		0.42** (7.20)	0.38** (3.65)			0.28* (3.39)	0.048 (0.37)								0.47** (7.27)	0.34** (2.97)	0.49** (8.459)	0.51** (5.261)		
GDPGROW					-0.04** (2.69)	0.05** (1.80)					-0.05** (3.64)	0.001 (0.01)			-0.03 (1.69)	0.03 (1.34)			-0.04** (2.50)	0.03 (1.29)
STOCKRET					-0.005 (1.42)	-0.001 (0.29)					-0.004 (1.35)	-0.002 (0.47)			-0.003 (0.82)	0.004 (0.89)			-0.005 (1.60)	-0.001 (0.20)
LANGUAGE							0.23 (1.05)	0.96** (4.82)					0.27 (1.19)	0.58** (2.42)			0.68** (3.21)	0.71 (2.57)	0.67** (2.86)	0.85** (3.33)
RELIGIOUS							0.11 (0.59)	0.72** (4.22)					0.38* (1.80)	0.89** (4.07)			0.32* (1.69)	0.87** (4.07)	0.53** (2.66)	0.78** (3.90)
ARESTRIC_S	0.14 (1.14)	0.18* (1.67)	0.07 (0.58)	-0.19 (1.05)	0.007 (0.04)	-0.10 (0.73)	-0.04 (0.39)	-0.11 (1.02)	0.17 (1.37)	0.18 (1.32)	0.14 (1.19)	0.26** (2.23)	0.18 (1.45)	0.34** (2.88)	0.13 (0.81)	-0.06 (0.32)	0.09 (0.65)	-0.13 (0.86)	0.02 (0.13)	-0.08 (0.60)
ARESTRIC_I	-0.67 (3.97)	-0.84** (5.24)	-0.24** (2.06)	-0.53** (2.06)	-0.36** (3.33)	-0.40** (3.18)	-0.41** (3.19)	-0.53** (4.17)	-0.51** (5.11)	-1.13** (2.62)	-0.52** (3.93)	-0.74** (2.80)	-0.71** (4.24)	-1.00** (3.83)	-0.15** (5.19)	-0.38 (1.13)	-0.21** (2.31)	-0.33** (1.77)	-0.31** (2.66)	-0.35** (2.66)
ARESTRIC_R	0.15 (1.34)	0.01** (0.07)	0.05 (0.56)	0.35** (2.94)	0.22** (2.47)	0.14 (1.20)	0.21** (2.797)	0.18** (2.58)	0.12 (1.08)	0.29** (2.59)	0.08** (0.68)	-0.04 (0.25)	0.12 (1.17)	-0.08 (0.60)	0.02 (0.20)	0.32** (2.24)	0.02 (0.22)	0.14 (1.31)	0.19** (2.21)	0.13 (1.31)
ARESTRIC_NF	0.32** (2.38)	0.51** (3.53)	0.37** (2.98)	0.55** (3.36)	0.27* (1.74)	0.23** (2.19)	0.21** (2.06)	0.21** (2.04)	0.30** (2.05)	0.60** (2.92)	0.34** (2.19)	0.48** (3.00)	0.31** (2.38)	0.52** (3.50)	0.48 (3.23)	0.52** (2.81)	0.35** (3.16)	0.38** (3.90)	0.21 (1.60)	0.20* (1.82)
R ²	0.198	0.14	0.14	0.14	0.078	0.129	0.129	0.222	0.222	0.171	0.171	0.263	0.263	0.129	0.129	0.197	0.197	0.138	0.138	0.138

Notes: This table presents the results of ten Poisson models estimated by maximum likelihood for the sample of Asian acquiring countries. The banking restriction (ARESTRIC) is used instead of AKKZ. B and A denote before and after the Asian crisis, respectively.

**Significant at the 5 percent level.

*Significant at the 10 percent level.

stiffened restrictions on banking activities. After the crisis, restrictions on banking activities are not related to cross-border M&A activity.

The coefficients of $\Delta\text{RESTRICT_I}$ 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 does not affect this pattern.

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

The coefficients of $\Delta\text{RESTRICT_NF}$ are all significantly positive. Thus, financial institutions from countries that are relatively more restrictive when it comes to real estate tend to engage in M&A activity with those from countries that are relatively less restrictive. 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.

6.6 Robustness Testing

6.6.1 Using GDP per Capita as Proxy

Tables 6.7 and 6.8 report the estimated results using GDP per capita as the proxy for the mass in the gravity hypothesis. Results, however, are sensitive to different specifications. When KKZ and bank restrictive variables are not present in the regression, the coefficients are insignificantly negative. However, the results change to become significantly positive when they are added in.

6.6.2 Market Opportunity Using $t + 2$

Tables 6.9 and 6.10 report the estimated results when GDPGROW and STOCKRET use the future growth rate of $t + 2$. Results change dramatically because coefficients of STOCKRET become almost all significantly positive. Therefore, the 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.

6.6.3 Acquirers from G7 Countries

Tables 6.11, 6.12, and 6.13 add the estimated results by adding G7 countries. Results do not change significantly except for the coefficients of

Table 6.7 Determinants of international financial mergers: Poisson estimates (1-1 robustness testing)

Variable	1		2		3		4		5		6		7	
	B	A	B	A	B	A	B	A	B	A	B	A	B	A
CONST	0.03 (0.14)		0.62** (-.88)		0.49** (2.32)		-0.01 (0.05)		-0.35 (1.48)		0.36 (1.60)		-0.72** (-3.07)	
DISTANCE	-0.75** (6.16)	-0.54** (5.91)	-0.90** (7.47)	-0.80** (7.37)	-0.95** (7.58)	-0.80** (8.01)	-0.71** (6.00)	-0.66** (5.73)	-0.70** (6.47)	-0.94** (7.51)	-0.85** (7.22)	-0.77** (7.03)	-0.74** (7.09)	
GDPper	-0.03 (0.44)	-0.04 (0.46)	0.03 (0.51)	0.02 (0.27)	-0.03 (0.59)	-0.05 (0.84)	0.03 (0.43)	0.02 (0.27)	-0.04 (1.86)	0.01 (0.21)	-0.02 (0.32)	0.51** (5.56)	0.64** (7.06)	
TRADE	0.32 (6.65)	0.41** (5.74)					0.35** (6.34)	0.29** (4.13)	0.39** (7.61)	0.53** (6.86)				
GDPGROW			-0.06** (3.80)	0.04 (0.92)			-0.05** (3.15)	0.04 (1.05)						
STOCKRET			-0.00 (0.51)	-0.001 (0.19)			0 (0.03)	0.004 (0.92)						
LANGUAGE					0.34 (1.40)	0.69** (2.75)			0.61** (2.46)	1.18** (3.79)	0.63** (2.48)	0.74** (2.52)		
RELIGIOUS					0.35* (1.65)	0.82** (3.61)			0.46** (2.08)	1.31** (4.98)	0.64** (2.95)	0.75** (3.08)		
AKKZ_CORRUP													0.71** (2.28)	-0.13 (0.39)
AKKZ_RULELAW													0.53 (1.12)	1.04** (4.13)
AKKZ_REGQUAL													-1.26** (3.04)	-0.44* (1.80)
AKKZ_GOVEFF													0.31 (0.60)	0.57 (1.45)
R ²	0.100		0.097		0.114		0.102		0.206		0.144		0.232	

Notes: This table presents the results of ten Poisson models estimated by maximum likelihood for the sample of Asian acquiring countries. The GDP per capita (GDPper) is used instead of GDP. B and A denote before and after the Asian crisis, respectively.

**Significant at the 5 percent level.

*Significant at the 10 percent level.

Table 6.8 Determinants of international financial mergers: Poisson estimates (1-2 robustness testing)

Variable	1		2		3		4		5		6		7	
	B	A	B	A	B	A	B	A	B	A	B	A	B	A
CONST	-0.88** (3.33)		-0.68** (2.32)		-0.79** (3.36)		0.10 (0.47)		-0.17 (0.65)		0.22 (0.86)		-0.04 (0.18)	
DISTANCE	-0.71** (6.27)	-0.71** (5.95)	-0.77** (6.24)	-0.755 (-6.647)	-0.781 (-6.890)	-0.811 (-7.310)	-0.843 (-7.770)	-0.71 (-7.282)	-0.74 (6.16)	-0.68** (6.32)	-0.74** (6.55)	-0.85** (6.90)	-0.83** (7.55)	-0.80** (7.80)
GDPPER	0.44** (4.18)	0.53** (5.44)	0.54** (4.89)	0.60** (6.04)	0.492** (5.55)	0.58** (6.51)	0.13* (1.78)	0.22** (2.77)	0.08 (0.92)	0.11 (1.43)	0.16** (1.98)	0.21** (2.45)	0.11* (1.68)	0.15* (1.88)
TRADE	0.18** (2.87)	0.15 (1.60)							0.22 (3.20)	0.07 (0.62)				
GDPGROW			-0.04** (2.54)	0.016 (-0.324)							-0.05** (3.31)	0.004 (0.07)		
STOCKRET			-0.004 (1.09)	0.000 (-0.024)							-0.003 (1.05)	-0.001 (0.29)		
LANGUAGE					0.23 (1.20)	0.33* (1.67)							0.27 (1.21)	0.58** (2.54)
RELIGIOUS					0.20 (1.01)	0.60** (2.86)							0.30 (1.49)	0.79** (3.66)
AKKZ_CORRUP	0.62* (1.84)	-0.27 (0.70)	0.85 (2.55)	-0.37 (1.05)	0.61** (1.99)	-0.15 (0.44)								
AKKZ_RULELAW	0.57 (1.05)	0.88** (3.22)	0.26 (0.54)	1.07** (3.93)	0.60 (1.27)	1.15** (4.76)								
AKKZ_REGQUAL	-1.03** (2.01)	-0.89** (3.06)	-1.30 (3.08)	-0.45 (1.35)	-1.26** (3.09)	-0.31 (1.37)								
AKKZ_GOVEFF	0.10* (0.16)	1.29 (2.77)	0.35 (0.64)	0.72* (1.73)	0.35 (0.68)	0.33 (0.90)								
ARESTRIC_S					0.15 (1.21)	0.21* (1.64)	0.15 (1.24)	0.19 (1.48)	0.19 (1.48)	0.19 (1.24)	0.15 (1.21)	0.30** (2.29)	0.18 (-0.42)	0.33** (2.63)
ARESTRIC_I					-0.74** (4.78)	-1.01** (6.84)	-0.74** (4.78)	-0.56** (2.93)	-0.56** (2.93)	-1.16** (4.21)	-0.61** (3.53)	-0.89** (5.43)	-0.77** (4.65)	-1.10** (6.41)
ARESTRIC_R					0.14 (1.47)	-0.005 (0.04)	0.12 (1.22)	0.23** (2.10)	0.12 (1.22)	0.23** (2.10)	0.07 (0.74)	-0.04 (0.30)	0.13 (1.35)	-0.05 (0.45)
ARESTRIC_NF					0.36** (2.58)	0.57** (3.86)	0.31* (1.95)	0.65** (3.32)	0.31* (1.95)	0.65** (3.32)	0.43** (2.58)	0.54** (3.15)	0.33** (2.53)	0.52* (3.52)
R	0.260		0.233		0.277		0.191		0.219		0.169		0.257	

Notes: This table presents the results of seven Poisson models estimated by maximum likelihood for the sample of Asian acquiring countries. The GDP per capita (GDPPER) is used instead of GDP. B and A denote before and after the Asian crisis, respectively.

**Significant at the 5 percent level.

*Significant at the 10 percent level.

Table 6.9 Determinants of international financial mergers: Poisson estimates (2-1 robustness testing)

Variable	1		2		3		4		5		6		7	
	B	A	B	A	B	A	B	A	B	A	B	A	B	A
CONST	1.97** (5.46)		-1.42** (9.76)		-1.23** (10.77)		1.19** (2.66)		1.48** (3.72)		1.16** (2.51)		1.48** (3.72)	
DISTANCE	-0.86** (6.31)	-0.76** (5.58)											-0.88** (6.27)	-0.80** (5.68)
GDP	-0.29** (4.29)	-0.20** (2.36)											-0.24** (3.16)	-0.18** (1.91)
TRADE			0.48** (11.46)	0.48** (7.33)									0.29** (5.60)	0.23** (2.86)
GDPGROW	-0.04** (2.77)	-0.08 (1.55)			-0.02 (1.03)	0.01 (1.14)	-0.01 (0.72)	0.029 (1.009)	-0.04** (2.59)	-0.07* (1.19)	-0.04** (2.53)	-0.08 (1.62)	-0.04** (2.53)	-0.02 (1.49)
STOCKRET	0.006** (2.28)	0.01** (2.53)			0.005* (1.94)	0.01** (2.04)	0.004* (1.69)	0.003 (0.68)	0.006** (2.22)	0.01** (2.31)	0.006** (2.14)	0.01** (2.95)	0.006** (2.14)	0.005* (1.88)
LANGUAGE					0.59** (2.21)	0.94** (3.35)	0.94** (3.35)				0.33 (1.26)	0.68** (2.24)	0.33 (1.26)	0.68** (2.24)
RELIGIOUS					0.52** (2.44)	0.87** (4.20)	0.87** (4.20)				0.54** (2.37)	0.73** (2.77)	0.54** (2.37)	0.73** (2.77)
ΔKKZ_CORRUP							0.82** (2.28)	0.31 (0.74)					0.76** (2.36)	-0.02 (0.06)
ΔKKZ_RULELAW							-0.27 (0.54)	0.11 (0.42)					-0.40 (0.93)	0.34 (1.29)
ΔKKZ_REGQUAL							-1.26** (2.37)	-0.75** (1.97)					-1.48** (2.64)	-0.48 (1.54)
ΔKKZ_GOVEFF							0.57 (1.12)	0.77 (1.15)					0.88* (1.68)	0.61 (0.87)
R ²	0.110		0.049		0.074		0.110		0.124		0.153		0.124	0.206

Notes: This table presents the results of seven Poisson models estimated by maximum likelihood for the sample of Asian acquiring countries. The period of GDP growth rate and stock return changed from ($T + 1$) to ($T + 2$). B and A denote before and after the Asian crisis, respectively.

**Significant at the 5 percent level.

*Significant at the 10 percent level.

Table 6.10 Determinants of international financial mergers: Poisson estimates (2-2 robustness testing)

Variable	1		2		3		4		5		6		7	
	B	A	B	A	B	A	B	A	B	A	B	A	B	A
CONST	-2.02** (11.78)		-1.77** (13.39)		-1.58 (10.16)		-1.15 (11.00)		1.88 (3.87)		-1.71** (13.52)		-1.46** (10.32)	
DISTANCE									-0.87 (6.21)	-0.70** (5.34)				
GDP									-0.30 (3.16)	-0.21** (2.03)				
TRADE	0.55** (11.30)	0.51** (7.46)	0.44** (6.67)	0.38** (5.39)							0.46** (7.47)	0.25** (2.59)		
GDPGROW	-0.01 (0.92)	0.004 (0.38)	0 (0.01)	-0.001 (0.06)	-0.01 (0.47)	0.01 (0.66)	0.03 (1.46)	-0.02* (1.94)	-0.11** (1.77)	-0.099 (0.44)	0.006 (0.51)	0.001* (0.01)	-0.01 (0.69)	0.01 (1.17)
STOCKRET	0.006** (2.20)	0.01** (2.03)	0.006** (2.24)	0.008* (1.75)	0.005* (1.69)	0.004 (1.04)	0.008 (1.48)	0.005* (1.87)	0.01** (2.24)	0.005* (1.72)	0.01* (1.82)	0.008* (1.79)	0.005 (1.57)	0.008* (1.79)
LANGUAGE	0.90** (3.42)	1.24** (3.47)			0.56** (2.18)	0.81** (2.69)							0.48** (1.96)	0.93** (3.48)
RELIGION	0.434** (1.99)	1.038** (4.73)			0.50** (2.34)	0.89** (4.08)							0.43** (2.10)	0.77** (3.64)
AKKZ_CORRUP			0.71* (1.71)	-0.56 (1.41)										
AKKZ_RULELAW			-0.18 (0.30)	0.051 (0.18)	-0.19 (0.39)	0.04 (1.63)								
AKKZ_REGQUAL			-0.57 (0.84)	-1.66** (6.323)	-1.31** (2.51)	-0.49 (1.44)								
AKKZ_GOVEFF			0.04 (0.063)	2.68** (5.75)	0.62 (1.22)	0.62 (1.14)								
ARESTRIC_S					-0.05 (0.40)	-0.13 (0.86)			0.11 (0.86)	0.30** (2.37)	0.07 (0.44)	-0.16 (0.72)	-0.05 (-0.35)	-0.11 (0.76)
ARESTRIC_I					-0.37** (3.30)	-0.40** (3.09)			-0.57** (3.08)	-0.72** (4.27)	-0.15 (1.16)	-0.44** (3.04)	-0.34** (-2.97)	-0.35** (-2.97)
ARESTRIC_R					0.21** (2.51)	0.08 (0.54)			0.07 (0.63)	-0.14 (0.74)	0.01 (0.16)	0.40** (2.81)	0.20** (2.37)	0.08 (0.65)
ARESTRIC_NF					0.24* (1.66)	0.40** (2.28)			0.32** (2.21)	0.60** (3.50)	0.16 (3.07)	0.60** (3.27)	0.20 (1.55)	0.24* (1.77)
R ²		0.138		0.146		0.159	0.073		0.179		0.136			0.127

Notes: See table 6.9 notes.

**Significant at the 5 percent level.

*Significant at the 10 percent level.

Table 6.11 Determinants of international financial mergers: Poisson estimates (3-1 robustness testing)

Variable	1		2		3		4		5		6		7		8		9		10		
	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	
CONST	-1.76** (4.68)		-0.40 (1.085)		-0.81** (2.16)		-0.68** (1.65)		-1.13** (11.30)		-1.44 (14.53)		-1.43** (17.77)		-1.01** (10.11)		-0.98** (10.48)				
DISTANCE	-0.07** (2.08)	0.04 (1.43)	-0.05 (1.136)	0.06 (1.63)	-0.04 (1.08)	0.05** (1.77)	-0.17** (2.64)	-0.02 (0.645)													
GDP	0.08 (1.38)	0.18** (2.83)	-0.07 (1.297)	0.00 (0.02)	-0.07 (1.184)	0.02 (0.26)	-0.02 (0.299)	0.03 (0.45)													
TRADE	0.45** (11.17)	0.45** (9.01)							0.36** (8.85)	0.46** (9.84)	0.37** (9.61)	0.62** (13.73)	0.38** (10.37)	0.55** (9.72)							
GDPGROW			-0.06** (3.82)	-0.01 (0.24)					-0.05** (5.10)	0.06** (3.42)											
STOCKRET			-0.002 (0.59)	-0.005 (1.39)					-0.001 (0.515)	-0.004 (0.896)											
LANGUAGE					0.60** (3.44)	0.95** (5.48)			0.41** (2.56)	1.60** (9.35)											
RELIGIOUS					0.31 (1.62)	0.16 (0.87)			0.05 (0.27)	0.36** (2.10)											
AKKZ_CORRUP							-0.07 (0.29)	0.46 (1.27)													
AKKZ_RULELAW							0.44* (1.78)	-0.53** (2.512)													
AKKZ_REGQUAL							-0.59* (1.70)	-0.30 (1.474)													
AKKZ_GOWEFF							0.40 (1.46)	0.65** (1.74)													
R ²	0.072		0.044		0.072		0.077		0.036		0.125		0.062		0.073		0.068			0.095	

Notes: This table included data of cross border merger & acquisition activities of Asian and G7 nations before and after Asian crisis. B and A denote before and after the Asian crisis, respectively.

**Significant at the 5 percent level.

*Significant at the 10 percent level.

Table 6.12 Determinants of international financial mergers: Poisson estimates (3-2 robustness testing)

Variable	Model 1		Model 2		Model 3		Model 4		Model 5		Model 6		Model 7		Model 8		Model 9		Model 10	
	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A
CONST	-1.65** (4.05)		-2.29** (5.68)		-2.35** (5.35)		-0.79** (2.12)		-0.48 (1.08)		-1.05** (2.32)		-1.43** (11.07)		-1.36** (12.81)		-1.66** (15.53)		-1.17** (10.58)	
DISTANCE	-0.08** (2.33)	0.06* (1.89)	-0.06* (1.92)	0.05* (1.94)	-0.15** (3.19)	0.00 (0.12)	-0.03 (0.79)	0.07** (2.05)	-0.17** (2.55)	0.00 (0.01)	-0.16** (2.36)	-0.01 (0.350)								
GDP	0.10 (1.61)	0.16** (2.26)	0.13** (2.17)	0.19** (2.56)	0.20** (2.64)	0.22** (2.98)	-0.07 (1.17)	0.02 (0.31)	-0.02 (0.22)	0.01 (0.07)	0.00 (0.03)	0.05 (0.62)								
TRADE	0.48** (10.60)	0.38** (7.46)	0.51** (11.51)	0.53** (9.64)	0.47** (10.36)	0.52** (9.46)							0.40** (9.95)	0.55 (10.84)	0.40** (9.52)	0.50** (7.93)	0.42** (10.75)	0.60** (11.11)		
GDPGROW	-0.05** (2.92)	0.00 (0.13)					-0.07** (4.34)	-0.02 (0.66)	-0.05** (3.28)	-0.02 (0.421)			-0.05** (4.67)	0.03* (1.74)	-0.04** (3.519)	0.03 (1.25)			-0.05** (4.32)	0.02 (1.21)
STOCKRET	0.001 (0.48)	-0.003 (0.814)					-0.003 (1.07)	-0.005 (1.22)	-0.003 (1.28)	-0.006 (1.665)			-0.002 (0.802)	-0.003 (0.733)	-0.001 (0.34)	-0.003 (0.877)			-0.004* (1.72)	-0.006 (1.57)
LANGUAGE			0.75** (4.13)	1.27** (6.09)			0.89** (4.87)	1.04** (5.49)			0.58** (3.29)	0.83** (4.60)	0.68 (3.97)	1.57** (8.15)			0.48** (3.04)	1.13** (6.15)	0.63** (3.95)	1.05** (5.98)
RELIGIOUS			0.26 (1.31)	0.34* (1.68)			0.45** (2.36)	0.07 (0.35)			0.29 (1.53)	0.20 (1.09)	0.19 (1.01)	0.26 (1.37)			0.19 (1.06)	0.28 (1.54)	0.25 (1.40)	0.23 (1.37)
AKKZ_CORRUP					0.21 (0.97)	0.35 (0.89)			-0.14 (0.578)	0.27 (0.62)	-0.09 (0.39)	0.42 (1.15)			0.06 (0.27)	0.35 (0.83)	0.08 (0.44)	0.32 (0.91)	-0.34* (1.82)	0.21 (0.54)
AKKZ_RULELAW					0.28 (1.05)	-0.69** (2.92)			0.33 (1.10)	-0.48** (2.08)	0.57 (2.12)	-0.32 (1.49)			0.21 (0.72)	-1.12** (4.871)	0.30 (1.23)	-0.83** (3.38)	0.68** (2.68)	-0.35 (1.51)
AKKZ_REGQUAL					-0.65** (2.06)	-0.68** (2.75)			-0.68** (1.89)	-0.07 (0.25)	-0.62* (1.799)	-0.29 (1.55)			0.14 (0.68)	-0.48** (1.417)	0.23 (1.26)	-0.50* (1.80)	-0.08 (0.46)	-0.11 (0.62)
AKKZ_GOVEFF					0.25 (0.86)	1.32** (3.15)			0.59* (1.84)	0.59 (1.32)	0.31 (1.16)	0.45 (1.22)			-0.17 (0.65)	1.55** (3.58)	-0.34 (1.597)	1.34** (3.50)	-0.07 (0.02)	0.62 (1.62)
R ²	0.072		0.152		0.109		0.101		0.079		0.103		0.130		0.059		0.137		0.102	

Notes: See table 6.11 notes.

**Significant at the 5 percent level.

*Significant at the 10 percent level.

Table 6.13 Determinants of international financial mergers: Poisson estimates (3-3 robustness testing)

Variable	Model 1		Model 2		Model 3		Model 4		Model 5		Model 6		Model 7		Model 8		Model 9		Model 10			
	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A		
CONST	-1.36** (2.68)		-1.11** (13.97)		-0.79** (9.70)		-0.92** (10.84)		-2.26** (4.43)		-1.16** (2.36)		-1.50** (2.87)		-1.09** (10.52)		-1.38** (12.44)					
DISTANCE	-0.03 (1.039)	0.06** (2.21)							-0.04 (1.344)	0.08** (2.44)	-0.04 (0.974)	0.07** (2.48)	-0.04 (1.20)	0.05** (1.74)								
GDP	0.06 (0.68)	0.15* (1.67)							0.18** (2.05)	0.25** (2.83)	0.06 (0.79)	0.14 (1.53)	0.06 (0.64)	0.14 (1.39)								
TRADE			0.24** (4.95)	0.48** (8.24)					0.37** (6.86)	0.29** (4.57)					0.30** (6.01)	0.39** (6.41)	0.32** (6.83)	0.54** (9.56)				
GDPGROW					-0.05** (5.00)	0.05** (3.15)					-0.04 (3.02)	-0.04 (0.92)			-0.05** (4.196)	0.05** (2.62)					-0.05** (4.58)	0.03* (1.71)
STOCKRET					-0.00** (2.073)	-0.01* (1.759)					-0.00 (1.06)	-0.01* (1.92)			-0.00 (1.28)	-0.01* (1.19)					-0.01** (2.13)	-0.01* (1.67)
LANGUAGE							0.12 (0.74)	1.26** (9.80)					0.48** (2.67)	0.77** (4.22)			0.30* (1.78)	1.41** (7.84)			0.30** (3.02)	1.19** (7.19)
RELIGIOUS							-0.17 (0.99)	0.25* (1.80)					0.24 (1.23)	0.15 (0.84)			0.01 (0.03)	0.33* (1.89)			0.11 (0.60)	0.16 (0.91)
ARESTRIC_S	0.12 (1.13)	0.09 (0.65)	0.05 (0.65)	-0.04 (0.38)	0.11 (1.25)	0.01 (0.14)	0.05 (0.56)	-0.15* (1.68)	0.13 (0.75)	0.07 (0.75)	0.19* (1.78)	0.11 (1.17)	0.08 (0.74)	0.01 (0.06)	0.07 (0.84)	-0.01 (0.12)	0.01 (0.10)	-0.25** (2.31)	0.05 (0.51)	-0.18 (1.62)		
ARESTRIC_I	-0.71** (6.53)	-0.75** (7.76)	-0.27** (3.71)	-0.49** (4.79)	-0.34** (4.72)	-0.54** (5.97)	-0.39** (5.87)	-0.53** (7.05)	-0.52** (5.85)	-0.67** (5.85)	-0.67** (5.21)	-0.73** (6.89)	-0.70** (6.10)	-0.71** (6.98)	-0.19** (2.352)	-0.39** (3.79)	-0.24 (2.872)	-0.23** (2.48)	-0.30** (3.73)	-0.43** (5.14)		
ARESTRIC_R	0.23** (3.56)	0.09 (1.53)	0.08** (1.68)	-0.02 (0.250)	0.19** (3.82)	0.14** (2.21)	0.18** (4.10)	0.23** (4.75)	0.12* (1.68)	0.04 (0.57)	0.22 (3.21)	0.08 (1.28)	0.25** (3.87)	0.14** (2.43)	0.04 (0.81)	0.00 (0.03)	0.07 (1.28)	0.06 (0.82)	0.20** (3.85)	0.20** (3.10)		
ARESTRIC_NF	0.29** (2.56)	0.45** (4.42)	0.31** (4.21)	0.25** (2.56)	0.20** (1.98)	0.18* (1.84)	0.27** (3.26)	0.11 (1.49)	0.28** (2.37)	0.48** (4.46)	0.22 (1.54)	0.42** (3.77)	0.21* (1.86)	0.30** (3.21)	0.32** (3.45)	0.22** (2.24)	0.29** (3.64)	0.20 (1.28)	0.22** (3.45)	0.22** (3.45)	0.16* (1.65)	0.08 (0.95)
R ²	0.133		0.056		0.061		0.135		0.155		0.138		0.167		0.054		0.145				0.125	

Notes: See table 6.11 notes.

**Significant at the 5 percent level.

*Significant at the 10 percent level.

LANGUAGE. Recall that its coefficients are only significant for two specifications before the crisis without considering G7 countries. The coefficients now become overwhelmingly significantly positive. This, thus, further strengthens the importance of information cost, especially when targets are from Asian countries.

6.7 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 not 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 about 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. Gross domestic product 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 value of the regulatory gap is relatively small 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 value of the regulatory gap is relatively large between two countries in terms of restrictions on nonfinancial activities, it encourages firms to engage in M&A activity.

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. Thus, the 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 the differences of corruption, is also important before the crisis but is no longer crucial after it. Thus, the regulation barrier hypothesis may 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 ac-

tivity 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 effect whatsoever in both periods. For example, future stock return does not have any impact in our sample.

Appendix

Indonesia

By the end of January 1998, further steps were taken on bank restructuring with the granting of a full guarantee for all bank depositors and creditors, together with the introduction of the Indonesian Bank Restructuring Agency (IBRA).

The foreign holdings in domestic financial institutions would be eased.

Korea

The government has been encouraging mergers between banks that are both sound and of substantial size.

In 1998, regulation of 4 percent of commercial banks controlled by foreigners is lifted.

Malaysia

In 1998, Malaysia requests fifty-eight financial institutions merger into ten large anchor banks.

The Philippines

In 1998, development cooperation, development assistance, and other such topics were key, and they should not be hijacked by discussions of new financial system. There was a need for the international community to create partnerships that met development needs. The international community should also create the required resources for implementing the proposals and commitments made in the major United Nations conferences.

In 1999, nine mergers involving twelve commercial banks, four thrift banks, and two rural banks have taken place. All these measures promoted the mobilization of more resources that will be made available to the market.

Singapore

In May 1999, MAS announced a five-year program to liberalize access by foreign banks to the domestic banking industry. The first package of measures was deliberately calibrated to give local banks time to build their capabilities and minimize the risk of destabilizing the financial system.

On 29 June 2001, MAS announced the second phase of the liberalization program, which will enable the broadening of access to the domestic whole-

sale banking industry. This will allow offshore banks and qualifying offshore banks to develop their restricted bank status.

Taiwan

On December 13, 2000, Taiwan passed the Law of M&As of Financial Institutions to encourage M&As. Foreign M&As are also allowed.

Thailand

In 1997, the Bank of Thailand said that restrictions on foreign holdings in domestic financial institutions would be eased. Domestically incorporated banks and finance companies “with sound financial status” would be allowed to hold 49 percent of other financial institutions for ten years, the central bank said. These measures will apply to fifteen commercial banks, thirty-three active finance companies, and twelve property finance companies that have not been suspended, the central bank said.

Foreign holdings in fifty-eight bankrupt finance companies, whose activities were suspended this year, will be unlimited for ten years. Currently, foreign companies may hold no more than 10 percent of a bank and 25 percent of a property finance company.

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Comment Mario B. Lamberte

The authors have observed a significant increase in mergers and acquisitions (M&As) in Asia after the Asian financial crisis. Thus, they have attempted to empirically investigate the determinants of cross-border M&As among financial institutions in ten Asian countries and to find out whether the determinants have changed after the Asian financial crisis. They have offered five hypotheses, namely, the gravity hypothesis, following the client hypothesis, market opportunity hypothesis, information cost hypothesis, and regulatory restrictions hypothesis. Their empirical results confirm some of these hypotheses and also show some changes in effects of the determinants of M&As after the crisis.

These comments will focus on two areas, namely, data and interpretation of the empirical results.

Data

The data used by the authors need some clarification as they affect the results as well as the interpretation of the results. First, they have classified M&As by acquiring and target countries. It may be worthwhile to look at nationalities of these financial institutions as they provide additional information why a financial institution in an acquiring country has merged with a financial institution in a target country. For example, a U.S.-registered financial institution owned by Hong Kong investors may merge