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## Foreign Banks in Emerging Market Crises: Evidence from Malaysia

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**IMF Working Paper**

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**Abstract**

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Foreign banks have greatly increased their presence in emerging market countries in recent years. This paper compares the performance of domestic banks and a long-established group of foreign banks during the recent crisis in Malaysia. We find that the sharpest differences are between banks mainly active in Asia (including all domestic and some foreign banks) and foreign banks not specialized in Asia. The latter group performed better than the rest during the crisis, maintaining higher profitability thanks to higher interest margins and lower non-performing loans. Foreign banks did not abandon the local market during the crisis and received less government support than domestic institutions.

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## I. INTRODUCTION

In recent years many banking systems in emerging market countries have experienced a deep transformation under the pressure of internal financial liberalization, increased openness to international capital flows, and technological and financial innovation. Banking crises, often requiring large-scale government intervention and bank closures, also opened the way for structural change. Among these transformations, an important one has been the increasing presence of foreign banks in the domestic banking system. While foreign bank entry in emerging market countries has been substantial overall, it has also been uneven, with some countries maintaining substantial barriers and others allowing foreign banks to achieve a dominant position (International Monetary Fund, 2000).

Not surprisingly, these phenomena have been accompanied by a lively debate over the causes and consequences of foreign entry in emerging market countries. In recent empirical studies, foreign bank entry in developing countries is found to increase the efficiency of domestic banks (Claessens, Demirgüç-Kunt, and Huizinga, 2001), improve credit availability for all firms (Clarke, Cull, Martinez-Peria, 2001), reduce the likelihood of crises (Levine, 1996), but also increase firm investment volatility (Morgan and Strahan, 2003). Demirgüç-Kunt and Huizinga (1999) show evidence that foreign banks have higher margins and lower profitability than their domestic counterparts. Berger and others (2000) examine the more general phenomenon of the globalization of financial services. Focarelli and Pozzolo (2003) analyze the determinants of the location of foreign bank subsidiaries. Finally, Barajas, Steiner, and Salazar (1999) study financial liberalization and foreign bank entry in Colombia in the 1990s.

The purpose of this paper is to provide empirical evidence on a particular aspect of the debate which has not been documented yet, namely how foreign banks perform relative to domestic banks during periods of extreme financial fragility. To this end, we examine the experience of Malaysia during the crisis that began in the summer of 1997, and address the following three questions: did foreign banks weather the crisis better than domestic banks? Were they quicker than domestic banks to reduce credit once the crisis hit? Did they receive the same amount of financial support from the government as domestic banks? These issues are important because emerging market banking systems have been quite vulnerable to systemic distress and bank rescues have often imposed a heavy burden on the government budget (Caprio and Klingebiel, 2003). Thus, if a sizable foreign bank presence could alleviate the economic and fiscal costs of a crisis, it would be a strong argument in favor of liberalizing their entry.

But why might foreign banks perform better in periods of generalized distress? There are a number of possible reasons: first, foreign banks may generally be more profitable, more efficient, and better capitalized than domestic banks, perhaps because they are subject to more intense competition in global markets or better regulation and supervision in their home market. Being in a more favorable initial position may allow foreign banks to better deal with the shocks that bring about the banking crisis. Second, subsidiaries of large global groups may find it easier to raise capital or liquid funds on international financial markets, as informational barriers are likely to be more limited for these entities. In turn, the ability to access credit lines or other forms of external finance may be key to survival during periods of distress. Thirdly, even when

financing from outside investors dries up because of sharply increased uncertainty, foreign bank subsidiaries may still have access to financial support from their parent bank, particularly if the latter is a well-diversified group that is only marginally affected by the difficulties in the host country. The parent bank, being presumably better informed about the conditions of the subsidiaries, may be less likely to fall victim to generalized panic. Furthermore, reputational consideration may make parent banks more willing to rescue a subsidiary. Fourth, foreign banks may face better incentives than domestic banks if they are less likely to be bailed out by the government ex post, thus they may be in a better shape when a crisis hits. Last but not least, foreign banks may be less amenable to political pressures to support preferential sectors or customers.

The second question considered in the paper, whether foreign banks were quicker than domestic banks to reduce their presence in the Malaysian market once the crisis hit, is interesting because there may be doubts about the long-term commitment of foreign banks to the local market. While foreign banks injected a lot of new capital after the 1990s banking crises in Argentina, Brazil, and Mexico (see, for instance, Peek and Rosengren, 2000, and Dages, Goldberg, and Kinney, 2000), this occurred because regulatory restrictions on foreign bank penetration were lifted after the crisis, and foreign institutions took the opportunity to enter and expand their presence in markets hitherto mostly closed. So these experiences do not tell us much about foreign banks' willingness to continue operating in the country during a banking crisis, while the experience of Malaysia, where foreign banks have been operating for decades, may be more informative in this regard.

At the time of the crisis, Malaysia had a sizable and varied group of foreign banks accounting for about 15 percent of total bank assets (Table 1). This group includes subsidiaries of Asian banks (from Hong Kong SAR., Japan, Singapore, and Thailand), two U.K. banks with substantial business in Asia (HSBC and Standard Chartered), as well as a few large U.S. and European banks. Foreign banks have operated in the country since before independence in 1957, and have a deep knowledge of the local market. Thus, Malaysia is a rare example of an emerging market with a non-negligible and well-established foreign presence in the banking sector. A second reason for examining Malaysia is that a lot of information is available on bank performance and characteristics and on the nature and extent of the government support operations. Thirdly, while it had its own specific traits, the Malaysian banking crisis shares a number of common features with other emerging market crises, including a credit boom, overvalued asset prices, contagion from other regional crises, and a steep depreciation of the currency.

Somewhat surprisingly, we find that, when performance is concerned, the sharpest differences are not between foreign and domestic banks but between banks mainly active in Asia and other banks. Specifically, non-Asia-oriented foreign banks performed better in terms of profitability, and loan quality, but worse in terms of cost efficiency than other banks. On the other hand, foreign banks operating mainly in Asia did not differ much from domestic banks. When government support is concerned, however, foreign banks received less funding than domestic banks. The evidence is stronger for foreign banks active in Asia. Nevertheless, since non-Asia-oriented foreign banks seemed to have weathered the crisis well, they probably also did not

need much support from the government. Finally, we find no evidence that foreign banks abandoned the Malaysian market in the immediate aftermath of the crisis.

The paper is organized as follows: the next section provides some background information on the structure of the Malaysian banking system and a brief overview of the events surrounding the crisis and the rescue operations. An overview of the data is in Section III, while Section IV contains the econometric model and regression results. Section V discusses the interpretation of the result and Section VI concludes.

## **II. BACKGROUND**

### **A. The Structure of the Malaysian Banking System**

At the onset of the crisis the Malaysian banking system consisted mainly of three types of institutions: commercial banks (domestic and foreign), finance companies, and merchant banks (Table 1). Domestic commercial banks had the largest share of the market. Among these, the government controlled the largest bank (Maybank) through a majority share and it fully owned the second largest bank, Bank Bumiputra.<sup>2</sup> In addition, three smaller banks were controlled by public entities.

Foreign commercial banks held over 90 percent of the share of the banking market in 1957, when Malaysia became independent, but by 1997 controlled only 16.7 percent of banking assets. The progressive decline of foreign banks was the result of a deliberate government policy of developing the domestic financial sector, under which foreign banks have been prohibited to open new branches since 1971 and the last license to a foreign institution was granted in 1973. The market share of foreign banks was relatively stable in the 1990s until the crisis.<sup>3</sup>

Domestic and foreign commercial banks engaged in retail and corporate banking, and were the only institutions authorized to take demand deposits. The numerous, relatively small finance companies, on the other hand, provided mainly installment credit to consumers and small businesses, with funding provided from time and savings deposits. Merchant banks were a minor presence.

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<sup>2</sup> Bank Bumiputra was created to promote the economic development of the indigenous population.

<sup>3</sup> Foreign banks had minority interest in ten domestic commercial banks, three finance companies, and seven merchant banks.

## **B. Banking Problems in the 1980s and early 1990s**

The Malaysian banking sector experienced problems throughout the 1980s. In 1982, Bank Bumiputra had to be bailed out by the state oil company after making large losses on loans to Hong Kong SAR real estate developers. In 1985–86 there were sporadic bank runs and a number of deposit-taking institutions failed. The government had to recapitalize three mid-sized banks whose loans to finance real estate developments and share purchases had turned sour, and intervened in four finance companies and numerous deposit taking institutions and insurance companies. In 1987–89, the central bank (Bank Negara Malaysia, BNM) took control of another mid-sized bank and five finance companies. Non-performing loans were estimated at 32 percent of total loans in 1988. In 1989, Bank Bumiputra had to be recapitalized again.

Following these events, BNM was put in charge of prudential regulation and supervision, and regulation was tightened. The central bank also tried to increase bank stability by fostering concentration. To this end, in 1994 a distinction was created between larger and sounder banks (Tier I) and other banks (Tier II).<sup>4</sup> Tier I banks had less regulatory restrictions on the type of activities that they could carry out and lower capital requirements. At end-1997, 10 banks had Tier I status, of which 4 were foreign banks. This strategy, however, did not yield the desired consolidation as smaller banks rushed to raise new capital in the stock market to achieve Tier I status rather than merge. This process contributed to the rapid growth in bank credit, especially loans to the real estate sector and to finance share purchases, and total bank assets grew at an average rate of over 20 percent per year in 1993–97. The two-tier system was abolished in April 1999.

## **C. The Crisis of 1997–98 and the Policy Response<sup>5</sup>**

The Malaysian economy was performing strongly during the 1990s prior to the crisis, growing at an average annual real growth rate of 8.5 percent. The first signs of the onset of the crisis appeared in mid-1997, as market confidence in the economy declined along with that in the rest of the region. There were large capital outflows from Malaysia in the spring of 1997, combined with decline in equity values. The capital outflows accelerated in July, when the Thai baht was devalued, and soon BNM had to abandon the dollar peg. The ringgit depreciated sharply in the summer of 1997, and equity and real estate values plunged. Investment by the highly leveraged corporate sector collapsed, while negative wealth effects and general uncertainty took their toll on consumption. Economic difficulties elsewhere in the region curtailed export demand and magnified the slowdown. The widespread use of shares as collateral for bank loans exacerbated problems.

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<sup>4</sup> To qualify for Tier I, paid-up capital had to reach at least RM 500 million, and other undisclosed conditions based on CAMEL ratings had to be met.

<sup>5</sup> For a review of the Malaysian crisis (and of the other Asian crises) see, for instance, Lindgren and others (1999).

The banking sector was hit by the downturn, with non-performing loans rising from 6 percent of net total loans at end-1997 to 22 percent at end-1998, while provisioning as a share of non-performing loans declined from 66 percent to 42 percent. Some of the largest Malaysian conglomerates also experienced financial difficulties. Finance companies and merchant banks registered the sharpest worsening in asset quality.

Initially, the policy response was to tighten fiscal and monetary policy to stem exchange rate depreciation. Thus, interbank interest rates rose from 7½ percent in August 1997 to 11 percent at the beginning of 1998. As the situation of the corporate and financial sector deteriorated rapidly, a generalized guarantee for bank depositors was introduced in January 1998; to inject liquidity into the banking system, the mandatory reserve requirement was cut from 13½ percent to 10 percent in February 1998 and again to 8 percent in July 1998. BNM also strengthened prudential requirements, issued guidelines to preserve credit flows to priority sectors (small and indigenous enterprises, housing), and announced mergers among troubled finance companies in February-March 1998. In early 1998, the fiscal policy course was reversed, and the stance was relaxed in March and again in August.

As the economy continued to deteriorate in June-July, 1998, two special purpose agencies were created: Danaharta and Danamodal. Danaharta was in charge of buying non-performing loans at a discount from banks, while Danamodal was to inject new capital in selected institutions. A committee to promote corporate debt workouts was also created.

In September 1998, a shift in the exchange rate policy approach took place: the ringgit was again pegged to the dollar and controls on capital outflows were introduced. The move was intended to permit a decline in interest rates without jeopardizing the value of the currency. The quantitative controls were transformed in a tax on foreign outflows at the beginning of 1999. At the same time, together with the other East Asian crisis countries, the Malaysian economy began to rebound after the sharp downturn of 1998. By June 1999 Danaharta was managing RM 39.3 billion in non-performing loans (about 13 percent of GDP), over half of which belonged to two financial groups, Sime and Bumiputra, while Danamodal injected a total of RM 7.1 billion (2.4 percent of GDP) in 10 institutions. As a result of these measures and the improved economy, bank balance sheets began to improve. Net non-performing loans declined to 15.3 percent of total loans at end-2000, while provisioning rose to 53.8 percent of bad debt. The risk-weighted capital-asset ratio stood at 12.4 percent, up from 10.5 percent at end-1997.

### **III. A FIRST LOOK AT THE DATA**

The sample covers 46 Malaysian banking institutions, including 18 domestic commercial banks, 11 foreign banks, 7 merchant banks, and 3 finance companies. These are all the institutions for which data were available in the Bureau Van Dijk and Fitch IBCA data. Coverage is quite good in the sample for commercial and merchant banks, but quite poor for the (smaller) finance companies (Table 1). Three of the four domestic banks for which data are missing, RHB, SIME, and Bumiputra, experienced severe problems during the crisis. The exclusion of Bumiputra, a state-owned bank with a social charter and a history of bailouts, is probably appropriate, as this bank operates according to non-market rules. Nonetheless, our sample may be biased towards



the healthier domestic institutions. For some variables, information for one or more of the banks is missing, and the sample is reduced accordingly.<sup>6</sup>

Foreign banks are defined as fully owned subsidiaries of foreign institutions or domestic banks in which a foreign institution holds a controlling share. To gain further insight in the performance of foreign banks, we also distinguish among subsidiaries of foreign banks for which Asia is the main region of operation—and thus whose overall operations were seriously affected by the regional crisis—and other foreign banks. The former group (which will be referred to as the Asia-oriented foreign banks) includes three Singaporean banks, a Thai bank, and two U.K. banks (HSBC and Standard Chartered). The other foreign banks are three U.S. banks, one Canadian bank, and one German bank.<sup>7</sup>

To gauge bank soundness and performance we examine bank capital (measured by equity/asset), profitability (profits/asset and interest margin/assets), cost efficiency (overhead expenses/assets), and asset quality (non-performing loans/assets). All variables are calculated as percentage of total assets.<sup>8</sup> We also examine the real growth rate of bank deposits to assess whether foreign banks were less affected by depositor withdrawals and loan growth to test whether they were more eager to abandon the Malaysian market during the crisis. Real values are calculated by deflating the nominal series by the CPI.

Before setting up an econometric framework, it is useful to examine sample means for the variables of interest (Figure 1). The effects of the crisis are clearly visible in the figures: profitability declines sharply in 1998, non-performing loans mount, and deposit and loan growth decelerate abruptly. While profitability and deposit growth recover beginning in 1999, non-performing loans remain high and loan growth depressed throughout 2000. Equity and overhead do not register significant changes for the sample as a whole.

Restricting attention to foreign banks, the same broad patterns emerge, but there are also some interesting differences: the decline in profitability is less sharp, interest margin and capitalization actually improve, and overhead costs increase somewhat. Loan and deposit growth decline in line with sample averages. Interestingly, before the crisis foreign banks experienced a more modest portfolio expansion than domestic banks.

These differences are even sharper if we restrict attention to foreign banks not specialized in Asia. For these banks there is no decline in profitability during the crisis, thanks to higher

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<sup>6</sup> In our sample, four banks close their accounts at dates other than the end of the calendar year. In these cases, we have used the date closest to December 31.

<sup>7</sup> For a complete list of the banks included in the sample see the Appendix.

<sup>8</sup> The values of non-performing loans, total loans, and total assets have been corrected for non-performing loans sold to Danaharta.

interest margins and capitalization. The increase in non-performing loans, while sizable, is more modest than for the sample as a whole, and deposit growth rebounds a bit more strongly. Overhead costs, however, increase more sharply.

This evidence suggests that domestic and foreign banks indeed behaved differently during the Malaysian crisis. In addition, an empirical model to test differences in behavior between domestic and foreign banks should distinguish between foreign banks operating mainly in Asia and other foreign banks. This is the subject of the next section.

#### IV. THE ECONOMETRIC MODEL AND REGRESSION RESULTS

##### A. The Empirical Specification

To test whether there were significant differences in performance across groups of banks, in this section we set up a simple regression framework. A number of standard indicators of bank performance and soundness are regressed on time dummies (to control for common macroeconomic and sector-wide shocks), bank dummies (to control for individual bank characteristics), and two interaction terms. The first interaction term is the product of a dummy for foreign Asia-oriented banks and a banking crisis dummy. The second interaction term is similar, but uses a dummy for non-Asia-oriented foreign banks. A positive and significant coefficient for the interaction term indicates that the dependent variable was significantly lower in the foreign banks during the crisis than in the sample average.

More formally, let  $i=1, \dots, N$  index the banks and  $t=1, \dots, T$  index the time periods.  $D^i$  and  $D^t$  are  $N \times T$  matrices of bank and time dummies.  $D^C$  is a dummy variable for banking crisis years,  $D^{FA}$  is a dummy for foreign Asia-oriented banks, and  $D^{FN}$  is a dummy for foreign non Asia-oriented banks. Then, the equations estimated are

$$Y_{it} = \sum_{i=1}^N \alpha^i D^i + \sum_{t=1}^T \beta^t D^t + \gamma(D_t^C * D_i^{FA}) + \delta(D_t^C * D_i^{FN}) + u_{it}$$

where  $Y_{it}$  is a performance variable,  $u_{it}$  is an error term, and  $\alpha^i$ ,  $\beta^t$ ,  $\gamma$ , and  $\delta$  are the coefficients to be estimated. The regressions are estimated using OLS, and heteroskedasticity-consistent standard errors are used to compute t-statistics.

##### B. The Results

The results are reported in Table 2. In the first specification, the crisis period is taken to be 1998–2000, while in the second specification the crisis period is limited to the year 1998, when the strongest impact of the crisis on bank performance was registered. The coefficients of the time and bank dummies are omitted to save space. As suggested by Figure 1, during the banking crisis non-Asia-oriented foreign banks had profits 2.3–3.5 percentage points higher than the average, while the profitability of Asia-oriented foreign banks was similar to that of domestic banks. On the other hand, differences in capitalization were not very large nor statistically significant after controlling for time and bank fixed effects.

The interaction term of interest margin, on the other hand, is strongly significant and positive for both groups of foreign banks, but it is much larger in size for the non-Asia-oriented group. Interestingly, by decomposing the interest margin into interest received and interest paid, it appears that differences in interest margin are mainly due to differences in interest received. Thus, foreign banks (and the non-Asia-oriented group in particular) were able to increase interest earned, while domestic banks could not. For the non-Asia-oriented foreign banks this may be partly explained by the lower non-performing loans and by higher interest rates earned on assets other than loans, as these banks held more of such assets than domestic banks.

The increase in overhead costs for the non-Asia-oriented group is also statistically significant. Rather than a deterioration in operational efficiency, this increase might reflect the effects of the exchange rate depreciation on wages denominated in foreign currency for expatriate personnel. Turning now to deposit growth, non-Asia-oriented foreign banks had higher deposit growth, but the difference is not significant. So there is no clear evidence that depositors reallocated their holdings towards the better performing group of banks, a behavior that is not surprising in light of the blanket guarantee offered by the government in January 1998. Loan growth was also higher in non-Asia-oriented foreign banks, but the coefficient is significant only for the specification in which the crisis lasts three years. All in all, there is no evidence that foreign banks scaled down their operations faster than domestic banks during the crisis, consistent with the long-term commitment of these institutions to the Malaysian market.

### **C. Robustness**

To maximize sample size, the regressions of the previous section were estimated using an unbalanced panel for the period 1996–2001. With such an unbalanced panel, however, there is the possibility that differences in behavior during crisis year may be driven by changes in the sample composition, especially given the small sample size. To test the robustness of the results, in this section we run the same set of regressions for a smaller balanced sample of 30 banks over the period 1996–99.

As shown in Table 3, using a balanced sample does not fundamentally change the picture. With this specification, non-Asia-oriented foreign banks appear to have fared better than domestic banks during the crisis in terms of capitalization, profitability, and interest margin, and worse in terms of overhead. The other interaction terms have the expected signs, but are not significant.

### **D. Differences in Government Support**

To test whether the support provided by the government differed according to the foreign or domestic nature of banks, we regress a measure of support on a set of bank characteristics and dummies for bank origin. Government support is measured as the sum of the capital injection from Danamodal (if any) and 20 percent of the total non-performing loans sold to Danaharta divided by total assets. This measure assumes that the difference between what Danaharta paid

for non-performing assets and the resale value of those assets is 20 percent. This is, of course, arbitrary and some sensitivity analysis is performed with other assumptions.<sup>9</sup>

To estimate this regression we use a Tobit procedure because there is a large fraction of observations with a value of zero. The variables of interest are two dummies, one for Asia-oriented and one for non-Asia-oriented foreign banks. As control variables we use the average ratio of non-performing loans to asset during the crisis, or the ratio of non-performing loans to loan loss provisions, since the government policy was to help the most troubled banks. We also include equity of the banks in some of the specifications. Other control variables include various dummies capturing the type of bank (finance company, merchant bank, Tier I bank) and the private/public nature of the institution.

The results show that foreign banks, both Asia-oriented and non-Asia-oriented, received less government support than domestic banks, even after controlling for the size of non-performing loans (Table 5). This is not surprising, given the long-standing government policy of encouraging the development of locally-owned banking institutions. In addition, reputational concerns may have discouraged large international foreign banks from taking advantage of the government rescue program. This result is found to be stronger for the banks active in Asia than for non-Asia-oriented banks. However this could also be a reflection of the fact that the non-Asia-oriented banks probably did not need much support in the first place. The regression results also show that, unsurprisingly, more support went to government-owned banks.<sup>10</sup> These results are robust to excluding non-significant explanatory variables.

## V. INTERPRETATION

What can explain the better performance of non-Asia-oriented foreign banks during the Malaysian banking crisis? One possibility is that, because the parent banks were not affected by the regional crisis, these subsidiaries received emergency credit lines and other forms of financial support from the parent bank, which put them in a better position to deal with the deteriorated situation in Malaysia. This conjecture, however, cannot be the entire explanation, because non-Asia-oriented banks also had significantly lower non-performing loans than other banks, so some of their better performance was the result of better asset quality (Figure 1). Differences in reporting impaired assets cannot provide an explanation either, since, if anything, the availability of financial support from the parent should have allowed these banks to fully mark down bad assets, resulting in higher non-performing loans.

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<sup>9</sup> We conduct sensitivity analyses by assuming that the difference between the paid amount and the resale value of the NPLs is 30, 40, or 50 percent, respectively. The results remain broadly unchanged, though quantitatively they become stronger for higher such percentages.

<sup>10</sup> The Thai bank performed considerably worse than the other Asia-oriented foreign banks. The results, however, are robust to the exclusion of this potential outlier.

A second hypothesis is that foreign banks specialize in lending to affiliates of multinational corporations from their region of origin or specialization, so that the regional orientation of the clients tends to mirror that of the bank group. Accordingly, customers of non-Asia-oriented foreign banks might have had less business in Asia than customers of other foreign banks or domestic banks. Hence, these companies would have been less affected by the regional crisis, resulting in smaller credit problems for the Malaysian affiliates and their banks. This hypothesis may have some relevance, but is unlikely to be the full explanation: the data on the sectoral composition of the loan portfolio of the different groups of banks shows that, just like domestic banks, Asia-oriented foreign banks were heavily exposed to the property and share purchase sectors, while non-Asia-oriented foreign banks lent more to the manufacturing sector (Table 5). Property and share purchases were the sector where most of the loan quality problems were concentrated.<sup>11</sup>

The question is therefore why subsidiaries of Asia-oriented foreign banks chose to follow a similar high-risk business strategy as domestic banks. Moral hazard induced by the expectation of a government bailout is not a plausible explanation, as these banks did not receive much support *ex post*. Elements of an explanation may be provided by theories of managerial herding, such as Scharfstein and Stein (1990). According to these theories, career concerns may lead managers to make decisions based on what other managers do rather than their own information, because a bad decision is not interpreted as a sign of poor ability when it is consistent with the decisions of a peer group. In the case at hand, loan portfolio managers of Asia-oriented international banks in Malaysia may simply have chosen to follow the “herd” of bankers in the region and invest heavily in high-return but high-risk property and share-purchase sectors. On the other hand, the relevant peer group for managers of banks not specialized in Asia may have been different, leading to less propensity towards risky lending. This conjecture clearly needs to be corroborated by further research.

## VI. CONCLUSIONS

As several emerging market countries gradually open their banking market to foreign banks, the question arises whether this process will help stabilize the banking system during times of economic turmoil. To gather some evidence on this issue, this paper has compared the performance of domestic and foreign banks during the recent economic crisis in Malaysia. Because foreign banks have been operating in Malaysia for many years, and have a deep knowledge and strong commitment to the local market, this experience may be relevant to countries in Latin America or Eastern Europe some years down the road, when recently entered foreign banks will have consolidated their presence.

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<sup>11</sup> This is consistent with Laeven (1999), who finds that before the crisis foreign banks in East Asia invested less in risky assets than domestic banks. Laeven does not differentiate among foreign banks of different regional orientation.

Concerning performance during the crisis, the most relevant differences are not between foreign and domestic banks, but between subsidiaries of foreign banks whose operations were not concentrated in Asia and other banks. While the former had relatively low non-performing loans, and profitability and capitalization even improved during the crisis, domestic banks and Asia-oriented foreign banks' affiliates were significantly affected by the crisis. The latter banks had a substantial concentration of loans in the broad property sector and the share purchase sector, where most of the losses occurred, and had experienced very rapid portfolio expansion before the crisis.

Foreign banks received less government support than domestic institutions, even though some of them were in a weak financial position. Finally, foreign banks (especially the non-Asia-oriented group) did not abandon the Malaysian market in the immediate aftermath of the crisis; on the contrary, their lending and deposits contracted less than for domestic banks, perhaps because depositors perceived them as safer and switched their deposits to them.

What factors may explain the asymmetry in the behavior among foreign banks is an open question. While the ability of parent banks to support the subsidiary and possibly differences in the clientele may have played a role, herding theories of managerial behavior may be more suitable to explain the higher exposure of foreign Asia-oriented banks towards risky activities, in particular the property sector.

All in all, this evidence, although limited to only one country during one episode of distress, suggests that being the subsidiary of a foreign institution is not an automatic guarantee that a bank will remain immune to the problems experienced by so many emerging country institutions. Managerial incentives, governance, and the quality of supervision at the level both of the subsidiary and of the parent banks remain the crucial factors, and cannot be taken for granted.

Table 1. Structure of the Malaysian Banking Market in 1997 and Sample Coverage

	Number of Institutions	Share in Total Assets (percent)	Banks in the Sample	Sample Coverage (percent)
Domestic commercial banks	22	57.0	18	69
Foreign commercial banks	13	16.7	11	89
Finance companies	16	20.0	3	16
Merchant banks	12	6.3	7	65
Total	63	100	39	61

Source: Bank Negara Malaysia, Van Dijk and Fitch IBCA Database.

Table 2. Regression Results: Unbalanced Panel, 1996–2001

	Equity		Profitability		Interest Margin	
	Crisis 1998–2000	Crisis 1998	Crisis 1998–2000	Crisis 1998	Crisis 1998–2000	Crisis 1998
Interaction Asia	–0.047 (0.742)	0.437 (0.84)	–0.703 (0.859)	0.577 (1.27)	0.661*** (0.168)	0.949*** (0.29)
Interaction Non-Asia	–0.185 (1.697)	1.45 (1.255)	2.258*** (0.727)	3.418*** (1.32)	1.22*** (0.330)	2.38*** (0.404)
Adjusted R- squared	0.642	0.644	0.376	0.377	0.588	0.67

	NPLs		Overhead	
	Crisis 1998–2000	Crisis 1998	Crisis 1998–2000	Crisis 1998
Interaction Asia	5.58 (3.64)	1.54 (2.42)	0.162** (0.077)	0.06 (0.123)
Interaction Non-Asia	–7.51* (4.04)	–6.48 (6.31)	0.48** (0.202)	0.75** (0.375)
Adjusted R- squared	0.624	0.61	0.775	0.786

	Deposit Growth		Loan Growth	
	Crisis 1998–2000	Crisis 1998	Crisis 1998–2000	Crisis 1998
Interaction Asia	–3.61 (6.414)	2.32 (7.34)	7.68 (8.09)	14.41* (8.62)
Interaction Non-Asia	10.51 (11.78)	6.87 (21.07)	19.84** (10.44)	12.70 (9.46)
Adjusted R- squared	0.137	0.129	0.24	0.232

Note: Robust standard errors in parentheses. \* indicates the level of significance: \*\*\* at 1 percent, \*\* at 5 percent, \* at 10 percent.



Table 3. Regression Results: Balanced Panel, 1996–99

	Equity		Profitability		Interest Margin	
	Crisis 1998–99	Crisis 1998	Crisis 1998–1999	Crisis 1998	Crisis 1998–99	Crisis 1998
Interaction Asia	0.44 (0.85)	0.32 (0.74)	–1.47 (0.98)	0.45 (1.01)	0.76*** (0.196)	0.72*** (0.27)
Interaction Non-Asia	3.36*** (1.16)	3.54*** (1.16)	2.02** (0.86)	2.88** (1.164)	1.58*** (0.377)	2.07*** (0.40)
Adjusted R- squared	0.73	0.727	0.491	0.471	0.617	0.654

	NPLs		Overhead	
	Crisis 1998–99	Crisis 1998	Crisis 1998–99	Crisis 1998
Interaction Asia	4.23 (4.29)	–0.327 (3.22)	0.203* (0.108)	0.030 (0.122)
Interaction Non-Asia	–6.32* (3.47)	–5.33 (4.67)	0.68** (0.245)	0.731* (0.386)
Adjusted R- squared	0.598	0.58	0.754	0.750

	Deposit Growth		Loan Growth	
	Crisis 1998–99	Crisis 1998	Crisis 1998–99	Crisis 1998
Interaction Asia	–13.49 (8.19)	–4.783 (9.268)	3.64 (5.66)	12.82** (5.99)
Interaction Non-Asia	–3.22 (15.32)	–3.337 (21.890)	11.49 (11.63)	5.34 (9.51)
Adjusted R- squared	–0.039	–0.055	0.50	0.51

Note: standard errors in parentheses. \* indicates the level of significance: \*\*\* at 1 percent, \*\* at 5 percent, \* at 10 percent.

Table 4. Regression Results: Government Support

	Support			
	(1)	(2)	(3)	(4)
Constant	2.30* (1.36)	2.15* (1.22)	7.46*** (.99)	1.79 (1.39)
Non-performing loans as a share of assets	0.11*** (0.035)	0.12*** (0.030)		
Non-performing loans as a share of loan loss provisions (in 1998) Equity (in 1998)		1	-.008 (.006) -.53*** (.10)	
Non-performing loans as a share of loan loss provisions (average of 1998, 1999, 2000) Equity (average of 1998, 1999, 2000)				.57*** (.19) -.51*** (.09)
Foreign Non-Asia	-2.43* (1.47)	-2.51* (1.41)	-1.95 (1.49)	-1.35 (1.13)
Foreign Asia	-1.84 (1.19)	-1.98* (1.03)	-1.54* (.88)	-1.27* (.68)
Merchant	0.65 (1.13)			
Finance Company	-0.29 (1.31)			
Private	-3.07*** (1.20)	-2.92*** (1.11)	-1.59 (-1.56)	1.00 (.93)
Tier I	0.69 (0.07)			
Number of observations	34	34	34	22

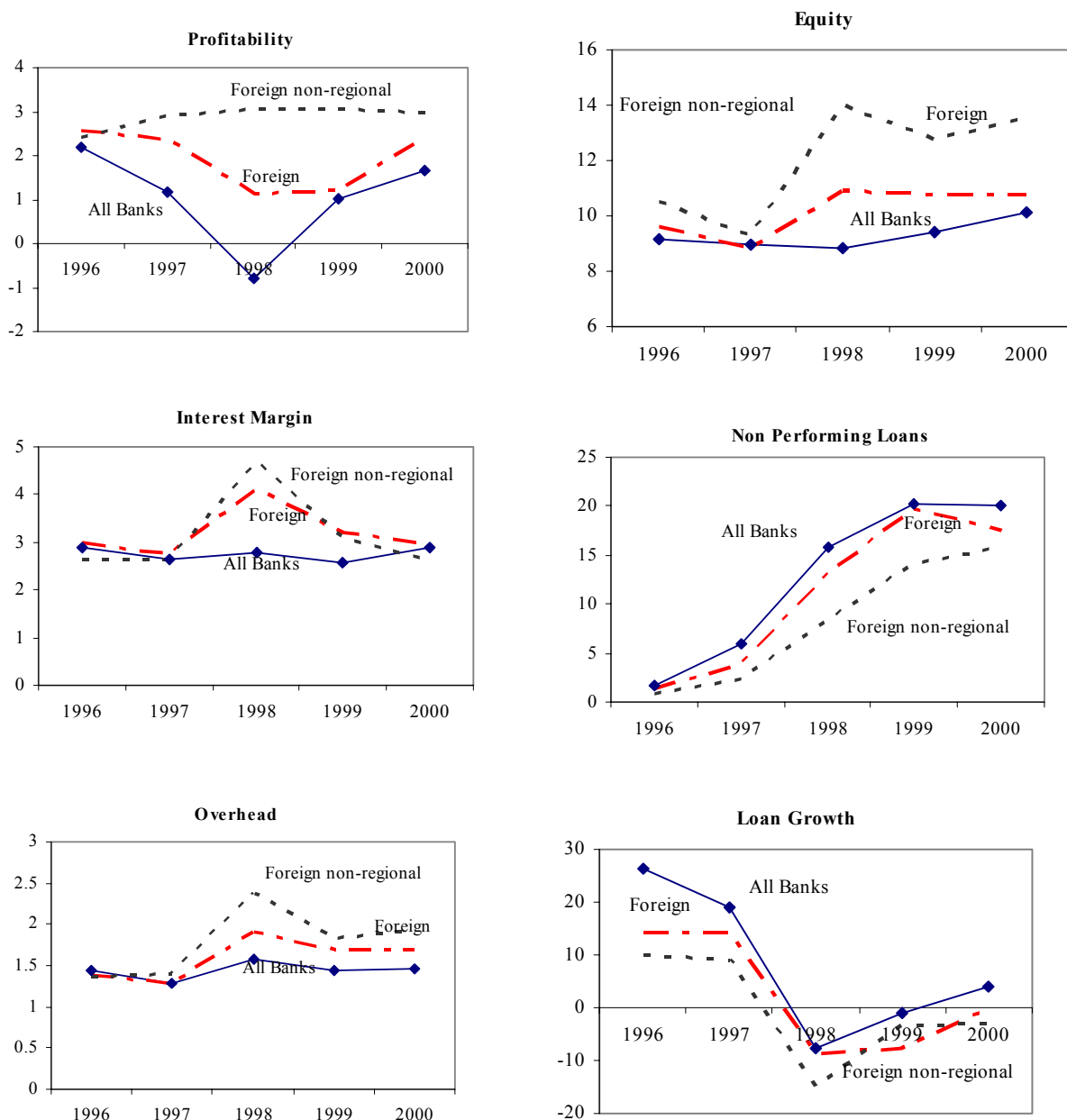
Note: standard errors in parentheses. \* indicates the level of significance: \*\*\* at 1 percent, \*\* at 5 percent, \* at 10 percent.

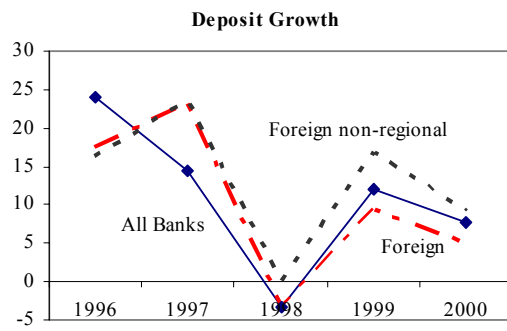
Table 5. Sectoral Composition of Bank Loan Portfolios, end-1998  
(Percentage points)

	Broad Property Sector	Share Purchase	Manufacturing
Average of all banks	35.1	8.9	15.3
Asia-oriented foreign	34.0	6.0	21.5
Other foreign	15.4	4.1	34.2

Source: Bank Negara Malaysia.

Figure 1. Malaysia: Bank Performance Indicators, 1996-2000





Source: Van Dijk and Fitch IBCA database.

# **Data**

Table A.1. Variable Definitions

Variable Name	Definition <sup>12</sup>
Profitability	$(\text{Profit} / \text{total assets}) \times 100$
Interest margin	$(\text{Net interest received} / \text{total assets}) \times 100$
Equity	$(\text{equity} / \text{total assets}) \times 100$
Overhead/assets	$(\text{overhead expenses (personnel expenses and other non interest expenses)} / \text{total assets}) \times 100$
Non-performing loans	$(\text{non performing loans} / \text{total loans}) \times 100$
Loan growth	$(\text{real loans at } t+1) - (\text{real loans at } t) / (\text{real loans at } t) \times 100$
Deposit growth	$(\text{real customer deposits at } t+1) - (\text{real customer deposits at } t) / (\text{real customer deposits } t) \times 100$
Support	$(\text{Capital injection by Danamodal plus 20\% of NPLs sold to Danaharta} / \text{total assets}) \times 100$

<sup>12</sup> The values for the variables—non performing loans, total loans, and total assets—have been corrected for non-performing loans sold to Danaharta.

Table A.2. Financial Institutions Included in the Sample

<b>Domestic Commercial Banks</b>	Bank of Nova Scotia Berhad
Arab-Malaysian Bank Berhad	Chase Manhattan Bank (M) Berhad
Ban Hin Lee Bank Berhad – BHL Bank	Citibank Berhad I
Bank Utama (Malaysia) Berhad	Deutsche Bank (Malaysia) Bhd.
BSN Commercial Bank (Malaysia) Berhad!	HSBC Bank Malaysia Berhad I #
EON Bank Berhad	OCBC Bank (Malaysia) Berhad I #
Hock Hua Bank Bhd	Overseas Union Bank (Malaysia) Berhad #
International Bank Malaysia Bhd	Standard Chartered Bank Malaysia Berhad I #
Malayan Banking Berhad - Maybank! I	United Overseas Bank (Malaysia) Bhd. #
Multi-Purpose Bank Berhad	<b>Merchant Banks</b>
Oriental Bank Berhad !	Amanah Merchant Bank Berhad
Pacific Bank BerhadI	Arab-Malaysian Merchant Bank Berhad
Perwira Affin Bank !	BSN Merchant Bank BHD
PhileoAllied Bank (Malaysia) Berhad	Bumiputra Merchant Bankers BHD
Public Bank BerhadI	Commerce International Merchant Bankers Berhad
Sabah Bank Berhad!	Perdana Merchant Bankers Berhad
Southern Bank Berhad	Perwira Affin Merchant Bank Berhad
Wah Tat Bank Berhad	<b>Finance Companies</b>
Bank of Commerce (M) Berhad I	Asia Commercial Finance (M) Berhad
<b>Foreign Commercial Banks</b>	Credit Corporation Malaysia Berhad
Bangkok Bank Berhad #	Public Finance Berhad
Bank of America Malaysia Berhad	

!: Public banks

I: Tier I banks

#: Foreign banks with exposure in Asia.

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