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Foreign banks in emerging market crises: Evidence from Malaysia

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Abstract

This paper compares performance of domestic and foreign banks in Malaysia during the Asian crisis. We find that foreign banks were not a homogeneous group: while banks with a stronger regional focus suffered from the crisis as much as domestic banks, foreign banks not focused on Asia performed significantly better. The key difference appears to be exposure to sectors hurt by the bursting of the asset price bubble. Availability of support from parent banks, likelihood of being bailed out, or political connections do not seem to explain the differences. Theories of managerial herding may explain why non-regional foreign banks were not caught in the financial bubble.

JEL classification: G21; G28

Keywords: Banking crises; Foreign banks; Malaysia

1. Introduction

In recent years many banking systems in emerging markets experienced a deep transformation under the pressure of internal financial liberalization, increased openness to international capital flows, and technological and financial innovations. Among these transformations, perhaps one of the most important and controversial has been the entry of foreign banks (Gelos and Roldós, 2004).

The debate over foreign bank entry in emerging markets has stimulated a growing body of research. For instance, recent empirical studies have found foreign bank entry to increase the

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efficiency of domestic banks (Claessens et al., 2001; Clarke et al., 2001), improve credit availability for both large and small firms (Clarke et al., 2001), reduce the likelihood of crises (Levine, 1996), but also increase firm investment volatility (Morgan and Strahan, 2003). Studies focused on least developed countries have been less favorable to foreign bank entry. Mian (2006) finds that in Pakistan foreign banks lend less to informationally difficult customers and are less effective at recovering defaulted loans than domestic banks. Detragiache et al. (2006) show that a larger foreign bank presence is associated with less credit to the private sector and slower credit growth in low income countries, but not in other countries. They interpret this as evidence in favor of a model in which foreign banks are better than domestic banks at screening large, transparent borrowers, but are worse at evaluating more opaque borrowers, consistent with Mian's evidence. In this model opaque borrowers never benefit and may sometimes be hurt by foreign bank entry.[1]

This paper studies whether foreign banks are better than domestic banks at dealing with a financial crisis, a question which has not been addressed so far in the literature.[2] Particularly during the 1980s and 1990s, emerging market economies have been quite vulnerable to financial crises, involving varying combinations of currency devaluation, widespread bank insolvencies, corporate financial distress, and fiscal disarray. Thus, if a sizable foreign bank presence could alleviate the economic and fiscal costs of a financial crisis, it would be a strong argument for liberalizing entry.

To study foreign banks performance in times of economic distress, we examine the experience of Malaysia during the financial crisis that began in the summer of 1997. At this time, a sizable and varied group of foreign banks was operating in the country, a legacy of its colonial past. This group included subsidiaries of Asian banks (from Hong Kong S.A.R., Japan, Singapore, and Thailand), two UK banks with substantial business in Asia (HSBC and Standard Chartered), as well as a few large North-American and European banks. Foreign banks operated in the country since before independence in 1957, and have a deep knowledge of the local market. Thus, Malaysia is a rare case 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 the banking sector, including on the nature and extent of the government support operations. Finally, while it had its own specific traits, the Malaysian crisis shared many 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.

The first question we address is whether foreign banks performed better than domestic banks during Asian crisis. There are a number of possible reasons for this to be the case: 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, in turn, may allow foreign banks to better deal with the shocks that bring about the banking crisis.

[1] In related work, Demirgüç-Kunt and Huizinga (1999) show evidence that foreign banks have higher margins and lower profitability than their domestic counterparts. Berger et al. (2000) examine the more general phenomenon of financial services globalization. Focarelli and Pozzolo (2003) analyze the determinants of the location of foreign bank subsidiaries, while Barajas et al. (1999) study financial liberalization and foreign bank entry in Colombia in the 1990s. Agénor (2001) provides a broad overview of the cost and benefits of foreign bank entry.

[2] Goldberg et al. (2000) are an important exception. This paper studies foreign banks in Mexico and Argentina in the years following the Tequila crisis, comparing differences in unweighted and weighted means by ownership groups in the years following the crisis. The dependent variables are loan growth and its volatility, but they do not control for pre-crisis differences in behavior. Also, the post-Tequila years were a period of rapid foreign bank entry in both Argentina and Mexico, so many foreign banks were still in a transition phase.

Foreign banks may better deal with a systemic crisis also because they may find it easier to raise capital or liquid funds on international financial markets, as the informational barriers they face in these markets are less severe. In turn, the ability to access credit lines or other forms of external finance may be a key to survival during periods of distress. Even when financing from outside investors dries out because of sharply increased uncertainty, foreign bank subsidiaries may still have access to financial support from their parent banks, 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 considerations may make parent banks more willing to rescue a subsidiary.

Another possibility is that foreign banks employ more sophisticated risk management techniques and have a better system of internal controls, which makes them less vulnerable to shocks in the first place. Moral hazard may also be less relevant for foreign 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 is whether foreign banks were quicker than domestic banks to reduce their presence in the Malaysian market once the crisis hit. Skeptics of the benefits of foreign bank entry have questioned the long-term commitment of foreign banks to emerging markets, and have suggested that the international ties of these banks may make them a vehicle for capital flight.[3] In practice, crises have sometimes been followed by a sharp increase in foreign entry, as in the case of Argentina, Brazil, and Mexico, but this occurred because regulatory restrictions on foreign bank penetration were lifted and foreign institutions took the opportunity to establish a 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. The experience of Malaysia, where foreign banks have been operating for decades, may be more informative in this regard.

The final question that we address is whether government support went predominantly to domestic banks. This may be because domestic equity holders may have stronger political connections, or the public may view with hostility the use of taxpayer money to support deep-pocketed foreign banks. In turn, differences in government support may have played a role in the ability to deal with the crises.

Somewhat surprisingly, we find that, the foreign banks were not a homogeneous lot with respect to crisis performance. The key distinction is between foreign banks with more of an Asian/regional orientation (which we will refer to as regional banks) and other foreign banks (which will be referred to as non-regional banks). Non-regional foreign banks performed better in terms of profitability and interest margin than domestic banks, while distinctions blur when we compare domestic banks and regional foreign banks. When we explore the sources of these differences, we find that they are not driven by the particularly poor performance of state-owned or politically connected domestic banks nor by differences in the financial strength of parent banks. The evidence points instead in the direction of the banks' lending strategy: domestic banks and, to a lesser extent, regional foreign banks had large exposures to the sectors such as real estate and stock purchases, which were hurt the most when asset prices crashed. Non-regional foreign banks, on the other hand, managed not to get caught in the financial bubble.

[3] See Goldberg et al. (2000) for a discussion.

Table 1
Structure of the Malaysian banking market in 1997 and sample coverage

	Number of institutions	Share in total assets (%)	Banks in the sample	Sample coverage (%)
Domestic commercial banks	22	57	18	69
Foreign commercial banks	13	16.7	11	89
Finance companies	16	20	0	0
Merchant banks	12	6.3	7	65
Total	63	100	36	58

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

With respect to commitment to the Malaysian market we do not find clear differences among banks of different ownership. Concerning government financial support following the crisis, both regional and non-regional foreign banks received less support than domestic banks (and particularly the politically connected ones), but this was because such banks had larger distressed loans. Once we control for the level of distress, differences in bank ownership do not have any explanatory power. So the expectation of a more favorable treatment ex post is unlikely to explain differences in lending strategy ex ante.

The paper is organized as follows: Section 2 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 operation. An overview of the data is in Section 3, while Section 4 contains the econometric model and regression results. Section 5 discusses the interpretation of the result and Section 6 concludes.

2. Background[4]

2.1. The structure of the Malaysian banking system

At the onset of the crisis the Malaysian banking system consisted mainly of three types of institution: 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.[5] In addition, three smaller banks were controlled by public entities. As in other emerging markets, a number of domestic banks are part of larger financial or industrial groups, sometimes with informal ties to political parties, so linkages between political power and the banking sector likely extend beyond direct state ownership of banks (Gomez and Yomo, 1997). Banks and, more generally, financial institutions do not generally own shares of other industrial firms in Malaysia.[6]

Foreign commercial banks had over 90% of the banking market in 1957, when Malaysia became independent, but by 1997 controlled only 16.7% of banking assets. The progressive decline of foreign banks was the result of a deliberate government policy of developing the domestic financial

[4] The information in this section is derived primarily from ThomsonWatch (1999), Meesok et al. (2001), and Gomez and Yomo (1997).

[5] Bank Bumiputra was created to promote the economic development of the indigenous population.

[6] Financial companies held only 7.4% of the shares of non-financial publicly listed companies in 1998 (Samad, 2002).

sector, under which the 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.[7] 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.

2.2. 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 real estate developers. In 1985–1986 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 1987–1989, 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% 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).[8] 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 four 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% per year in 1993–1997. The two-tier system was abolished in April 1999.

2.3. The crisis and the policy response[9]

The Malaysian economy was performing strongly during the 1990s prior to the crisis, growing at an average annual real growth rate of 8.5%. 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. The stock market index, which had hovered around 1000 since the mid-90s, reached a low of 263 points in September 1998. Investment by the highly leveraged corporate sector collapsed, while negative wealth effects and general uncertainty took

[7] Foreign banks had minority interest in ten domestic commercial banks, three finance companies and seven merchant banks.

[8] To qualify for Tier I, paid-up capital had to reach at least MYR 500 million, and other undisclosed conditions based on CAMEL ratings had to be met.

[9] For a review of the Malaysian crisis (and of the other Asian crises) see, for instance.

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.

The banking sector was hit by the downturn, as corporate profitability and collateral values eroded. Non-performing loans rose from 6% of net total loans at end-1997 to 22% at end-1998, while provisioning as a share of non-performing loans declined from 66% to 42%. Some of the largest Malaysian conglomerates also experienced financial difficulties. Finance companies and merchant banks registered the sharpest deterioration 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 71.2% in August 1997 to 11% 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 13.2% to 10% in February 1998 and again to 8% 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 MYR 39.3 billion in non-performing loans (about 13% of GDP), over half of which belonged to two financial groups, Sime and Bumiputra, while Danamodal injected a total of MYR 7.1 billion (2.4% 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% of total loans at end-2000, while provisioning rose to 53.8% of bad debt. The risk-weighted capital-asset ratio stood at 12.4%, up from 10.5% at end-1997.

3. A first look at the data

The sample covers 43 Malaysian banking institutions, including 18 domestic commercial banks, 11 foreign banks, and 7 merchant banks. These are all the institutions for which data were available in the Bureau Van Dijk and Fitch IBCA database. Coverage is quite good for commercial and merchant banks, but the (smaller) finance companies are missing (Table 1). Three of the four domestic commercial 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

Table 2
Exposure to Asia of non-Asia based foreign banks

	Percent of total assets
Standard Chartered (1997)	59
HSBC (1998)	44.3
Citigroup (2000)[a]	16.6
Deutsche Bank (1998)	13.1
Chase (1997)	7.3
Bank of America (1999)	3
Nova Scotia (1999)	1.7

Sources: Thompson financial reports, Annual reports, and Investor Fact Books.
[a] Net income.

reduced accordingly.[10] The sample period extends from 1995 to 2001. As part of the Financial Sector Master Plan, the government pushed through a radical consolidation of the Malaysian banking sector during 2001, so we lose much of our sample after 2001.

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 (Table 2). The former group (which will be referred to as regional foreign banks) includes three Singaporean banks, a Thai bank, and two UK banks (HSBC and Standard Chartered). The other foreign banks are three US banks, one Canadian bank, and one German bank.[11]

To gauge bank soundness and performance we examine bank capital, profits, overhead expenses, and non-performing loans. All variables are calculated as percentage of total assets.[12] We also examine the real growth rate of bank deposits to assess whether foreign banks were less affected from 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 (Fig. 1). Domestic and foreign bank performance did not exhibit sharp differences in 1996–1997, while the effects of the crisis are clearly visible in 1998: for all banks, profitability declines, non-performing loans begin to mount, and deposit and loan growth decelerates abruptly. The deterioration in profitability, however, is less pronounced for foreign banks; in addition, capitalization and interest margin improve for foreign banks, while they worsen for domestic banks. Overhead costs remain relatively stable for domestic banks, and increase somewhat for foreign institutions. Differences are even sharper if we split foreign banks among regional and non-regional ones (Fig. 2). For the latter group, profitability, interest margin, and capitalization improve during the crisis. Overhead costs, however, increase more sharply than for regional banks.

[10] 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 31st.
[11] For a complete list of the banks included in the sample see the Appendix A.
[12] The values of non-performing loans, total loans, and total assets have been corrected for non-performing loans sold to Danaharta.

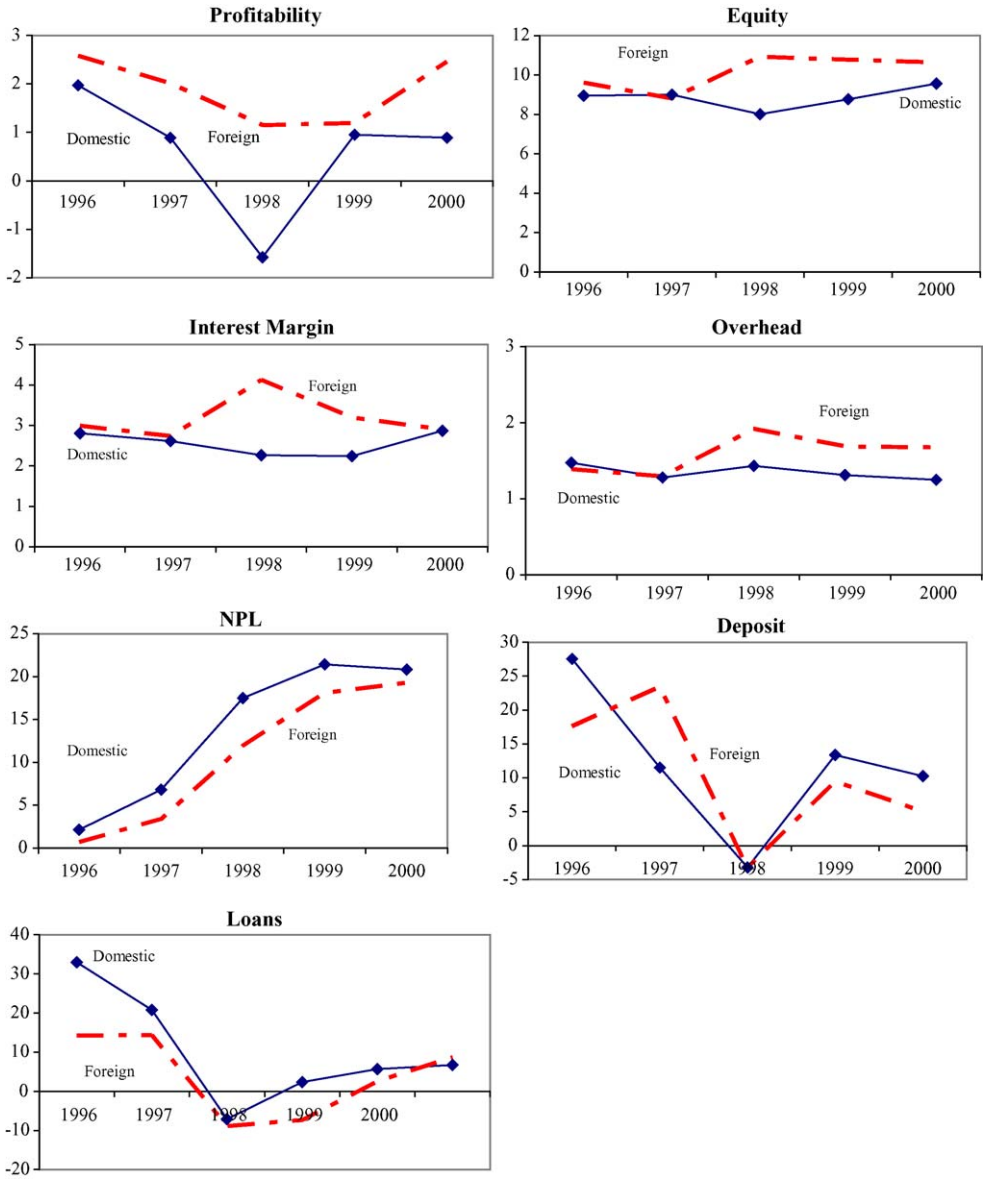

Fig. 1. Malaysia: bank performance indicators, for domestic and foreign banks, 1996–2000.

These summary statistics suggest that in Malaysia domestic and foreign banks indeed responded differently to the crisis, and that distinguishing between foreign banks operating mainly in Asia and other foreign banks maybe as important as drawing a distinction between domestic and foreign banks. The next section explores whether the patterns in evidence in the graphical examination are confirmed by more rigorous econometric analyses.

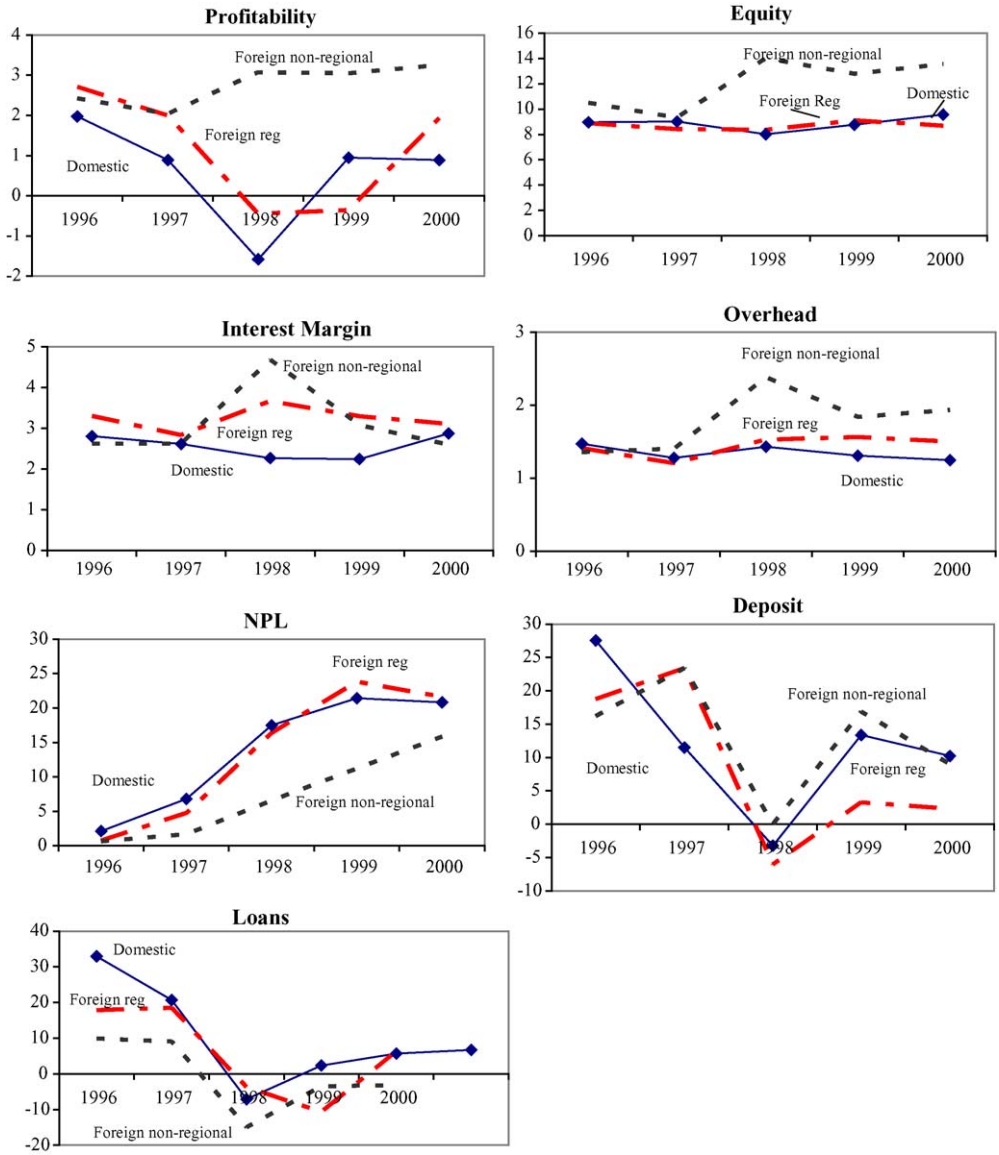

Fig. 2. Malaysia: bank performance indicators, for regional and non-regional foreign banks, 1996–2000.

4. The empirical model

4.1. Choosing the crisis period

To identify the period in which bank performance was significantly affected by the financial crisis, we regress each of the performance indicators on a set of individual bank dummies and various combinations of dummies for four candidate crisis years (1996, 1997, 1998, and 1999). The coefficients of the year dummies can tell if there were significant differences in performance in

that year compared to the rest of the sample period. Based on these tests, we did not find evidence of significantly poor performance in 1996 or 1997 for any of the performance indicators. For five variables (profitability, interest margin, overheads, deposit growth, and loan growth) the year 1998 was significantly worse than the rest of the sample period. 1999 was significantly worse than other years for NPLs and loan growth, but not for the other variables. Based on these findings, in the baseline specification we use 1998 as the crisis year. We also conduct a sensitivity test extending the crisis period to 1999.

4.2. The basic empirical specification

To test whether there were statistically significant differences in performance across groups of banks, we use the difference-in-difference approach commonly used in program evaluation in microeconomics.[13] A similar approach has been used in the finance literature by Jayaratne and Strahan (1996), Rajan and Zingales (1998), Bertrand et al. (2005), and others. More specifically, we test whether the effects of a "treatment" (the financial crisis) differed across different classes of subjects in the sample (banks of different ownership). This is accomplished by regressing each performance indicator on an interaction term, consisting of the product of a dummy for the crisis period and a dummy for the type of ownership after controlling for time and bank fixed effects. The test of the null hypothesis that there was no difference in response between foreign and domestic banks amounts to testing whether the coefficient for the interaction term is significantly different from 0.[14]

More formally, let $i = 1, \ldots, N$ index the banks and $t = 1, \ldots, T$ 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^{RF} is a dummy for regional foreign banks and D^{NRF} a dummy for non-regional foreign banks. Then, the equations to be estimated are:

$$Y_t = \sum_{i=1}^{N} \alpha^i D^i + \sum_{t=1}^{T} \beta^t D^t + \gamma^1 (D_t^{\mathrm{C}} D^{\mathrm{RF}}) + \gamma^2 (D_t^{\mathrm{C}} D^{\mathrm{NRF}}) + u_t$$

where Y_t is $1 \times N$ vector containing the performance measure, α^i, β^t, γ^1, and γ^2 are the coefficients to be estimated, and u_t is an error term. The estimated coefficient of the first interaction term can be rewritten as

$$\hat{\gamma}^1 = (\hat{y}^{it'} - y^{it}) - (\hat{y}^{i't'} - \hat{y}^{i't})$$

where i denotes a regional foreign bank, i' denotes a domestic bank, t denotes a year of no crisis, and t' denotes a year of crisis. Thus, a positive value of this coefficient indicates that the decline in performance during the crisis was more pronounced for domestic banks than for foreign regional banks, and similarly for the coefficient of the second interaction term, γ^2.

[13] For a discussion, see for instance Blundell and Costa Diaz (2002). In an earlier version of the paper we used a cross-sectional approach, regressing performance indicators for the year(s) of the crisis on a foreign/domestic, and a nonregional/regional bank dummy variable and controlling for various bank characteristics. The results were similar to those presented here.

[14] A key concern in program evaluation with non-experimental data is the possible endogeneity of the treated, i.e. the fact that individuals may choose to be treated based on unobservable characteristics. In our case, this problem does not arise, because all individuals are treated (all banks had to face the financial crisis). What we are trying to ascertain is whether the reaction to the treatment varied with an observable characteristic, bank ownership.

The regressions are estimated using OLS with heteroskedasticity-consistent standard errors. In a sensitivity test, we cluster standard errors by banks to allow for autocorrelated residuals.[15] A number of other robustness checks and further empirical tests to identify what explains differences in performance are described in the next section.

5. The results

5.1. Baseline results

5.1.1. Foreign versus domestic banks

Table 3 shows the results of the first set of regressions, in which the distinction is between foreign and domestic banks and 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.

The findings are very similar to those suggested by Figs. 1 and 2: foreign banks weathered the crisis better than domestic banks in terms of capitalization, profitability, and interest margin, but worse in terms of overhead costs. In terms of economic significance, differences are between 1% and 2% points of assets for the first three variables, and smaller for overhead costs. No significant differences between the two groups emerge for loan and deposit growth and for non-performing loans.[16]

5.1.2. Regional and non-regional foreign banks

When foreign banks are split based on their regional orientation (Table 4), then it is clear that the dichotomy derives mainly from the non-regional group, as suggested by Fig. 2. The change in the interest margin during the crisis is over 2% points larger for this group relative to domestic banks, while for regional foreign banks the difference is small and insignificant. Differences in interest margin across the three groups of banks are attributable mainly to interest received rather than interest paid. Non-regional foreign banks (and – to a lesser extent – regional ones) were able to increase interest earned thanks to the overall increase in nominal interest rates following the crisis and to a smaller incidence of non-performing loans.[17] The differential coefficient for non-performing loans is positive and quite large for non-regional banks, but not significant. However, reported non-performing loans likely understate the true incidence of non-performance in weaker banks because of regulatory forbearance.

Overhead costs were also significantly higher in non-regional foreign banks, but only by 0.7% points. Rather than a deterioration in operational efficiency, this increase may be due to the effects of the exchange rate depreciation on dollar-denominated wages of expatriate personnel. The less favorable evolution of costs was more than offset by the higher interest margin, so the change in profitability during the crisis period was over 3% point better in non-regional foreign banks than

[15] Bertrand et al. (2004) show that autocorrelation of residuals can lead to over-rejection of the null hypothesis in difference-in-difference models.

[16] We did not find a clear pattern of differences in the behavior of liquidity, including when we distinguish between regional and non-regional banks.

[17] Another potential explanatory factor might have been different exposure to foreign exchange risk. Unfortunately, Bankscope data do not allow us to retrieve foreign exchange exposures.

Table 3
The effect of the crisis on foreign banks

	Capitalization	Profitability	Interest margin	NPLs	Overheads	Deposit growth	Loan growth
Foreign* crisis	1.38 [1.47]	1.753** [2.21]	1.383*** [6.40]	−1.11 [0.28]	0.358*** [2.88]	2.43 [0.25]	5.27 [0.44]
Observations	173	173	173	171	173	173	173
r^2	0.76	0.51	0.74	0.73	0.82	0.36	0.47

Robust *t*-statistics in brackets. *Significant at 10%; **significant at 5%; ***significant at 1%.

Table 4
The differential effect of the crisis: foreign regional and non-regional banks and domestic banks

	Capitalization	Profitability	Interest margin	NPLs	Overheads	Deposit growth	Loan growth
Foreign regional* crisis	0.423 [0.55]	0.58 [0.45]	0.750*** [2.71]	1.82 [0.63]	0.039 [0.31]	0.836 [0.10]	7.686 [0.91]
Foreign non-regional* crisis	2.553*** [2.85]	3.182** [2.45]	2.155*** [5.55]	−4.67 [0.75]	0.746** [2.06]	4.371 [0.20]	2.328 [0.26]
Observations	173	173	173	171	173	173	173
r^2	0.76	0.53	0.78	0.74	0.84	0.36	0.47
F-test[a]	4.25	2.64	10.82	1.03	3.62	0.03	0.28
p-Value	0.04	0.1	0	0.31	0.06	0.87	0.6

Robust t-statistics in brackets. *Significant at 10%; **significant at 5%; ***significant at 1%.

[a] Tests the null hypothesis that the crisis response was similar in regional and non-regional foreign banks.

in domestic banks, while regional banks did not differ much from domestic institutions. A similar pattern is in evidence also for capitalization.[18]

Turning now to deposit growth, 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. Also loan growth did not differ significantly across groups of banks, so there is no evidence that foreign banks scaled down their operations more sharply than domestic banks during the crisis. This is perhaps not surprising given the long-term commitment of these institutions to the Malaysian market. On the other hand, the better financial conditions of non-regional foreign banks did not translate into more lending, suggesting that decline in lending may have been due to poor demand or poor balance sheet conditions of potential borrowers.

5.2. Robustness checks

The significance of the coefficients is little changed when standard errors are clustered by bank, so that the possible autocorrelation in the error term is taken into account (Table 5). Similarly, when the crisis is considered to last two more years (1998–1999 instead of 1998 only), the only substantial change is that the coefficient of the interaction term with non-regional foreign banks is no longer significant for equity, while the other results still hold. Another robustness test considers only a balanced panel of 30 banks over the period 1995–1999. With this sample, once again non-regional foreign banks fared better than domestic banks during the crisis in terms of capitalization, profitability, and interest margin, and worse in terms of overhead.

Finally, in another set of regressions we replace bank fixed effects with the following bank characteristics: a dummy variable for banks that are state-owned, another for tier I banks, and a third dummy for merchant banks; bank size, measured by total assets; and the ratio of deposits to total liabilities.[19] Not surprisingly, state-owned banks tend to record worse performance than other banks (Table 6). Smaller banks and merchant banks also perform more poorly, as do banks with a large share of loans in their asset portfolio. Turning to the coefficients of interest, non-regional foreign banks once again outperform domestic banks and non-regional banks in terms of profitability and interest margin, as in the baseline regression. Here we also find significant differences in terms of non-performing loans. Using this specification, we have also examined whether some of the bank characteristics had a particularly adverse (or favorable) impact on performance during the crisis, by interacting them with the crisis dummy (Table 7). The main finding is that banks relying heavily on deposit financing had higher profitability and lower NPLs. In any case, the foreign non-regional dummy remains significant even controlling for these differential effects.

5.3. Explaining differences in performance

5.3.1. Political connections

A growing literature is documenting how political connections affect bank lending behavior, resulting in poor lending decisions (Sapienza, 2004; Khwaja and Mian, 2005).[20] It may be con-

[18] Non-regional foreign banks experienced a net increase in capital of about 30%, while other foreign banks experienced a decline of 9%. Unfortunately, the data do not allow us to identify the sources of the new capital.

[19] Another potentially important bank characteristic, the loan-to-asset ratio, is very strongly correlated with capitalization in our sample. Since capitalization is one of our performance variables, we do not use the loan-to-asset ratio as a regressor.

[20] In the case of Malaysia, the role of political connections has been explored by Johnson and Mitton (2003) in the context of the capital controls introduced following the crisis.

Table 5
Robustness of baseline specification

	Capitalization	Profitability	Interest margin	NPLs	Overheads	Deposit growth	Loan growth
Panel A: clustered standard errors							
Foreign regional* crisis	0.423 [0.62]	0.58 [0.46]	0.750** [2.65]	1.822 [0.83]	0.039 [0.31]	0.836 [0.10]	7.686 [1.04]
Foreign non-regional* crisis	2.553*** [4.06]	3.182** [2.32]	2.155*** [5.25]	−4.676 [0.75]	0.746* [1.95]	4.371 [0.19]	2.328 [0.34]
Observations	173	173	173	171	173	173	173
r^2	0.76	0.53	0.78	0.74	0.84	0.36	0.47
F-test[a]	7.7	2.53	10.03	1.12	3.34	0.03	0.36
p-Value	0.01	0.12	0.003	0.3	0.08	0.88	0.55
Panel B: crisis in 1998–1999							
Foreign regional* crisis	0.69 [0.73]	−1.203 [1.52]	0.769*** [3.65]	5.12 [1.32]	0.154 [1.28]	−4.001 [0.41]	−0.482 [0.04]
Foreign non-regional* crisis	1.874* [1.81]	2.007** [2.34]	1.623*** [7.08]	−5.258 [1.24]	0.608*** [4.66]	6.343 [0.60]	6.901 [0.53]
Observations	173	173	173	171	173	173	173
r^2	0.76	0.53	0.76	0.74	0.84	0.36	0.47
F-test[a]	0.93	9.96	9.89	4.33	8.65	0.69	0.23
p-value	0.34	0	0	0.04	0	0.41	0.63
Panel C: balanced sample							
Foreign regional* crisis	0.47 [0.39]	0.528 [0.59]	0.667** [2.26]	−1.127 [0.27]	0.018 [0.10]	−4.715 [0.36]	15.785 [0.87]
Foreign non-regional* crisis	3.563*** [2.76]	2.816*** [2.89]	2.023*** [6.34]	−5.743 [1.26]	0.719*** [3.91]	−3.479 [0.25]	6.901 [0.35]
Observations	121	121	121	121	121	121	121
r^2	0.78	0.62	0.77	0.7	0.83	0.29	0.49
F-test[a]	3.99	3.83	12.54	0.71	10.12	0.01	0.14
p-Value	0.05	0.05	0	0.4	0	0.94	0.71

Robust *t*-statistics in brackets. *Significant at 10%; **significant at 5%; ***significant at 1%.

[a] Tests the null hypothesis that the crisis response was similar in regional and non-regional foreign banks.

Table 6
Replacing bank fixed effects with bank characteristics

	Capitalization	Profitability	Interest margin	NPLs	Overheads	Deposit growth	Loan growth
Foreign regional* crisis	0.28 [0.22]	0.69 [0.49]	0.984*** [2.64]	2.65 [0.72]	−0.16 [0.68]	−5.44 [0.86]	−1.28 [0.21]
Foreign non-regional* crisis	4.624** [2.28]	4.313*** [2.82]	2.013*** [6.07]	−12.700** [2.14]	0.50 [0.90]	3.92 [0.19]	−7.88 [0.68]
State-owned	−1.748** [2.19]	−1.173*** [3.24]	−0.24 [1.47]	6.962*** [2.96]	0.00 [0.04]	−1.64 [0.36]	−5.42 [0.80]
Tier I	−0.83 [1.05]	0.10 [0.24]	0.385** [2.40]	1.98 [0.82]	0.466*** [4.18]	−5.67 [1.08]	−5.54 [0.98]
Merchant	0.18 [0.20]	−0.40 [0.80]	−0.761*** [5.21]	5.466* [1.81]	−0.752*** [9.22]	−10.80 [1.46]	−6.03 [1.15]
Bank size	−0.810** [2.18]	0.13 [0.50]	−0.09 [1.42]	−4.738*** [3.34]	−0.258*** [5.80]	3.76 [1.55]	5.301** [2.34]
Deposit/liabilities	−0.01 [0.23]	−0.019* [1.79]	0.00 [0.42]	−0.02 [0.19]	0.00 [0.10]	0.05 [0.22]	−0.10 [0.39]
Constant	19.291*** [3.83]	2.609 [1.01]	3.419*** [3.91]	43.865*** [2.68]	4.338*** [6.44]	−21.072 [0.62]	23.219 [0.48]
Observations	173	173	173	171	173	173	173
r^2	0.19	0.33	0.41	0.5	0.37	0.18	0.29
F-test[a]	4.39	3.8	7.2	6.91	1.32	0.21	0.28
p-Value	0.04	0.05	0.01	0.01	0.25	0.64	0.6

Robust t-statistics in brackets. *Significant at 10%; **significant at 5%; ***significant at 1%.

[a] Tests the null hypothesis that the crisis response was similar in regional and non-regional foreign banks.

Table 7
Differential effect of bank characteristics in crisis

	Capitalization	Profitability	Interest margin	NPLs	Overheads	Deposit growth	Loan growth
Foreign regional* crisis	0.10 [0.09]	0.20 [0.18]	0.927** [2.43]	3.28 [0.83]	−0.14 [0.54]	−5.96 [0.87]	−2.22 [0.36]
Foreign non-regional* crisis	5.190** [2.29]	5.306*** [3.05]	2.054*** [5.28]	−12.096** [2.03]	0.42 [0.78]	6.14 [0.30]	−6.47 [0.55]
State-owned	−1.689** [2.12]	−1.080*** [2.92]	−0.24 [1.45]	6.959*** [2.92]	−0.01 [0.14]	−1.40 [0.31]	−5.31 [0.77]
Tier I	−0.79 [0.98]	0.08 [0.18]	0.363** [2.27]	2.40 [0.99]	0.460*** [4.15]	−5.40 [1.03]	−5.72 [0.96]
Merchant	0.24 [0.26]	−0.33 [0.70]	−0.764*** [5.30]	5.706* [1.89]	−0.760*** [9.29]	−10.54 [1.42]	−5.98 [1.12]
Bank size	−0.975** [2.38]	−0.08 [0.34]	−0.08 [1.36]	−5.187*** [3.36]	−0.236*** [5.06]	3.02 [1.20]	5.122* [1.93]
Deposit/liabilities	0.00 [0.05]	−0.021** [2.37]	0.00 [0.08]	0.04 [0.36]	0.00 [0.26]	0.09 [0.35]	−0.12 [0.40]
Bank size* crisis	0.77 [1.32]	1.184** [1.99]	0.02 [0.11]	1.29 [0.52]	−0.10 [1.21]	3.18 [0.74]	1.46 [0.54]
Deposits/liabilities* crisis	−0.01 [0.13]	0.06 [1.07]	0.02 [0.74]	−0.31 [1.39]	0.00 [0.09]	−0.13 [0.26]	0.19 [0.52]
Constant	20.374*** [3.90]	4.831** [2.18]	3.579*** [4.35]	43.507** [2.57]	4.186*** [6.00]	−17.17 [0.48]	26.814 [0.54]
Observations	173	173	173	171	173	173	173
r^2	0.2	0.37	0.42	0.51	0.37	0.18	0.29
F-test[a]	4.78	7.37	5.31	6.18	1.04	0.36	0.11
p-Value	0.03	0.01	0.02	0.01	0.31	0.55	0.74

Robust t-statistics in brackets. *Significant at 10%; **significant at 5%; ***significant at 1%.

[a] Tests the null hypothesis that the crisis response was similar in regional and non-regional foreign banks.

jectured that the superior performance of non-regional foreign banks during the crisis was due mainly to the absence of state-owned or politically connected banks among their ranks. To test this conjecture, we rerun the regressions introducing as an additional regressor an interaction term between the crisis dummy and a dummy for state-owned banks first and, in a second specification, a dummy for politically connected banks (Table 8). Politically connected banks are defined as banks either controlled by the government (or by a government entity) or by companies or individuals reported to have close ties with political leaders.[21]

Although public banks appear to have significantly larger non-performing loans than domestic private banks, the rest of the results remain unchanged. Particularly, non-regional foreign banks still performed better than domestic private banks in terms of capitalization, interest margin, and profitability. Distinguishing between banks with or without political connections also does not alter the basic results about foreign banks. Politically connected firms had less capital and a lower interest margin than other domestic banks, but the difference is not significant.

5.3.2. Support from parent banks

Affiliates of foreign banks can rely on various forms of support from their parent banks during a crisis, including emergency liquidity and capital injections. If the parent bank is also experiencing difficulties, however, as it was likely the case for parent banks active in Asia, this support might not be so extensive, leading to worse performance. To explore this hypothesis, for each foreign bank in the sample we construct an index of the financial strength of the parent bank. The index is a simple average of four indicators: capitalization, profitability, liquidity, and (with a negative sign) NPLs. When we include an interaction term between this index and the crisis dummy, this term is significant only for profitability, indicating that affiliates of stronger parent banks were more profitable during the Malaysian crisis (Table 9). However, for equity, profitability, interest margin, and overheads the null hypothesis that the coefficients of regional and non-regional banks are equal continues to be rejected, suggesting that controlling for differences in parent bank financial strength does not explain asymmetric performance during the crisis.[22]

5.3.3. Exposure to distressed sectors

A feature of the Malaysian crisis was that most non-performing loans were concentrated in construction, real estate, and share purchase sector. These were the sectors most directly affected by the bursting of the asset price bubble.[23] It is therefore interesting to explore whether differences in performance were related to differences in exposure to these sectors. Table 10 shows a variation of the baseline regression in which an interaction term between the crisis dummy and exposure to the three risky sectors is introduced. This interaction term is negatively correlated with performance as measured by equity, profitability, and interest margin. Interestingly, once we control for exposure, the only variable that differs significantly between the three groups of banks is interest margin, and even for this variable the coefficient is much reduced relative to the baseline model. We interpret

[21] Information on political connections comes from Gomez and Yomo (1997) and Johnson and Mitton (2003).

[22] Note that in this specification the coefficient of the crisis–foreign dummy interaction term no longer measures differences in behavior with domestic banks. This would be the case only if the financial strength of the "parent bank" term for domestic banks could be taken to be 0, which is not plausible. The differences between foreign and domestic banks are not identified in this specification, but differences between the two groups of foreign banks are.

[23] In other Asian countries, such as Thailand and Indonesia, exposure to exchange rate risk played a major role, but this was not the case in Malaysia.

Table 8
Distinguishing among domestic banks

	Capitalization	Profitability	Interest margin	NPLs	Overheads	Deposit growth	Loan growth
Panel A: state-owned banks							
Foreign regional* crisis	0.19 [0.24]	0.79 [0.57]	0.596** [2.06]	2.32 [0.81]	0.02 [0.12]	4.64 [0.48]	11.12 [1.11]
Foreign non-regional* crisis	2.325** [2.52]	3.390** [2.42]	2.001*** [5.03]	−4.18 [0.67]	0.723* [1.98]	8.16 [0.36]	5.75 [0.55]
Politically connected* crisis	−0.77 [0.80]	0.70 [0.65]	−0.52 [1.63]	1.83 [0.38]	−0.08 [0.59]	12.76 [1.20]	11.52 [1.03]
Observations	173	173	173	171	173	173	173
r^2	0.76	0.53	0.78	0.74	0.84	0.36	0.47
F-test[a]	4.22	2.62	10.74	1.02	3.59	0.03	0.28
p-Value	0.04	0.1	0	0.31	0.06	0.87	0.6
Panel B: politically connected banks							
Foreign regional* crisis	0.042 [0.04]	0.799 [0.46]	0.458 [1.32]	5.123 [1.55]	−0.11 [0.68]	14.068 [1.11]	13.361 [0.89]
Foreign non-regional* crisis	2.172* [1.95]	3.402* [1.95]	1.862*** [4.21]	−1.37 [0.21]	0.597 [1.57]	17.614 [0.74]	8.007 [0.53]
Politically connected* crisis	−0.599 [0.66]	0.346 [0.25]	−0.46 [1.51]	5.324 [1.64]	−0.234* [1.75]	20.84 [1.61]	8.937 [0.61]
Observations	173	173	173	171	173	173	173
r^2	0.76	0.53	0.78	0.74	0.84	0.37	0.47
F-test[a]	4.21	2.62	10.75	1.02	3.59	0.03	0.28
p-Value	0.04	0.1	0	0.31	0.06	0.87	0.6

Robust t-statistics in brackets. *Significant at 10%; **significant at 5%; ***significant at 1%.

[a] Tests the null hypothesis that the crisis response was similar in regional and non-regional foreign banks.

Table 9
Parent bank financial strength

	Capitalization	Profitability	Interest margin	NPLs	Overheads	Deposit growth	Loan growth
Parent bank strength* crisis	0.148 [1.55]	0.445*** [3.21]	0.011 [0.28]	−0.636 [0.79]	−0.059* [1.92]	−0.702 [0.45]	1.266 [1.25]
Foreign regional* crisis	−0.432 [0.51]	−1.993 [1.40]	0.688** [2.03]	5.496 [0.81]	0.380* [1.67]	4.891 [0.42]	0.37 [0.04]
Foreign non-regional* crisis	1.894* [1.96]	1.198 [0.89]	2.106*** [5.04]	−1.844 [0.29]	1.009** [2.33]	7.497 [0.31]	−3.313 [0.33]
Observations	173	173	173	171	173	173	173
r^2	0.76	0.57	0.78	0.74	0.85	0.36	0.47
F-test[a]	5.42	7.92	10.65	1.29	4.27	0.02	0.15
p-Value	0.02	0.01	0	0.26	0.04	0.9	0.7

Robust t-statistics in brackets. *Significant at 10%; **significant at 5%; ***significant at 1%.
[a] Tests the null hypothesis that the crisis response was similar in regional and non-regional foreign banks.

Table 10
Exposure to Risky Sectors

	Capitalization	Profitability	Interest margin	NPLs	Overheads	Deposit growth	Loan growth
Exposure risky sectors* crisis	−0.059** [2.48]	−0.130** [2.46]	−0.035*** [4.12]	0.026 [0.17]	−0.006 [1.17]	−0.262 [0.57]	−0.074 [0.31]
Foreign regional* crisis	−0.034 [0.04]	−0.573 [0.45]	0.427* [1.83]	1.935 [0.62]	−0.04 [0.29]	−3.356 [0.42]	6.852 [0.69]
Foreign non-regional* crisis	0.729 [0.63]	−0.401 [0.23]	1.252** [2.40]	−4.386 [0.56]	0.706 [1.54]	−22.741 [1.32]	−2.254 [0.19]
Observations	170	170	170	169	170	170	170
r^2	0.77	0.58	0.8	0.74	0.85	0.39	0.47
F-test[a]	0.47	0.01	3.01	0.66	2.78	1.22	0.79
p-Value	0.49	0.92	0.09	0.42	0.1	0.27	0.38

Robust t-statistics in brackets. *Significant at 10%; **significant at 5%; ***significant at 1%.
[a] Tests the null hypothesis that the coefficients of the two interactions terms are equal.

Table 11
Government support (tobit estimation)

	(1)	(2)	(3)	(4)
Foreign regional	−1.13 [0.83]	−0.53 [0.36]	−2.105* [1.83]	−1.99 [1.58]
Foreign non-regional	−3.280* [1.76]	−2.67 [1.35]	−2.46 [1.55]	−2.34 [1.41]
Tier I	−0.89 [0.73]	−0.29 [0.23]	0.66 [0.62]	0.86 [0.81]
Merchant	−0.43 [0.32]	−0.03 [0.02]	0.03 [0.03]	0.22 [0.21]
State-owned	3.137** [2.71]		1.00 [0.95]	
Politically connected		2.995** [2.61]		0.79 [0.77]
NPLs in 1998			0.194*** [4.14]	0.195*** [4.01]
Observations	33	33	32	32
F-test[a]	1.14	1.07	0.04	0.04
p-Value	0.3	0.31	0.84	0.84

Robust *t*-statistics in brackets. *Significant at 10%; **significant at 5%; ***significant at 1%.
[a] Tests the null hypothesis that the crisis response was similar in regional and non-regional foreign banks.

this result as suggesting that different exposure to risky sectors is an important explanation of the difference in performance among different groups of banks.[24]

5.4. Differences in government support

Another interesting question is whether the support provided by the government to distressed banks differed according to the foreign or domestic nature of banks. To investigate this question, we regress a measure of support on a set of bank characteristics. Government support is measured as the sum of the capital injection from Danamodal (if any) and 20% 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%. This evaluation of the subsidy element implicit in the Danaharta operation is, of course, arbitrary and some sensitivity analysis is performed with other assumptions.[25]

To estimate this regression we use a Tobit procedure because there is a large fraction of observations with a value of 0. The variables of interest are the two dummies for regional and non-regional foreign banks. As control variables we use dummy variables capturing the type of bank (merchant bank, tier I bank) as well as whether the bank was state-owned or, in a variant, politically connected. We test two alternative specifications, one including NPLs as a control and one without.

The results show state-owned banks and, more generally, politically connected banks received more government support than other banks, but this was mostly because they had more distressed assets. Once we control for NPLs in the regression, the coefficients of foreign banks remain negative, but are not (or only marginally) significant (Table 11).[26]

[24] Laeven (1999) documents that before the crisis foreign banks in East Asia invested in less risky assets than domestic banks. He does not differentiate among foreign banks of different regional orientation.
[25] 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%, respectively. The results remain broadly unchanged, though quantitatively they become stronger for higher such percentages.
[26] The Thai bank performed considerably worse than the other Asian-oriented foreign banks. The results, however, are robust to the exclusion of this potential outlier.

These results suggest that the rescue operation broadly followed its intended purpose, namely to reduce the burden of non-performing loans in banks' portfolios. In addition, if banks correctly anticipated this rescue operation, incentives to take on excessive risk would not have differed between domestic and foreign banks (both regional and non-regional). So differences in the pricing of risk due to bailout expectations cannot explain why non-regional banks chose to become less exposed to the sectors vulnerable to the financial bubble.

6. Conclusions

As developing countries 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 in Malaysia during the Asian crisis. 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, Eastern Europe, or Africa some years down the road, when recently entered foreign banks will have consolidated their presence.

We find that 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 for the former profitability and interest margins improved during the crisis, domestic banks and regional foreign banks affiliates were significantly hurt. Most of these differences are explained by the fact that foreign non-regional banks had much less exposure to risky sectors (construction, real estate, and share purchases) than foreign regional banks and domestic banks. Differences in financial strength of parent banks, which might have translated in different financial support, do not explain much. We also do not find clear evidence that political connections or government ownership were the main cause of weaker performance by domestic banks.

The Malaysian experience suggests that while some foreign banks were not, by and large, caught in the bursting of the financial bubble, others were. But why did subsidiaries of regional foreign banks follow a similar high-risk business strategy as local banks? Moral hazard induced by the expectation of a government bailout is not a plausible explanation, as these banks did not receive disproportionately high support ex post, as we document in one of our tests. One possible explanation is suggested by the work of Mian (forthcoming), who argues that distance constraints make it difficult for foreign banks to lend to informationally opaque customers in developing countries. If distance constraints were weaker for foreign banks based in Asia or specialized in the region, and, in addition, informationally opaque customers were hit most severely by the crisis, then observed differences might be explained. Unfortunately, we do not have sufficiently detailed data on banks' loan portfolios to test this hypothesis directly. What we know about banks' lending strategies, though, suggests local banks and regional foreign banks and local banks were engaged more in collateral-based lending then in information-based lending, since they had large exposure to real estate and the share purchase sectors, and that it was the collapse in the value of the collateral that caused the problems, as in Kiyotaki and Moore (1997).

Another possible 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.

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Appendix A

See Tables A.1 and A.2.

Table A.1
Variable definitions

Variable name	Definition
Profitability	(Profit/total assets) × 100
Interest margin	(Net interest received/total assets) × 100
Equity	(Equity/total assets) × 100
Overhead/assets	(Overhead expenses (personnel expenses and other non-interest expenses)/total assets) × 100
Non-performing loans	(Non-performing loans/total loans) × 100
Loan growth	(Real loans at $t+1$) − (real loans at t)/(real loans at t) × 100
Deposit growth	(Real customer deposits at $t+1$) − (real customer deposits at t)/(real customer deposits t) × 100
Support	(Capital injection by Danamodal plus 20% of NPLs sold to Danaharta/total assets) × 100

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

Domestic commercial banks
Arab–Malaysian Bank Berhad
Ban Hin Lee Bank Berhad–BHL Bank
Bank Utama (Malaysia) Berhad
BSN Commercial Bank (Malaysia) Berhad
EON Bank Berhad
Hock Hua Bank Berhad
International Bank Malaysia Bhd

Table A.2 (*Continued*)

Malayan Banking Berhad–Maybank
Multi-Purpose Bank Berhad
Oriental Bank Berhad
Pacific Bank Berhad
Perwira Affin Bank
PhileoAllied Bank (Malaysia) Berhad
Public Bank Berhad
Sabah Bank Berhad
Southern Bank Berhad
Wah Tat Bank Berhad
Bank of Commerce (M) Berhad
Foreign Commercial Banks
Bangkok Bank Berhad
Bank of America Malaysia Berhad
Bank of Nova Scotia Berhad
Chase Manhattan Bank (M) Berhad
Citibank Berhad
Deutsche Bank (Malaysia) Berhad
HSBC Bank Malaysia Berhad
OCBC Bank (Malaysia) Berhad
Overseas Union Bank (Malaysia) Berhad
Standard Chartered Bank Malaysia Berhad
United Overseas Bank (Malaysia) Berhad
Merchant banks
Amanah Merchant Bank Berhad
Arab–Malaysian Merchant Bank Berhad
BSN Merchant Bank BHD
Bumiputra Merchant Bankers BHD
Commerce International Merchant Bankers Berhad
Perdana Merchant Bankers Berhad
Perwira Affin Merchant Bank Berhad

Foreign banks with exposure in Asia.

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