Do Foreign Banks Provide More Stable Credit?[*]

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Abstract:
This study examines the role of foreign banks in Asia, focusing in particular on the effects of foreign banks on stability of the financial sector.

Using data on the presence of foreign banks via branching as well as subsidiaries, this study shows that the presence of foreign banks in the four of the countries most affected by the Asian Crisis of 1997 is larger than has been previously reported once the presence of foreign branches is accounted for in the data. However, the percentage of assets controlled by foreign banks in Asia is still lower than that of other emerging market economies, despite increases in the post-crisis period.

This low level of foreign participation in Asia is largely due to regulations on foreign bank entry. However, the need for bank recapitalization in the region has brought on regulatory changes and the presence of foreign banks is increasing. East Asia in particular has seen an increase in foreign bank entry in the post-crisis period. Data on the performance of these banks versus their domestic counterparts suggests that foreign banks provide an important source of capital for troubled banks and are quick to lower cost to income and problem loan ratios.

This study takes up one of the most important policy questions related to the increasing presence of foreign banks in the region: the stability of credit from foreign banks relative to domestic banks. Panel analysis of micro data from Thailand indicates that foreign banks have generally exhibited higher loan growth rates and lower volatility of lending than their domestic counterparts. Foreign banks show significant credit expansion during periods of crisis. Domestic banks in general exhibit greater sensitivity of lending to macroeconomic fluctuations than do foreign banks.

In Asia, most foreign bank entry has come through branching, making it possible to explore potential differences in bank behavior based on mode of entry. Empirical analysis indicates notable differences in the behavior of majority foreign owned subsidiaries operating in the country and foreign bank branches. Foreign owned subsidiaries show the most robust loan growth and the least volatility of lending in the post-crisis period. While more sensitive to the host country macroeconomic fundamentals than foreign bank branches, they appear to be less sensitive to business cycle fluctuations in the host country than purely domestic owned banks.

I. Introduction

Although the Asian Crisis has brought consensus on the necessity of strong domestic financial systems, there is less consensus as to the role of foreign banks in achieving the goals of economic growth and stabilization. Foreign banks are one obvious source to turn to for the capital so badly needed in the region and proponents of foreign bank entry argue that foreign participation is a vital part of creating a vibrant financial system including a wide range of financial services and industries. But policy makers in the region worry about the potential bad effects of opening up their financial markets to foreign participation. Recent research showing a pattern in which financial crises tend to be preceded by financial liberalization has increased concern about the effects of opening up the banking system to foreign participation. In particular, there are concerns that foreign bank entry contributes to instability of financial markets and the banking sector.

This study examines the role of foreign banks in Asia, focusing on the question of stability. Section II begins by providing some quantitative estimates of how far foreign banks have penetrated the banking sector in both regions. Previous studies have underestimated the presence of foreign banks in Asia because they have failed to account for entry via branching, the mode of entry most common in the region. However, even after accounting for the presence of foreign banks via branching, the participation of foreign institutions in Asia is still much lower than other emerging markets. Regulatory changes enacted in the wake of the Asian crisis has brought an increase in the participation of foreign banks in the crisis-hit countries in Asia. These banks have entered mainly by buying up troubled banks in the post-crisis period, but despite this they show strong performance. Section II presents compares rough measures of performance for foreign banks and domestic banks in East Asia. In most cases foreign banks have

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been quicker to bring down cost to income ratios and non-performing loan ratios in the post-crisis period. In countries where foreign banks have had a presence before the 1997 crisis, foreign banks also perform slightly better than domestic banks, but the difference is probably not statistically significant. Increased entry by foreign banks into the region is expected to continue in coming years and there are many arguments for and against this trend. Section IV of this study takes up one of the biggest concerns: volatility. Aggregate data as well as empirical analysis of individual bank data from Thailand indicate that there is a relationship between ownership and volatility, and that the mode of entry of foreign owned banks effects the stability of their lending during crisis.

II. Penetration of Foreign Banks in Asia

The presence of foreign banks has increased dramatically in most emerging markets in the 1990s, but this increase has been much more rapid in Central Europe and Latin America than in Asia, where in some countries, foreign bank presence is actually lower now than it was in 1995. Table 1 reports the percent of assets under foreign control in several emerging markets. By this measure, foreign bank participation in Asia lags far behind that of other emerging economies.

Central Europe displays the largest participation of foreign players in the commercial banking market. After the privatization of the previously state-owned banking sector in Hungary, Poland and the Czech Republic in the 1990s, foreign banks now control over 90% of the total banking sector assets in those countries.

In Latin America, where foreign banks have had a presence for decades, foreign control of total bank assets doubled in the late 1990s, rising from around 15% in 1995 to

over 30% in 2002. The presence of foreign banks is now especially strong in Mexico and Peru and foreign banks also hold significant market share in Argentina, Chile and Venezuela.

In contrast, the presence of foreign banks in Asia overall has actually *declined* since 1995 and is currently below 5% of the total commercial bank market. This trend is largely driven by India and Korea, both of which have large commercial banking markets and have seen a modest decline in foreign bank penetration in the latter half of the 1990s. In some of the countries in South Asia with small commercial banking markets, such as Bangladesh, Nepal and Pakistan, the presence of foreign banks has grown significantly in the late 1990s and the overall level of foreign participation is now quite high. East Asia, where foreign banks have the biggest foothold within Asia on a region-wide basis, foreign bank penetration is still below the levels it had reached in Latin America in the early 1990s. In the crisis-hit countries – Thailand, Indonesia, Korea and the Philippines – foreign bank participation peaked in 1999 as these countries opened up to foreign institutions in order to recapitalize their banking sectors. In some cases, the presence of foreign banks continued to grow in the post-crisis recovery period.

Table 2 looks at a broader measure of foreign bank penetration, including overall foreign participation (not necessarily only those institutions under foreign control[1]) in both the commercial banking sector and the broader financial institutions sector. Using this definition, the penetration of foreign banks almost doubles in Korea, from 8.9% (in Table 1, using the foreign control definition) to 16.04% (in Table 2, more carefully measuring overall foreign participation). Estimates of foreign penetration are higher

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[1] "Foreign Control" measures the ratio of the sum of the total assets of those banks where foreigners own more than 50 percent. This definition is taken from Mathieson and Roldos (2001). Total Assets are measured in billions of US dollars.

Table 1: Penetration of Foreign Bank Subsidiaries in Emerging Economies: Foreign Control of Commercial Bank Assets

	Total Assets (billions US$) 1995	Assets Under Foreign Control (%) 1995	Total Assets (billions US$) 1999	Assets Under Foreign Control (%) 1999	Total Assets (billions US$) 2002	Assets Under Foreign Control (%) 2002
East Asia						
Thailand	66.8	5.2	111.2	9.3	132.8	6.5
Indonesia	127.5	14.1	97.6	19.6	83.6	23.0
Malaysia	142.9	25.1	142.4	26.9	159.1	32.7
Korea	667.1	9.5	477.5	9.0	614.9	8.9
Philippines	46.6	18.2	60.3	24.0	46.3	27.6
Total	**1050.8**	**12.7**	**889.0**	**14.1**	**1137.6**	**12.9**
South Asia						
Bangladesh	10.2	7.2	14.7	11.1	7.3	43.9
India	86.3	3.0	134.7	3.6	349.9	2.2
Nepal	0.4	65.4	0.8	78.1	1.3	82.0
Pakistan	22.1	26.5	23.5	27.1	29.8	36.3
Sri Lanka	3.0	0.3	5.9	1.2	6.4	1.5
Total	**121.9**	**7.7**	**179.7**	**7.5**	**394.7**	**5.8**
PRC	**545.1**	**0.2**	**1146.7**	**0.4**	**2145.5**	**0.3**
Total Asia	**1717.8**	**8.1**	**2215.3**	**6.5**	**3677.8**	**4.8**
Latin America						
Argentina	49.4	8.1	138.2	21.6	39.8	37.0
Brazil	380.0	15.8	355.1	15.3	284.1	13.5
Chile	25.5	23.7	63.6	20.0	58.9	36.0
Colombia	18.2	24.0	23.0	24.3	25.2	17.3
Mexico	14.1	8.0	157.4	49.3	161.4	61.2
Peru	4.7	32.0	20.5	55.3	11.0	49.5
Venezuela	5.2*	3.8*	14.0	25.1	18.8	34.4
Total	**497.2**	**15.7**	**771.8**	**25.3**	**599.1**	**31.6**
Central Europe						
Czech Republic	54.1	76.3	45.6	76.3	64.1	93.6
Hungary	17.7	88.9	18.8	86.8	39.9	98.8
Poland	12.7	11.0	55.7	80.2	78.5	93.7
Total	**84.5**	**69.1**	**127.2**	**80.2**	**182.5**	**94.8**

Source: Authors own calculations from Bankscope.
*The earliest data available for Venezuela is Jan. 1996.

using this measure for most of the other East Asian countries as well, although the increase is not as dramatic as in the case of Korea. Overall foreign bank participation in East Asia using this measure was over 19% in 2002. This is higher than the 12% figure we estimated above using the foreign control definition, but still significantly lower than the penetration of foreign banks in Latin America or Central Europe.

Table 2: Penetration of Foreign Bank Subsidiaries in East Asia:
Foreign Participation in Commercial Banking and Financial Institutions

Country	Total Assets (billion US $)	Foreign Assets (billion US $)	Foreign Share in Total Assets (%)
Thailand			
Commercial banks	132.8	13.6	10.22
All Financial Institutions	143.3	16.4	10.53
Indonesia			
Commercial banks	83.6	22.5	26.93
All Financial Institutions	83.8	22.5	26.85
Korea			
Commercial banks	614.9	98.6	16.04
All Financial Institutions	984.5	146.4	14.88
Malaysia			
Commercial banks	159.1	52.2	32.81
All Financial Institutions	258.8	61.7	23.84
Philippines			
Commercial banks	46.3	14.0	30.24
All Financial Institutions	49.7	14.0	28.15
Total (East Asia)			
Commercial banks	**1036.7**	**200.9**	**19.38**
All Financial Institutions	**1520.1**	**261**	**17.17**

Source: Authors own calculations from Bankscope.

Even this more careful measure of foreign penetration in the banking sector in Asia underestimates the presence of foreign banks because it only takes into account the percentage of assets controlled by fully owned, locally capitalized foreign bank subsidiaries or joint ventures in which a foreign partner owns a majority share. This ignores the significant presence of foreign banks in Asia via branching. Until very

recently foreign commercial bank operations in Asia were conducted almost entirely

through branches or representative offices rather than wholly owned subsidiaries or joint

ventures[2] (Pigott (1986)). This tendency to enter via branching is largely the result of

regulatory policies in place in Asia as discussed below, but it may also be the strategic

choice of the foreign bank in question (Pomerleano and Vojta (2001)). Montgomery

(2003) discusses some of the benefits of both types of entry.

Table 3: Penetration of Foreign Banks Branches in East Asia

	Assets Under Foreign Control (%)			
	Dec. 1995	Dec. 1999	Dec. 2000	Dec. 2002
Indonesia	3.99%	8.15%	8.09%	9.46%
Korea	5.44%	6.00%	7.25%	8.55%
Malaysia	0%	0%	0%	0%
Thailand	3.58%*	4.81%	4.94%	4.83%
Total	**3.25%**	**4.74%**	**5.07%**	**5.71%**

For Thailand, Jan 1996, earliest data available, is used.
Source: Authors own calculations from CEIC Database.

Table 3 presents data on the penetration of foreign bank *branches* in Asia. The

penetration of foreign bank branches in Asian countries varies significantly by country.

In Malaysia, where legislation requires foreign banks to be locally capitalized, there is no

additional market share accounted for by branches. In Indonesia, foreign branches now

account for about 8% of total banking sector assets, but this is small – less than half – of

the share accounted for by foreign subsidiaries (see Table 1). However, in Thailand and

Korea, although penetration by foreign bank branches is still relatively low, branches

account for almost as much of the banking sectors assets as do foreign subsidiaries.

Including penetration by foreign bank branches, foreign banks in Asia account for over

36% of banking sector assets in Indonesia, nearly 25% in Korea, 33% in Malaysia and

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[2] This generalization does not apply to all Asian countries. In Malaysia, for example, almost all foreign
bank participation occurs through majority foreign owned joint ventures or fully foreign owned subsidiaries.

15% in Thailand[3]. These market shares are much closer to the average of 30% observed in Latin America, and are certainly higher than figures which ignore the presence of foreign bank branches in the region.

III. Performance of Foreign Banks

Despite the overall low participation rates of foreign banks in Asia, there have been gains in many countries and this trend is likely to continue in coming years due to regulatory changes enacted in the wake of the 1997 crisis. The likely effects of further penetration by foreign financial institutions into Asia is a topic that has been much debated by policy makers in these countries as well as academics studying the issue[4].

There are several issues related to competition and efficiency that need to be considered by policymakers. First, are foreign banks more or less efficient than domestic banks operating in the host country? If, as many proponents of foreign bank entry suppose, foreign banks are more efficient than domestic banks, what effect will foreign bank entry have on domestic banks already operating in the host country? Will competition from foreign entrants spur efficiency gains among domestic banks as well, promoting financial development in the host country? Or will foreign banks simply dominate the domestic banks, taking over the entire banking sector?

Many early studies on foreign bank entry, which focused on industrialized countries, found that foreign banks in industrialized countries tend to be less efficient than domestic banks (Chang, Hasan and Hunter (1998), DeYoung and Nolle (1996), Hasan and Hunter (1996), Mahajan, Rangan and Zardkoohi (1996), Peek, Rosengren and

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[3] These figures are roughly calculated by adding up the penetration in Table 2 and Table 3.
[4] See Montgomery (2003) pp. 8-9 for a review of the main arguments for and against foreign bank entry.

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Kasirye (1998)). A cross-country study investigating the efficiency of foreign banks on the mature markets of France, Germany, Spain, the United Kingdom and the United States, confirmed this view with the finding that foreign entrants are less efficient in terms of profits and costs than domestic banks (Berger et. al. (2000)). In the case of foreign entry via takeover of an existing bank, it is possible that the poor performance is due to problems that were already present at the time of acquisition. But research has shown that even after changes in business strategy by the new foreign owners, the performance of the foreign banks did not improve (Peek, Rosengren and Kasirye (1998)).

However, studies on the effects of foreign bank entry in developing countries report the opposite findings. Foreign banks appear to be more efficient than domestic banks in developing economies (Barajas, Steiner and Salazar (1999), Clarke et. al. (1999), Clarke et. al. (2001), Demirguc-Kunt, Levine and Min (1998), Denizer (1999), Honohan (2000), Kiraly et. al. (2000)). Even in the case of entry via takeover of an existing domestic bank, research shows that in emerging markets in Latin America the financial strength ratings of local banks acquired by foreign entities generally improves relative to their domestic counterparts (Crystal, Dages and Goldberg (2001)). Not only do foreign banks in emerging markets tend to be more efficient than domestic banks, but significant foreign bank entry is associated with increases in efficiency of domestic banks as well. These efficiency effects were shown to occur immediately after entry and did not depend upon the foreign banks gaining substantial market share (Claessens and Glaessner (1999), Demirguc-Kunt, Levine and Min (1998)).

In Asian economies, the entry of foreign banks is still a relatively new phenomenon, so empirical studies of the relative performance of foreign and domestic

banks are limited. Mathieson and Roldos (2001) show that in the emerging economies of Central and Eastern Europe and Latin America, foreign banks generally report higher returns on equity and lower cost-to-income and problem loan ratios than do domestic banks.

Table 4: Performance of Foreign vs. Domestic Banks in East Asia

		Return on Assets		Cost-to-Income ratio*		Problem Loans / total loan	
		Foreign Bank	Domestic Bank	Foreign Bank	Domestic Bank	Foreign Bank	Domestic Bank
Thailand	2002	-0.7	0.2	75.2 (-78.5)	65.0 (-38.5)	10.1	21.8
	1999	-4.0	-6.1	349.5	105.4	37.5	34.3
	1995	0.9	1.8	55.5	35.5	na	na
Indonesia	2002	2.1	1.2	49.4 (-54.3)	52.2 (na)	2.5	7.7
	1999	-3.4	-24.8	108.0	na	35.0	5.6
	1995	0.8	0.2	63.8	61.8	0.1	na
Malaysia	2002	1.3	0.9	40.7 (10.1)	41.9 (11.1)	8.0	11.5
	1999	1.1	0.8	37.0	37.7	11.1	10.1
	1995	1.5	1.1	43.4	43.5	-1.3	-1.1
Korea	2002	0.1	0.6	33.2 (-18.0)	40.8 (-8.5)	na	0.1
	1999	-1.9	-1.6	40.5	44.6	na	1.8
	1995	0.3	0.2	69.5	87.1	na	na
Philippines	2002	1.1	1.1	65.4 (-52.0)	64.0 (65.1)	16.2	16.5
	1999	-0.7	-0.3	136.0	38.8	12.0	17.7
	1995	1.9	2.0	67.8	62.5	5.6	2.4

*Figure in parenthesis represents percentage change in cost to income ration between 1999 and 2002.

Table 4 reports these same measures of performance for domestic and foreign controlled banks in East Asia. Uniform trends across the region are rare, but in Malaysia, where foreign owned subsidiaries pre-date the Asian crisis of 1997, foreign banks outperform domestic banks by each measure. This may hold promise for the other countries, which have only recently allowed foreign bank entry in order to bail out troubled banks in the post-crisis period.

Trends in performance indicators in other countries, where foreign bank entry is more recent, are more difficult to disentangle. Performance of all banks was clearly very influenced by the Asian Crisis of 1997. Return on assets falls dramatically for both foreign and domestic banks in all countries (less so for Malaysia than the other more hard-hit economies) in the immediate post-crisis period, 1999. In all cases, there have been improvements in the return on assets ratio by 2002, but it is not clear that foreign banks are now performing significantly better than domestic banks by this measure. Similarly, cost-to-income ratios and problem loan ratios rose sharply in the immediate post-crisis period, 1999. In most cases there have been significant improvements in these ratios in the most recent year, 2002 and these improvements have been greater for the foreign banks than domestic banks. Recently, problem loan ratios are uniformly smaller throughout East Asia for foreign controlled banks than for domestic banks, despite the fact that many of the foreign banks are recent mergers and acquisitions of troubled banks in the post-crisis period. In time, these newly acquired banks may recover their asset quality and performance, and researchers may study the speed of recovery for these foreign owned institutions versus the domestic ones.

IV. Stability of Foreign Bank Lending

In light of the Asian Crisis of 1997, perhaps even more so that the issues of competition and efficiency raised above, policy makers are concerned about the stability of foreign banks entering Asia. There are fears that foreign banks may withdraw more rapidly than domestic banks in the event of crisis (Park (2002)), or even that the very presence of foreign banks may increase the likelihood of a crisis occurring.

However, cross-country studies on the relationship between foreign bank entry and the incidence of banking crisis demonstrate that the presence of foreign banks, or even just being open to foreign bank entry, reduces the likelihood of banking crises[5]. This study adds to the existing literature by investigating the claim that foreign banks are less stable than domestic banks *during* crisis.

The stability of foreign bank lending during the Asian crisis varied greatly depending upon the method of entry. Palmer (2000) showed that while U.S. money center banks generally maintained the operations of their offshore branches and subsidiaries in Asia during the 1997 crisis, cross border lending into Asia plummeted[6].

This finding for US banks operating in Asia is confirmed by the examination of aggregate data. Table 5 reports outstanding loans and credit before and after the Asian crisis of 1997 for four of the worst-hit Asian countries: Indonesia, Korea, Malaysia and Thailand. Cross border claims in all these crisis hit economies fell substantially between 1996 and 1998. In most countries, outstanding loans by domestic banks fell or grew only slightly over the same period. Outstanding loans by foreign banks however, grew significantly. This suggests that foreign banks stepped in to provide loan demand that could not be met by domestic banks during the Asian crisis. However, cross border lending was actually more volatile than any other type of lending during the crisis and exacerbated, if not to some extent caused, the credit crunch that accompanied it.

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[5] See Montgomery (2003) for a review of the academic literature on this point.
[6] For example, cross border lending to Asia fell 36% between June 1997 and June 1999, but local claims of foreign banks declined just 6%.
NB: Cross-border claims are those booked outside the foreign counterparty's home country, usually at the U.S. bank's head office in the United States. This type of claim is usually denominated in U.S. dollars. Local claims on foreign counterparties are those booked in the local offices of the reporting bank - offices located in the country of the counterparty.

Table 5: Changes in Aggregate Lending: 1996-1998

			1996	1998	Rate of Change: 96–98*
Indonesia	Cross–Border Claims (units: $ bil)	Total Claims	58.7	45.0	−23.3%
	Local Lending (units: Rp bil)	Foreign	12412	32225	159.6%
		Domestic	71153.4	125110	75.8%
Korea	Cross–Border Claims (units: $ bil)	Total Claims	104.2	67.3	−35.4%
	Local Lending (units: Won bil)	Foreign	7361.9	8364.4	13.6%
		Domestic	148726.7	152958.9	2.9%
Malaysia	Cross–Border Claims (units: $ bil)	Total Claims	28.8	18.9	−34.4%
	Local Lending (units: RM bil)	Foreign	47.9	66.1	38.0%
		Domestic	178.5	246.6	38.2%
Thailand	Cross–Border Claims (units: $ bil)	Total Claims	69.4	39.4	−43.2%
	Local Lending (units: Baht bil)	Foreign	143.8	173.4	20.6%
		Domestic	4111.2	3762.9	−8.5%
	BIBF Out–In Lending (units: Baht bil)	Foreign	222794.9	431931.1	93.9%
		Domestic	330040.2	213504.1	−35.3%
		New**	254798.1	121594.2	−52.3%

Source: Author's own calculations using BIS statistics and Bankscope database.

(i)   Analysis of Microdata from Thailand

In addition to the aggregate data presented above, individual bank level data for Thai banks is available for analysis.

Table 6 reports the amount of non-performing loans held by domestic and foreign banks in order to provide a relative indicator of the depth of asset quality problems on bank balance sheets. This data has only become available in the post-crisis period, so the earliest data observation, June 2000, is compared with the most recent data, July 2003.

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* Cross-Border Claims include non-local currency claims by BIS reporting banks' affiliates in vis-à-vis countries. Local foreign banks lending includes lending in non-local currency as well as lending in local currency. The rate of change in foreign banks' local lending as measured in billions of USD was -22.90% for Indonesia, -20.59% for Korea, -8.12% for Malaysia, and for -14.95% for Thailand.
** "New BIBF" for Thailand refers to new branches of foreign banks with license to operate only international banking facility business.

For all bank groups, asset quality has improved over the past three years. In general, for each time period, the asset quality problems were worse in the domestic banks, followed by the majority foreign owned subsidiaries and finally the foreign bank branches operating in Thailand. However, the most recent data indicate that the majority foreign owned subsidiaries may have improved their balance sheets to a stronger position than the foreign bank branches. This is striking since all of the majority foreign owned subsidiaries were post-crisis acquisitions of troubled domestic banks by foreign banks.

Table 6: Non-Performing Loan Ratios of Banks in Thailand

Nationality Of Banks	Date	NPL/Loan Ratio: 0-10%	NPL/Loan Ratio: 10%-30%	NPL/Loan Ratio: >30%
		% Banks	% Banks	% Banks
Domestic	2000:06	0%	56%	44%
	2003:07	33%	56%	11%
Foreign	2000:06	25%	25%	50%
	2003:07	50%	50%	0%
Foreign Branches	2000:06	39%	44%	17%
	2003:07	56%	33%	11%

Source: Author's own calculations using CEIC database.

Table 7 reports annualized loan growth rates and volatility (the normalized standard deviation of these loan growth rates) for the three categories of banks in Thailand for three periods, the pre-crisis period since 1997, the crisis period from July 1997 when Thailand floated the baht to December 1999 when GDP recovered to its pre-crisis levels, and the post-crisis period since January 2000. Among the three categories of banks, foreign bank branches exhibit the most volatility in their lending, and the growth rates are quite cyclical, showing relatively high growth in the pre-crisis period, but then falling below the domestic banks during the crisis period. In the post-crisis

period, the foreign-owned subsidiaries exhibit significantly higher growth rates than either foreign bank branches or domestic banks, with very low relative volatility.

As suggested by the quantitative gap in the growth rates, a t-test[7] indicates that we can reject the null hypothesis of equal means for domestic banks and foreign bank branches in the pre- and post-crisis periods at the 5% level, as well as between domestic and foreign banks in the post-crisis period at the 1% level. Similarly, the chi-squared statistic[8] for Bartlett's test for equal variances indicates that we can reject the null hypothesis of equal variances at the 5% level in the pre-crisis period and at the 1% level in the post-crisis period.

Table 7: Thailand Average Annual Loan Growth Rates

Time Period	Domestic Banks	Foreign Banks	Foreign Branches
Pre-Crisis 1997:1-1997:6	15.0% (0.51)		10.6% (1.1)
Crisis 1997:7-1999:12	5.7% (0.15)		11.0% (3.4)
Post-Crisis 2000:1-2003:7	7.5% (8.2)	28.2% (3.2)	-2.5% (10.6)

Source: Author's own calculations using CEIC database.

Finally, table 8 reports the results of a pooled time-series regression to test for differences across types of ownership in loan responsiveness with respect to real GDP and real interest rates again indicates differences in the sensitivity of foreign and domestic banks to macroeconomic fluctuations. Although lending by all banks was sensitive to both output as measured by industrial production and interest rates as measured by the loan rate differential between Thailand and the United States, domestic banks and majority foreign owned subsidiaries operating in Thailand exhibit much more

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[7] The result holds using Sidak and Bonferroni adjustments.
[8] The chi-squared statistic is 7.56 with 2 degrees of freedom in the pre-crisis period and 705.14 with 3 degrees of freedom in the post-crisis period.

sensitivity to both output and interest rates than do foreign bank branches. A 1 percent

rise in GDP is associated with a 1.8 percent rise in lending by domestic banks, more than

double that of foreign bank branches. An f-test of the null hypothesis that all the bank

fixed effects are equal to zero can be rejected at the 1% level for all bank groups[9].

Table 8: Bank Loan Sensitivity to IPI: Thailand 1997:1-2003:7

Type of Bank	Constant	IPI	$r^{TH}-r^{US}$
Domestic	-0.21*	1.68***	0.04***
#obs = 863	(0.06)	(0.23)	(0.01)
Foreign	0.90***	1.53**	-0.15***
#obs = 168	(0.14)	(0.74)	(0.03)
Foreign Branch	-0.14***	0.65***	0.02***
#obs = 650	(0.04)	(0.15)	(0.01)

Source: Author's own calculations using CEIC database.

Domestic banks exhibit the most volatility with respect to market signals such as

output and interest rates. As might be expected, foreign bank branches, which are

heavily reliant on headquarters for capital, exhibit the least sensitivity to host country

macroeconomic conditions. However, these foreign bank branches do exhibit high

volatility in lending and have sharply contracted their lending in the post-crisis period.

V. Conclusions

The data analyzed here shows that the presence of foreign banks in Asia is higher

than previous studies have indicated, but still below that of other emerging markets.

Looking forward, the presence of foreign banks in Asia is expected to increase rapidly

due to the deregulation already in place and progress being made by the World Trade

Organization on the Generalized Agreement on Trade in Services. Although many

developing countries have already unilaterally liberalized trade in services and entry into

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[9] For domestic banks, $F(16,844)=5.39$, for foreign banks $F(3,162)=38.97$, for foreign branches $F(17,630)=10.88$.

the financial sector, the signing of the GATS will reinforce the trend toward financial services liberalization already observed in many emerging market economies and lock countries in to a commitment to maintain the liberalization in financial services which they have instituted thus far. Finally, foreign financial institutions are increasingly being welcomed in Asian countries as part of the recapitalization of the banking sector in the wake of the Asian crisis. As academic research has shown, banking crises bring increased foreign participation in the banking sector.

This increase in foreign participation in the banking sector should be welcome by policy makers in those countries. Performance indicators reported here suggest that newly-entering foreign banks may be quicker than domestic banks to bring down cost to income and non-performing loan ratios following crisis. Established foreign banks show no significant difference in performance ratios as compared to domestic banks. Previous research has shown that foreign bank entry brings with it improvements to the financial infrastructure, financial services and efficiency of the financial sector.

In addition to these benefits, foreign banks contribute to the stability of the financial sector. Past research has shown that by diversifying the host country's banking system overall, international banks actually reduce the likelihood of crisis in the first place. However, even when crises do occur, foreign banks are able to provide credit when domestic banks cannot, helping to smooth out business cycle fluctuations. The experience of Latin America in 1994-1995 shows that foreign banks play an important role in recapitalizing the banking sector following banking crises. This trend has also been seen more recently in post-crisis Asia.

Aside from providing much needed capital to a troubled banking sector immediately following a crisis, existing foreign banks in a country can also stabilize credit supply during crisis since they tend be more internationally diversified than domestic banks, rendering them less sensitive to macroeconomic conditions in the host country. This fact is confirmed here by empirical analysis of panel data from Thailand, which shows that foreign banks exhibit higher loan growth and lower volatility and are less sensitive to domestic macroeconomic fluctuations than their domestic counterparts.

One caveat, however, is that the mode of foreign entry matters. Until recently, almost all foreign entry into the banking sectors of Asian countries has been through offshore lending institutions or branching rather than fully owned subsidiaries or majority owned joint ventures. There is clear evidence that offshore lending is much more volatile than lending by "brick and mortar" foreign banks. The panel data analysis presented in this study demonstrates that subsidiary lending is more stable than that of foreign bank branches, although it is also more responsive to domestic macroeconomic fluctuations.

Thus, Asian countries stand poised to gain much from the entry of foreign financial institutions in the coming years. However, to fully realize these gains, policy makers need to welcome foreign entry in a variety of ways, including locally capitalized institutions. The recent trend away from purely offshore institutions or branch based entry to allowing foreign players to enter via fully owned subsidiaries and joint ventures is a positive development that will support host-country goals of macroeconomic stability and providing a steady supply of credit to borrowers.

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