

# **Do Foreign Shares Affect the Performance of Local Banks? A Micro View**

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## **Abstract**

Past studies on the effects of the presence of foreign shares have primarily focused on how foreign shares change the nature of competitiveness in the banking environment and subsequently cause the performance of local banks to change. This is the macro view referred to in this paper. However, unlike those studies, this paper adopts a micro approach to investigate the effects of foreign shares on local banks. Both the parent countries of foreign shares and the host countries are categorized into high- and low- income countries, and it is found (apparent) that foreign shares from high-income countries have little impact on local banks in rich countries but have a considerable impact on those in poor countries. Against this, foreign shares from poor countries do not have much, if any, significant effect on local banks in rich countries but do have some effect on those in poor countries.

Key words: Foreign Bank Penetration 、 Bank Performance 、 Competition.

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## 1. Introduction

Towards the latter half of the 1990s, in particular, foreign banks started to significantly increase their ownership shares of banks in emerging markets. What provided the kick-start for this sweeping step toward internationalization within the banking sector was the liberalization of financial markets worldwide. As a case in point, since the 1997 Asian financial crisis, foreign banks in many Asian countries have enjoyed the right to purchase local banks, a practice that had previously been strictly forbidden.<sup>1</sup> In simple terms, developed and developing countries alike now increasingly allow, if not encourage, foreign ownership of their local banks, and accordingly, grant foreign entries equal footing with local banks.

While foreign ownership is generally regarded as beneficial to local banks, in point of fact, there has been a somewhat lively debate over what the real positive and real negative effects of this are. One commonly held stance is that foreign ownership of banks in emerging markets improves overall bank soundness, especially when the foreign parent bank belongs to a well-regulated financial system and is itself healthy. Although foreign banks seem to enhance overall competition in the banking industry, their presence has typically led to a decrease in surplus profits of local banks; nevertheless, it cannot be denied that foreign banks provide an incentive, not to mention a business model, for local banks to increase their efficiency. It is true that foreign bank penetration may entail significant costs for local banks,<sup>2</sup> but proponents assert that the gains achieved from a foreign bank's entry into a domestic banking system far outweigh any losses. In their recent ground-breaking work, Claessens, Demirgüç-Kunt & Huizinga (hereafter CDH) (2001) report solid empirical evidence supporting this position. Using a large data set containing individual bank account information for both foreign and domestic banks in 80 developed and developing

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<sup>1</sup> For example, the President of Taiwan, in fact, contends that at least one of the currently state-owned banks in Taiwan should be sold to foreign banks or to other strategic foreign alliances.

<sup>2</sup> In this paper, 'foreign bank penetration' refers to foreign bank lending to domestic firms.

countries during the 1988-1995 period, they find a negative relationship between the presence of foreign banks and domestic banks' profitability, their non-interest income and their overhead expenses. The implication is that by virtue of the sheer presence of foreign banks, domestic banks feel pressured into having to give at least part of their previously high income and profits up for the sake of improved efficiency. That is, the entry of foreign banks gives domestic banks the necessary nudge that forces them to become more efficient. In this paper, we refer to these as the 'competition' and 'efficiency' effects.

Just as there are arguments in favor of the positive effects of foreign bank penetration, opposing arguments and mixed results also abound in the extant literature. Using slightly different sample countries and sample periods, Bayraktar and Wang (2004) contest CDH's claim of a negative relation between foreign bank shares and local banks' overhead expenses; instead, they find a positive relationship. Similarly, they also only report an insignificant relationship between foreign bank shares and local bank profitability and loan loss provisions, not a negative one. Interestingly enough, nevertheless, when they classify their panel of countries on the basis of the chronological sequence of their liberalization process, Bayraktar and Wang (2004) provide support for CDH's position that foreign bank entry improves domestic banks' competitiveness when host countries liberalize their stock market first, but not in cases where host countries liberalize their capital accounts first. Intensifying this issue further, Hermes and Lensink (2002) reinvestigate CDH's hypothesis using data for domestic banks in less developed countries (LDCs), and they find evidence of an inverted U-shaped relationship between foreign bank entry and domestic banks' income, profits and overhead costs. That is, the aforementioned competition and efficiency effects are only at play once the extent of foreign bank entry has reached a certain minimum level. Surveys of the benefits and drawbacks of foreign bank ownership are abundant in the available literature; see, for example, the surveys of

Levine (1996), Peek and Rosengren (2000) and Hass and Lelyveld (2003), among others.

The aim of this paper is to pursue similar issues to those investigated by CDH, but rather than use a macro approach, this study investigates the issues from a micro perspective. It is important to note that earlier studies which discuss the impact of foreign bank penetration on local banks have, in fact, been conducted at the country level, and for the most part, their focus has been on how competitive banking environments are affected by the penetration of foreign banks. Common to those studies is that the term ‘foreign shares’ (hereafter FS) refers to the number of foreign banks divided by the total number of banks in a given country, or alternatively, foreign bank assets to total bank assets in a given country, where a ‘foreign bank’ is defined as one with foreign ownership exceeding 50% or more.<sup>3</sup> As concerns FS in those studies, they evolve around the extent to which foreign bank penetration influences the competitiveness of the banking industry as a whole and then affects the local banking operating environment.<sup>4</sup> Those studies generally subscribe to take the view that the presence of foreign shares strengthens the competitiveness of the banking environment in a country, and hence, reduces the net interest margins and returns of local banks. We classify those studies among those that by design take on the macro perspective.

Though highly commendable and enlightening in themselves, studies on foreign bank penetration have largely ignored the influence of foreign ownership on local banks. In this regard, the case of the Bank of America (BOA) is particularly interesting. On June 16, 2005, the BOA purchased 9% of the equities of the China

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<sup>3</sup> Mathieson and Roldos (2001) use a similar definition of ‘foreign participation’. However, when the percentage of shares held by foreigners is 50% or more, they refer to it as ‘foreign control’.

<sup>4</sup> The way that CDH calculate FS, however, may understate the true FS on the country level. Montgomery (2003) claims that the entry of foreign banks has three patterns, i.e., cross-border claims, subsidiaries and branching. Most studies, nevertheless, focus on the percentage of assets controlled by fully-owned, locally-capitalized foreign bank subsidiaries or joint ventures in which a foreign partner owns a majority of the shares, and they ignore other possibilities. Thus, using FS on the country level may understate the true percentage of foreign shares.

Construction Bank (CCB). Albeit too early to draw a final conclusion, the BOA, it seems, has very likely had a positive effect on the overall performance of the CCB even though very few “foreign banks” based on CDF’s definition have been established in China until now. The point is that though the penetration of foreign banks, to date, has been low in China, and thus, they may have had little impact on the local banking industry, individual foreign shares do evidently have an impact. The macro approach is centered more on the market of the host country, whereas the micro approach is centered on the local bank. With this in mind, our definition of foreign shares differs from that used by CDH. In the present study, FS refers to the percentage of shares in a local bank that are held by foreign banks, and this is regarded as the micro view.

The questions raised in this paper underscore the degree of impact that foreign shares have on local banks. To be more specific, *how is the performance of a local bank affected by the shares that are held by foreigners? Is it true or not that the more foreign shares there are in a bank, the greater improvement there is in that bank’s performance?* Based on the micro perspective, it seems reasonable to expect that foreign shares from more developed countries should increase rather than decrease the returns of local banks which have a relatively high number of foreign shares.

We further take the level of economic development of both the foreign parent countries and host countries into account. In CDH’s study and other cross-country studies,<sup>5</sup> it is often implicitly assumed that foreign banks are equipped with advanced technology, and that for this reason alone, their entry must be beneficial for local banks. Unmistakably, however, a foreign bank from a less developed county (LDC) more than likely does not have superior technology to that of local banks in developed countries. Nolle (1995), for example, finds that foreign-owned banks in the U.S. have persistently exhibited lower profit rates than their U.S.-owned counterparts. Many

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<sup>5</sup> See, for example, Bayraktar and Wang (2004).

early studies on foreign bank entry, which have focused on industrialized countries, report that foreign banks in the U.S. tend to be less efficient than domestic ones.<sup>6</sup> By contrast, studies on the effects of foreign bank entry on developing countries yield opposite findings.<sup>7</sup> Simply put, the level of economic development of the foreign parent country relative to that of the host country does seem to have an impact on the effect of foreign bank penetration. Along the same lines, Berger et al. (2000) claim that foreign banks are less efficient in terms of profits and costs than are domestic banks in the mature markets of France, Germany, Spain, the United Kingdom and the U.S. In these cases, foreign bank entry, they contend, neither strengthens competition in the market, nor does it improve the efficiency of domestic banks. The weight of such evidence provides us with the motivation to divide the sample countries into rich and poor.

Once taking the level of economic development of both the foreign parent country and the host country of local banks into account, we ask the following question which has not been resolved: *Do foreign shares from high- (low-) income countries improve the performance of local banks in high- (low-) income countries?* Throughout this paper, we assume that, compared with their equivalents from poor countries, foreign banks from high-income countries are more savvy when it comes to modern operation technology. In reality, this assumption may not be absolutely true, but it is not likely too far from the fact, either. Based on this assumption, we hypothesize that *only foreign shares from high-income countries are beneficial to local banks in a poor country and that foreign shares from low-income countries do not bring advances to local banks in a rich country.* However, with regard to the effects of foreign shares from high-income countries on local banks also located in high-income countries, these are unknown. Nor are we sure of the possible effects

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<sup>6</sup> See Chang, Hasan and Hunter (1998), DeYoung and Nolle (1996), Hasan and Hunter (1996) and Mahajan, Rangan and Zardkoohi (1996).

<sup>7</sup> See Barajas, Steiner and Salazar (1999), Clarke et. al (1999), Demirgüç-Kunt, Levine and Min (1998) and Honohan (2000), among others.

when both variables, i.e., foreign shares and local banks, belong to poor countries. We expect that our empirical results will be the motivation for further research concerning foreign bank penetration as viewed from this micro perspective.

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

## **2. Literature Review**

The questions related to foreign bank penetration that much of the extant literature typically has attempted to answer are threefold:

- (1) *Do foreign banks outperform local banks?*
- (2) *Do foreign banks play an important role in the banking environment of other countries by providing new services, and thus, enhance banking competition and efficiency?*
- (3) *And, in the face of macroeconomic fluctuations, do foreign banks contribute to or detract from the stability of the banking sector of a host country?*

The first issue is whether foreign banks outperform local banks. CDH hold the view that in developing countries, foreign banks enjoy higher profits than domestic banks but that, conversely, in developed countries, the opposite is the case. In this sense, the performance of foreign banks evidently depends on the countries they are in.

CDH also report that, on balance, foreign banks actually obtain lower interest margins in upper-middle- and high-income countries but that they achieve higher interest margins than domestic banks in low-income and lower-middle-income countries. Further, foreign banks have lower overhead expenses, taxes and net

profitability in low-income countries but higher overhead expenses, taxes and net profitability in high-income countries. In this regard, Goldberg, Dages and Kinney (2000) determine that foreign-owned banks tend to be healthier than their domestic counterparts in Argentina and Mexico. On the other side of the coin, however, Montgomery (2003) finds that since the Asian crisis, foreign banks in most Asian countries appear to have performed relatively worse than their domestic counterparts, as measured by returns on equity, costs to income ratios, and the ratio of problem loans to total loans. Sharing a similar view, Meltzer (1998) asserts that domestic banks are better able to retain their competitive edge by virtue of their superior knowledge of local conditions and their better, more closely-knit relationships within the local community.

Besides introducing changes to the host-banking environment, does the entry of foreign banks affect the individual performance of domestic banks? This issue is normally tackled from the macro perspective. To be sure, the entry of foreign banks changes the competitive environment, and thus leaves some domestic banks in no position but to relinquish their assumed rights to their once high income and profits. Because of or in spite of this, it motivates them to strive for improved efficiency instead, which in turn reduces their costs. Thus, the entry of foreign banks can contribute to domestic banks' cutting their expenses since they may learn modern banking techniques. As an extension of this, the entry of foreign banks might also be advantageous to borrowers in developing countries, since it improves the general efficiency of the banking sector [see Clarke, Maria and Peria (2001) for a discussion of this].

Finally, given that macroeconomic fluctuations do occur, do foreign banks have any impact, either positive or negative, on the stability of the host country's banking system? One focus of previous research has been on whether the presence of foreign banks has a positive effect during a banking crisis. Goldberg, Dages and

Kinney (2000) show that foreign banks in Argentina and Mexico exhibited stronger and less volatile loan growth than did domestic banks between 1994 and 1999, and from this, they conclude that foreign bank penetration does not necessarily threaten the stability of the financial sector. By the same token, Goldberg (2001) finds that U.S. banks did not significantly retrench their lending following periods of crisis. Hass and Lelyveld (2003) show that in central and eastern Europe, domestic banks contracted their credit and deposit base during crisis periods, whereas foreign banks did not. Morgan and Strahan (2002) also show that the entry of foreign banks may dampen the illiquid effect of general bank capital on firms' investments in a host country during a crisis since foreign banks can rely on parental liquidity and capital back up.

Opponents of foreign bank penetration, on the other hand, argue that the credit supply of foreign banks may be less stable than that of domestic banks. Hass and Lelyveld (2003) contend that foreign banks' credit supply may be less stable than that of domestic banks because foreign banks react more pro-cyclically to changes in the host country's macroeconomic environment. Montgomery (2003) argues that while foreign bank lending may, in some cases, be more stable than domestic bank lending, particularly during a crisis, the stability of foreign bank lending depends on the way in which a foreign bank enters the market. Credit supplies provided by cross-border claims of a foreign bank are the most volatile, she claims, followed by foreign bank branch lending and foreign bank subsidiaries.

This paper is an extension of the second issue, i.e., whether or not foreign shares in a bank affect that bank's performance even if the macro environment is not widely made up of foreign banks.

### **3. Empirical Model**

When the level of economic development is taken into account, it could well be that foreign shares improve the performance of local banks when the foreign parent banks are equipped with advanced operating technology. This might especially be the case when the parent country of the foreign shares is a developed one and when the host country is an underdeveloped one. Thus, we categorize foreign shares into those from high-income countries (HIC) and those from low-income countries (LIC). A dummy variable,  $D_{HIC}$ , is equal to one when the foreign bank is a HIC and zero otherwise.

Our dependent variable  $y$  is bank performance and includes the net interest margin (NIM), return on assets (ROA), overhead costs (Overhead), total problem loans (ProbLoan) and the provisions for loan loss (PLL). Thus, the estimation model  $y_{ijt}$  (from high and middle income countries) = country dummies

$$\begin{aligned}
 \text{is:} \quad & + (\alpha_0 + \alpha_1 FS_{ijt} + \alpha_2 Bank_{ijt}) D_{HIC, j} \\
 & + (\beta_0 + \beta_1 FS_{ijt} + \beta_2 Bank_{ijt}) (1 - D_{HIC})_j \\
 & + \phi_1 Macro_{jt} + \phi_2 Financial\ Markets + \varepsilon_{ijt},
 \end{aligned} \tag{1}$$

where subscripts  $i, j$  and  $t$  denote bank  $i$  in host country  $j$  at time  $t$ . Hence,  $y_{ijt}$  is the performance variable for bank  $i$  in host country  $j$  at time  $t$ . In addition to distinguishing between foreign banks from high- and those from low-income countries, we similarly divide host countries into high- and low-income countries. That is, we divide  $y_{ijt}$  into high- and low- income countries and investigate whether or not a particular type of foreign share (from either high- or low- income countries) affects the performance of local banks (in either high- or low- income countries). Since our data are of the unbalanced panel type, we remove the country effect by simply adding the country dummies.

Variable  $FS_{ijt}$  is the percentage share of foreign ownership of bank  $i$  in country  $j$  at time  $t$ ,  $Bank_{ijt}$  is the vector of the bank variables for bank  $i$  in country  $j$  at time  $t$ ,

and  $Macro_{jt}$  is the vector of the country variables for country  $j$  at time  $t$ . Further,  $\alpha_i$  and  $\beta_i$  ( $i=0, 1, 2$ ) are the coefficients for high- and low-income countries, respectively,  $\phi_i$  ( $i=1, 2$ ) are the coefficients on the controlled variables,  $\varepsilon_{ijt}$  is an error term. Our macro variables include the inflation rate (Infla) and real GDP per capita (GDPper), while our Financial Market variables include the ratio of lending to the private sector by a commercial bank to GDP (Lending), the ratio of market capitalization to GDP (MarCap) and stock returns (StockRet). Table 1 reports variable descriptions.

## 4. Sources of the Data and Basic Statistics

### 4.1 Sources of the Data

Following CDH, Demirgüç-Kunt, Levine and Min (1998) and others, we also take our data from *BankScope* provided by the IBCA Fitch. The data of banks in fourth-six countries from 2000-2005 are employed. *BankScope* includes accounting ratios for roughly 80% of all banks in each country. To ensure there is reasonable coverage for the individual countries in our study, we include only those countries where there are data for at least three banks -- domestic and/or foreign -- for a given year. While the data are comprehensive, CDH point out two restrictions with regard to this data set. For one, it does not allow us to distinguish between wholesale versus retail banking markets, and secondly, we cannot distinguish between *de novo* foreign entry and entry through the foreign acquisition of domestic banks.

Once we obtain the percentages of foreign shares, we separate foreign countries into high- and low-income countries based on the World Bank classifications, which divide countries into high-, upper middle-, lower middle- and low- income countries. High-income countries here include high- and upper middle-income countries, and in a similar fashion, low-income countries include lower middle- and low-income countries.

Regarding the percentage and names of foreign shares, two caveats should be noted with the data we collect from *BankScope*. First, as the percentages held by foreigners are often missing from *BankScope*, we cannot always calculate the correct percentages. Next, even when the percentages are available, the names of the holders are often legal entities with no source country given, such as an investment trust; alternatively, holders may be listed as being from offshore financial centers, like the Cayman Islands. In these cases, we cannot, of course, determine the names of the foreign countries, which increases the difficulty in identifying which are high- or low-income countries. Furthermore, even if we have the names of the holders, the country names may be missing. In such cases, we have no choice but to discard those data.<sup>8</sup>

Our forty-six sample countries are consistent with the countries listed by Barth et al. (1998). We calculate the penetration ratio of foreign banks into local markets.

## 4.2 Basic Statistics

Table 2 first presents the percentage of foreign banks over total banks in number across five years and the percentage of foreign banks over total banks in assets across five years and the total number of banks. The two ratios are considered from the macro perspective so as to be able to examine whether the data are consistent with those of CDH and others. The highest percentage of foreign banks in terms of number is Turkey at 98.42%, followed by Ireland, where more than 60% of all banks are foreign-owned and the Netherlands, where 46% are foreign-owned. The lowest percentage falls on Sweden (0.0%), followed by Japan (0.03%) and Taiwan (0.057%).

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<sup>8</sup> Because this paper focuses on the impact of foreign shares on banks considered as such in the broad sense (banks dealing with deposits and loans are included), we have to ignore financial institutions that do not deal with deposits and loans, e.g., private and investment banks. We are aware that financial ratios vary for different businesses and that foreign shares may have a different impact on different banks. But because of the paucity of data when they are categorized, we do not take all banks into account; nor do we separate banks into different types of businesses. We leave this to future study. We also exclude banks whose ROA exceeds 4% or those whose equity/asset ratio exceeds 30%. The rationale for this is that conventional banks constitute a high leverage industry with large assets, meaning they have low equity/asset ratios. Though the cutoffs may at times be hard to decide, we make an honest attempt.

Turning to assets, the highest percentage held by foreign banks falls to Peru (67.88%), just ahead of Hong Kong (62.93%), but much farther ahead of Zimbabwe (32.25%). The lowest percentage in terms of foreign assets is Sweden (0.0%), South Africa (0.1%) and Japan (1.13%). The results are highly consistent with CDH's basic statistics.

Table 3 further classifies foreign banks on the basis of their parent country's level of economic development. As mentioned above, in the description of the basic statistics, we divide the countries into low-, lower middle-, upper middle- and high-income countries, but in the regression analysis, we take the first two groups as the *low-income countries* and the latter two as the *high-income countries*. The average number of foreign banks as a percentage of all banks is respectively 24.6%, 39.4%, 16.9% and 25.8% for low-, lower middle-, upper middle- and high-income host countries. It is clearly apparent that lower middle-income host countries attract the highest percentage of foreign banks. A similar pattern emerges when we use the percentage of assets of foreign banks.

Table 3 reports the performance of local banks in terms of NIM, ROA, Overhead, and PLL in high-income (Panel A), upper middle-income (Panel B), lower middle-income (Panel C) and low-income (Panel D) countries. In each group, we divide foreign shares into two groups, i.e., those from low- and those from high-income countries. It should be noted that foreign banks from poor countries are few in number and are mostly involved in very particular business lines. In Panel A, i.e., for local banks in high-income countries, net interest margins, or NIMs, are substantially higher for foreign shares from high-income than from low-income countries, perhaps because the presence of foreign shares from high-income countries serves as a sort of warning for local banks not to compete for marginal lenders, which stops them from fueling price competition. As for returns on assets, or ROA, except for Hong Kong, the number of foreign shares from high-income countries is higher than that from low-

income countries. Thus, foreign shares from high-income countries seemingly enhance banking performance in high-income host countries. Overhead costs are also higher for foreign shares from high-income countries. The results for the provisions for loan loss, or PLL, are similar again. Thus, local banks in high-income countries perform differently when foreign shares are from high-income countries than when they are from low-income countries. This strongly suggests we should not pool foreign shares together in our regression analysis. Also important here, much as foreign shares from high-income countries seem to have higher returns, they also have higher risks.

In Panel B, which shows the performance of local banks in upper middle-income countries, foreign shares from high-income countries also show higher returns and higher risks, but the patterns are definitively less well-defined than those in Panel A. For example, when foreign shares are from high-income countries, NIMs are lower for Korea and Taiwan, while ROA and Overhead are lower for Greece, Korea and Taiwan. Similar results are obtained when the performance variable is PLL. In Panel C showing local bank performance in lower middle-income countries, the patterns whereby foreign shares have higher returns but greater risks are even less pronounced. Examples of this are found in Ecuador, Indonesia, Jordan and the Philippines where NIMs are lower when foreign shares are from high-income countries. In Panel D, which shows local bank performance in low-income countries, except for Uruguay, foreign shares from high-income countries have higher returns but greater risks.

There is no question that these basic statistics are highly indicative of the fact that foreign shares from high-income countries have higher returns but greater risks when local banks are also in high-income countries. This might be attributed to the fact that banks have a strong learning effect as long as both foreign shares and local banks belong to the high-income group. Interestingly, foreign shares from low-income

countries seem to have little effect on local banks in any country regardless of its level of economic development.

## **5. Empirical Studies**

### **5.1 Only Parent Country of Foreign Shares--Divided into High- and Low-Income Countries**

Table 4 presents the estimated results without the host countries being classified by income level. Four dependent variables, NIM, ROA, Overhead and PLL, are used. In each equation, we classify the foreign shares on the basis of high- and low-income parent countries. The numbers in parentheses are the  $t$ -values based on the heteroscedasticity-consistent standard errors. In the first column, when NIM is employed as the dependent variable and foreign shares are from a high-income country, the coefficients of  $FS$  are negative though they are insignificant. This suggests that foreign shares from high-income countries do not affect the NIM of local banks. When foreign shares are from a low-income country, similar insignificant coefficients are found. This signifies that the presence of foreign shares, regardless of their source, does not affect NIM. These results are robust to different specifications.

Column 2 of Table 4 reports the estimated results when the dependent variable is ROA. When foreign shares are from high-income countries, the coefficients of  $FS$  are significantly positive. Hence, there is no doubt that foreign shares from high-income countries increase the ROA of local banks. The positive impact of foreign shares, however, no longer holds true when the foreign shares are from low-income countries as none of the coefficients of  $FS$  are significant. The implication here might be that not all foreign shares are beneficial but that those coupled with advanced technology could improve the profit of local banks. Thus, contrary to the efficient effect in the macro view, it is reasonable to conclude that foreign shares from high-income countries increase the profit of local banks.

The third column of Table 4 employs Overhead as the dependent variable. The coefficients of *FS* from high-income countries are significantly positive, but when *FS* are from low-income countries, the coefficients become insignificant. Thus, only foreign shares from high-income countries increase the overhead costs of local banks. One reason may be that a bank with a high number of foreign shares is more willing to recruit more highly skilled employees, to invest more in human capital or to install state-of-the-art technology, any one of which would contribute to increased overhead costs.

The last column of Table 4 employs PLL as the dependent variable. It is interesting that the coefficients of *FS* from high-income countries are significantly negative, but when the foreign shares are from low-income countries, the coefficients are significantly positive. As discussed above, the presence of foreign shares from high-income countries possibly results in cautious arm's-length lending, and this could decrease the value of non-performing loans. Also, the *FS* might be linked to advanced credit risk control technology, which would also be helpful in terms of reducing the total value of problem loans. Contrast this with foreign owners from less advanced countries who set the stage for provisions for loan loss to take care of possible relationship lending.

## **5.2 Foreign Parent and Host Countries--Divided into High- and Low- Income Countries**

In Tables 5-6, we divide the country of origin of foreign shares as well as the host countries into high- and low- income countries. Table 6 employs two dependent variables: NIM and ROA. With respect to NIM, when foreign shares are from high-income countries, the coefficients of *FS* in high- and low-income host countries are respectively 0.00006 and 0.0009, and both are significant. Thus, foreign shares from high-income countries increase local banks' NIM regardless of the level of economic development of the host countries, but the influence is greater when the host countries

are in the low-income group as the coefficients are larger. This is consistent with the results reported in the basic statistics. That is, banks with foreign shares from high-income countries do not likely enter into unusually stiff competition over the interest rate. This explains why the observed NIM is higher. When foreign shares are from low-income countries, they evidently have no effect on local banks' NIM, and the results are the same as those in the previous section.

In Table 5, ROA is used as the dependent variable. When foreign shares are from high-income countries, the coefficients of *FS* are insignificant regardless of the wealth of the host country. When foreign shares are from low-income countries, ROA decreases when the local banks are in a high-income country. Hence, foreign shares from poorer countries evidently detract from the profits of local banks in more advanced countries.

Table 6 reports the estimated results using Overhead and PLL as the dependent variables. With respect to Overhead, foreign shares, regardless of their source, are found to have no effect on the overhead costs of banks in rich host countries. By contrast, when foreign shares are from high-income countries and the banks are in poor host countries, the coefficient of *FS* is  $-0.2993$ , and this is significant. Alternatively, when the foreign shares are from low-income countries, the coefficient is  $1.3091$ , and this too is significant. In other words, when the host countries are poor, foreign shares from high-income countries decrease the overhead costs of local banks, whereas in these same countries, foreign shares from low-income countries increase their overhead costs. When the host countries are rich, foreign shares have no effect on the overhead costs of local banks. Accordingly, the economic level of development of both the foreign and host country is a crucial factor when we consider the impact of foreign shares on overhead costs.

## **6. Conclusions**

The bulk of most previous research on the role foreign shares play in the banking industry has tackled the issue from a macro perspective. This paper departs from those by establishing the groundwork for future study on the effects of foreign shares on local commercial banks. It achieves this by adopting a micro approach.

First, we only divide the sources of foreign shares into two groups: high- and low- income countries. We find that foreign shares from high-income countries do not affect NIMs; they do, however, increase ROA and Overhead Costs but decrease the number of problem loans and loan loss provisions. If ROA and problem loans are the proxies for returns and risk, respectively, then foreign shares from high-income countries increase the returns but decrease the risks of local banks. Yet, it must not be overlooked that foreign shares from low-income countries do not affect NIMs either, and they also have no effect on ROA, the number of problem loans or on Overhead Costs. On the other hand, these same shares increase loan loss provisions. Not all foreign shares, in other words, are beneficial to local banks; in fact, only when they are from high-income countries, are they actually beneficial.

We then divide not only foreign shares but also host countries into high- and low- income countries. This makes for four combinations, each of which has its own distinct impact on bank performance. First of all, foreign shares from high-income countries have some effect on banks in high-income countries, but with this combination, foreign shares only seem to increase those banks' NIM and have no effect on ROA, Overhead costs, problem loans or loan loss provisions. This is a problem because local banks in high-income countries are most probably already equipped with modern operating technology; hence, the financial performance of local banks in high-income countries reaps few rewards from foreign shares despite those shares being from high-income countries.

As for the second combination, foreign shares from high-income countries have a marked impact on banks in low-income countries. With this combination, foreign

shares increase the local banks' NIM, but they decrease their Overhead costs and number of problem loans. They have no effect, however, on ROA or on provisions for loan loss. Thus, the financial performance of local banks in poor countries does indeed benefit considerably from this particular combination of foreign shares from high-income countries with their modern operating technology.

Concerning the third combination, foreign shares from poor countries have little or no effect on banks in high-income countries. None of the coefficients are significant, which probably results, at least in part, from the fact that parent banks of foreign shares from poor countries do not likely have much modern operating technology and, as a consequence, have little or no effect on banks which do have modern technology.

Finally, as concerns the fourth combination, foreign shares from low-income countries do have notable effects on local banks in low-income countries. Under this scenario, foreign shares are found to decrease the NIM of local banks but increase their Overhead costs and the number of problem loans. They have no effect on ROA or on the provisions for loan loss. Thus, it is possible that foreign shares from poor countries without advanced technology may actually worsen the performance of banks in other poor countries.

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**Table 1. Mnemonics of Variables.**

Mnemonics	Meanings	Definitions	Source
<b>Performance Variables</b>			
NIM	Net interest margin	Net interest revenue / Total asset	Bank Scope
ROA	Return on asset	Profit / Total asset	Bank Scope
Overhead	Overhead expense ratio	Noninterest expense	Bank Scope
PLL	Provisions for loan loss ratio	Provisions for loan loss / Total assets	Bank Scope
<b>Explanatory Variables</b>			
<i>FS</i>	Foreign shareholding ratio		
<b>Bank Variables</b>			
Leverage	Leverage	Capital / Total asset	Bank Scope
Manage	Management efficiency	Earning asset / Total asset	Bank Scope
Operate	Operation efficiency	Total loan / Total deposit	Bank Scope
<b>Macro Variables</b>			
GDPper	Per capita GDP		IFS
INFLATE	Inflation rate	$100 \times (\text{CPI}_t - \text{CPI}_{t-1}) / \text{CPI}_{t-1}$	IFS
SPREAD	Interest spread	Loan rate – deposit rate	IFS
LENDING	Bank lending	Claims to the private sector by commercial banks / GDP	IFS
MAKCAP	Market capitalization	Market capitalization of stock market / GDP	WDI
STOCKRET	Stock returns		IFC

Note: IFC : Emerging Stock Market Fact Book

IFS : International Financial Statistics

WDI : World Development Indicator

**Table 2: Percentage of Foreign Banks: 46 countries**

Country	Percentage of Foreign Banks in Number	Percentage of Foreign Banks in Assets	Total Number of Banks
Argentina	0.227	0.247	132
Australia	0.329	0.075	73
Austria	0.239	0.484	88
Belgium	0.329	0.181	76
Brazil	0.226	0.243	248
Canada	0.338	0.176	71
Chile	0.208	0.230	48
Colombia	0.171	0.149	41
Denmark	0.130	0.251	77
Ecuador	0.077	0.253	78
Egypt	0.333	0.151	30
Finland	0.095	0.402	21
France	0.268	0.224	377
Germany	0.292	0.058	308
Greece	0.295	0.249	44
Hong Kong	0.315	0.629	73
India	0.110	0.045	82
Indonesia	0.274	0.128	117
Ireland	0.614	0.239	57
Israel	0.200	0.099	30
Italy	0.077	0.023	209
Japan	0.031	0.011	319
Jordan	0.417	0.054	12
Kenya	0.200	0.378	60
Korea	0.050	0.059	60
Mexico	0.206	0.300	68
Netherlands	0.462	0.082	78
New Zealand	0.421	0.538	19
Nigeria	0.200	0.071	75
Pakistan	0.440	0.198	25
Peru	0.500	0.679	44
Philippines	0.310	0.360	58
Portugal	0.264	0.295	53
Singapore	0.237	0.020	38
South Africa	0.082	0.001	49
Spain	0.248	0.071	161
Sri Lanka	0.118	0.006	17
Sweden	0.000	0.000	30
Switzerland	0.383	0.027	266
Taiwan	0.058	0.076	52
Thailand	0.222	0.052	27
Turkey	0.984	0.117	17
UK	0.377	0.090	252
USA	0.074	0.074	501
Venezuela	0.159	0.348	63
Zimbabwe	0.323	0.462	31

**Table 3. Foreign Bank Profitability in Percentage: 46 countries**

		NIM	ROA	Overhead	PLL
Panel A. High Income	Source of FS				
Australia	Low	0.1001	-1.4307	0.0064	0.1546
	High	0.8999	2.4307	0.9936	0.8454
Austria	Low	0.4653	0.4197	0.0047	0.6762
	High	0.5347	0.5803	0.9953	0.3238
Belgium	Low	0.0899	0.2313	0.0121	0.1298
	High	0.9101	0.7687	0.9879	0.8702
Canada	Low	0.2457	0.0008	0.1221	0.2982
	High	0.7543	0.9992	0.8779	0.7018
Denmark	Low	0.2312	0.0359	0.0549	0.3652
	High	0.8605	0.9463	0.8892	0.6289
Finland	Low	0.0625	0.0782	0.0625	0.2561
	High	0.9211	0.8629	0.8521	0.7425
France	Low	0.3639	0.0935	0.0689	0.1899
	High	0.6361	0.9065	0.9311	0.8101
Germany	Low	0.3622	0.1481	0.2336	0.3035
	High	0.6378	0.8519	0.7664	0.6965
Hong Kong	Low	0.4926	0.8227	0.0996	0.3385
	High	0.5074	0.1773	0.9004	0.6615
Ireland	Low	0.2446	0.0530	0.4115	0.0790
	High	0.7554	0.9470	0.5885	0.9210
Israel	Low	0.0764	0.2053	0.0618	0.4320
	High	0.8556	0.5264	0.7624	0.7425
Italy	Low	0.0688	-0.0005	0.0188	0.0174
	High	0.9312	1.0005	0.9812	0.9826
Japan	Low	0.2141	0.4516	0.1919	0.1975
	High	0.7859	0.5484	0.8081	0.8025
Netherlands	Low	0.2877	0.0849	0.2549	0.1055
	High	0.7123	0.9151	0.7451	0.8945
New Zealand	Low	0.3261	0.3221	0.3462	0.2152
	High	0.8752	0.7942	0.6822	0.8823
Portugal	Low	0.2796	0.0006	0.2640	0.3200
	High	0.7204	0.9994	0.7360	0.6800
Singapore	Low	0.6592	-0.0047	0.9549	0.7285
	High	0.3408	1.0047	0.0451	0.2715
Spain	Low	0.2838	0.0129	0.0514	0.2221
	High	0.7162	0.9871	0.9486	0.7779
Sweden	Low	0.3256	0.4456	0.7625	0.3365
	High	0.8522	0.5568	0.3462	0.7452
Switzerland	Low	0.3065	0.8461	0.7695	0.1385
	High	0.6935	0.1539	0.2305	0.8615
UK	Low	0.3993	0.3225	0.2197	0.6965
	High	0.6007	0.6775	0.7803	0.3035
U.S.A.	Low	0.1887	1.5944	0.3815	0.0943
	High	0.8113	-0.5944	0.6185	0.9057
Panel B. Upper Middle					
Argentina	Low	0.1928	0.1781	0.0328	0.0508
	High	0.8072	0.8219	0.9672	0.9492
Brazil	Low	0.1064	0.2219	0.0075	0.1905
	High	0.8936	0.7781	0.9925	0.8095

Chile	Low	0.2952	0.0316	0.2413	0.3010
	High	0.9201	0.7805	0.9125	0.6826
Greece	Low	0.2461	0.0453	0.4213	0.4790
	High	0.8220	0.5672	0.6762	0.6745
Korea	Low	0.6815	0.6082	0.9195	0.7111
	High	0.3185	0.3918	0.0805	0.2889
Mexico	Low	0.1843	0.4436	0.0174	0.1499
	High	0.8157	0.5564	0.9826	0.8501
South Africa	Low	0.4961	0.2472	0.0342	0.4304
	High	0.7251	0.9760	0.8486	0.7682
Taiwan	Low	0.4369	0.8357	0.1085	0.3452
	High	0.8921	0.7785	0.8152	0.6485
Panel C. Lower Middle					
Colombia	Low	0.2518	0.1882	0.0528	0.0307
	High	0.8769	0.7672	0.7762	0.6459
Ecuador	Low	0.0445	0.0365	0.0593	0.2645
	High	0.9555	0.9635	0.9407	0.7355
Indonesia	Low	0.4371	0.7158	0.6513	0.5221
	High	0.5629	0.2842	0.3487	0.4779
Jordan	Low	0.271	0.6053	0.1522	NA
	High	0.729	0.3947	0.8478	NA
Peru	Low	0.5723	0.9658	0.3896	0.5726
	High	0.4277	0.0342	0.6104	0.4274
Philippines	Low	0.4648	0.0852	0.1908	0.2811
	High	0.5352	0.9148	0.8092	0.7189
Thailand	Low	0.5813	0.9832	0.6099	0.9107
	High	0.4187	0.0168	0.3901	0.0893
Turkey	Low	0.5408	1.0206	0.0195	0.0959
	High	0.4592	-0.0206	0.9805	0.9041
Venezuela	Low	0.5805	0.0008	0.6949	0.7781
	High	0.4195	0.9992	0.3051	0.2219
Panel D. Low Income					
Egypt	Low	0.5233	0.6682	0.4887	0.4736
	High	0.5380	0.8415	0.8970	0.7185
India	Low	0.4096	0.2477	0.0542	0.3304
	High	0.5904	0.7523	0.9458	0.6696
Kenya	Low	0.2160	-0.1895	0.1354	0.0270
	High	0.7840	1.1895	0.8646	0.9730
Nigeria	Low	0.3690	0.2021	0.2180	0.5710
	High	0.6310	0.7979	0.7820	0.4290
Pakistan	Low	0.5048	0.0753	0.2008	0.3811
	High	0.4769	0.6673	0.7872	0.5649
Sri Lanka	Low	0.2900	0.2314	0.2208	0.5413
	High	0.6502	0.7209	0.7520	0.5690
Zimbabwe	Low	0.5575	0.1966	0.6661	0.5214
	High	0.4425	0.8034	0.3339	0.4786

**Table 4: Performance of Banks: Sources of Foreign Shares Differ**

	NIM	ROA	Overhead	PLL
<b>Foreign Shares are from HIC</b>				
Constant	0.6882*** (13.202)	0.1179 (0.542)	202.5183 (1.639)	-0.0032 (-0.666)
FS	-0.0036 (-0.761)	0.0370 (0.941)	130.6544* (1.933)	-0.0038** (-1.960)
Leverage	-0.0476** (-2.188)	0.1813* (1.865)	-89.5133 (-0.661)	-0.0016 (-0.305)
Manage	-0.6772*** (-11.295)	-0.1067 (-0.781)	59.637 (0.400)	0.0118** (2.175)
Operate	0.000005 (0.279)	0.00001 (0.204)	-0.6039*** (-3.876)	-0.000006* (-1.662)
Proloan	0.000002*** (6.063)	-0.000001 (-0.256)	-0.0016*** (-2.767)	-0.000000005 (-0.467)
<b>Foreign Shares are from LIC</b>				
Constant	0.0336 (1.586)	-1.2374 (-1.318)	1731.0719*** (2.972)	-0.0211 (-1.064)
FS	0.0035 (0.682)	-0.4327 (-1.271)	-163.7700 (-1.572)	0.0120** (2.314)
Leverage	-0.0707*** (-2.708)	-0.3513 (-0.859)	286.5934** (2.153)	-0.0129 (-0.768)
Manage	0.0613* (1.834)	2.0199 (1.486)	-1796.4781*** (-2.861)	0.0183 (1.135)
Operate	-0.0016*** (-13.957)	-0.0002 (-0.184)	0.6751 (1.445)	-0.00003 (-0.536)
Proloan	0.0141 (1.083)	0.1017 (0.255)	-356.2495*** (-2.912)	0.0720** (2.135)
<b>Macro and Financial Market Variables</b>				
Inflation	0.0005 (0.611)	-0.0460 (-1.490)	1.9106 (0.325)	0.0017*** (4.549)
GDPper	-0.0001 (-0.136)	0.0139 (0.638)	-4.7576 (-0.733)	-0.0006* (-1.916)
Spread	-0.0007* (-1.860)	0.0026 (0.857)	-0.2407 (-0.111)	-0.0002* (-1.691)
Makcap	0.00001 (0.525)	0.0004 (0.859)	0.0011 (0.002)	-0.000005 (0.468)
Lending	-0.0001** (-2.035)	-0.0008 (-0.769)	2.4040*** (3.026)	0.00002 (1.236)
Stock return	-0.00008 (-0.813)	-0.0031 (-0.734)	2.4647** (1.995)	-0.00007* (-1.748)
Obs	743	650	743	731
R*2	0.8938	0.0737	0.0528	0.3588

The t-values are reported in parentheses. \*, \*\* and \*\*\* denote significance at the 10%, 5% and 1% level, respectively.

**Table 5: Both Foreign Shares and Host Countries Differ (I): NIM & ROA**

	NIM		ROA	
	HIC	LIC	HIC	LIC
<b>Foreign Shares are from HIC</b>				
Constant	-0.0114 (-0.696)	0.6750*** (7.201)	0.3397 (0.781)	0.1123 (0.230)
<i>FS</i>	0.00006* (1.948)	0.0009*** (2.781)	-0.0017 (-1.173)	0.0026 (0.741)
Leverage	0.0057 (0.617)	-0.2311*** (-4.109)	0.1670*** (2.745)	0.6488 (1.467)
Manage	0.0285 (1.336)	-0.5824*** (-6.221)	-0.402 (-1.105)	0.1782 (0.516)
Operate	-0.00001 (-1.393)	-0.0028* (-1.867)	0.0001*** (2.794)	0.0044 (0.471)
Problolan	0.0028 (0.570)	0.000002* (1.937)	0.9805* (1.717)	0.000001 (0.339)
<b>Foreign Shares are from LIC</b>				
Constant	-0.0080 (-0.678)	0.0770 (1.197)	-0.3867* (-1.842)	-4.555 (-1.265)
<i>FS</i>	0.00003 (0.662)	0.0002 (1.184)	-0.0009 (-0.948)	-0.0105 (-1.354)
Leverage	0.0151 (1.149)	-0.1082*** (-2.950)	-0.1259 (-1.009)	-1.4541 (-1.253)
Manage	-0.002 (-0.146)	0.0809 (0.971)	0.2790 (1.298)	6.8905 (1.453)
Operate	0.0257*** (4.511)	-0.0016*** (-10.233)	0.3749*** (3.730)	-0.0006 (-0.335)
Problolan	0.0244* (1.936)	-0.0056 (-0.231)	0.0986* (1.775)	1.2128 (1.142)
<b>Macro and Financial Market Variables</b>				
Inflation	0.0012*** (3.546)	0.0019 (1.394)	0.0039 (0.884)	-0.0699 (-1.641)
GDPper	-0.0003 (-1.368)	-0.0016 (-0.987)	-0.0014 (-0.457)	0.0199 (0.653)
Spread	0.0007 (1.057)	-0.0017** (-2.365)	0.0192* (1.834)	-0.0063 (-1.241)
Makcap	0.00002** (1.057)	-0.0003 (-0.793)	0.0003 (1.441)	0.0036 (0.910)
Lending	-0.00006*** (-4.132)	-0.0007*** (-2.938)	-0.0002 (-0.481)	-0.0102* (-1.699)
Stock return	0.00006* (1.835)	-0.0001 (-0.629)	-0.0002 (-0.425)	-0.0081 (-1.098)
Obs	370	215	328	179
R*2	0.1441	0.8944	0.1176	0.1229

The t-values are reported in parentheses. \*, \*\* and \*\*\* denote significance at the 10%, 5% and 1% level, respectively.

**Table 6: Both Foreign Shares and Host Countries Differ (II) : Overhead & PLL**

	Overhead		PLL	
	HIC	LIC	HIC	LIC
<b>Foreign Shares are from HIC</b>				
Constant	6292.6165*** (4.200)	181.0768 (1.521)	-0.0026 (-0.250)	-0.0193* (-1.858)
<i>FS</i>	-0.3931 (-0.247)	-2.9934*** (-3.410)	-0.000004 (-0.335)	-0.0001 (-0.722)
Leverage	-164.8429 (-0.632)	295.2720*** (2.662)	-0.0065 (-1.198)	0.0078 (0.470)
Manage	-6511.7370*** (-4.324)	74.6807 (0.807)	0.0152 (1.086)	0.0129 (0.265)
Operate	-0.2747 (-1.253)	-0.7278 (-0.227)	-0.00001** (-2.445)	0.0001 (0.273)
Probloan	-125.5769 (-0.372)	0.0014 (1.626)	0.0077 (0.736)	0.0000004 (0.446)
<b>Foreign Shares are from LIC</b>				
Constant	1326.3134 (1.313)	328.3166* (1.807)	0.0072 (1.101)	-0.0072 (-0.146)
FS	2.5156 (0.985)	1.3091*** (2.603)	-0.00001 (-0.186)	0.0001 (0.916)
Leverage	390.6919 (0.907)	289.7095*** (3.605)	-0.0153 (-1.371)	-0.0293 (-1.449)
Manage	-1948.9031* (-1.727)	-597.9039*** (-2.678)	0.0143 (1.141)	-0.0134 (-0.285)
Operate	-72.4013 (-0.269)	0.4467** (2.239)	-0.0011 (-0.284)	-0.0001 (-1.356)
Probloan	-618.1298*** (-2.601)	-60.8547 (-0.803)	0.0040 (0.160)	0.1206*** (2.908)
<b>Macro and Financial Market Variables</b>				
Inflation	1.5223 (0.057)	-3.0004 (-0.576)	0.0002 (0.903)	0.0022*** (3.598)
GDPper	-13.7841 (-0.663)	3.6263 (0.596)	-0.0003*** (-2.843)	-0.0007 (-1.014)
Spread	75.6885 (1.340)	0.6753 (0.453)	-0.0002 (-0.526)	0.0001 (0.408)
Makcap	-0.4347 (-0.608)	-1.0676** (-2.204)	-0.000005 (-0.868)	0.0005 (0.609)
Lending	2.3165** (2.126)	0.9021 (0.921)	-0.0000000004 (-0.000005)	0.0003** (1.978)
Stock return	4.1731 (1.052)	0.6500 (1.011)	-0.000004 (-0.214)	-0.0001** (1.990)
Obs	370	215	368	208
R*2	0.1150	0.1561	0.0516	0.5452

The t-values are reported in parentheses. \*, \*\* and \*\*\* denote significance at the 10%, 5% and 1% level, respectively.