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Abstract

When do foreign banks have an advantage operating abroad and when not? Studying the performance of foreign banks in a large number of countries between 1999 and 2006, we find that this crucially depends on a number of factors. Specifically, foreign banks tend to perform better compared to domestic banks when coming from a high income country, but worse when coming from a developing country. Foreign banks tend to outperform domestic banks when competitiveness in the host country is limited. And foreign banks from source countries geographical or cultural close to the host country perform better than distant foreign banks. These findings show that it is important to control for heterogeneity among foreign banks when studying their performance and help reconcile some contradictory results found in the literature.

JEL Classification Codes: F21, F23, G21
Keywords: foreign direct investment, international banking, performance, distance

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1. Introduction

Banking has increasingly become more globalized, driven by deregulation, advances in communications technology and more general economic integration. As a result, academics and policymakers are keenly interested in the functioning of foreign banks in host countries. While many studies have compared the performance of foreign banks to that of domestic banks, studies have also found different results.[1] One reason for these differences may be that whether being a foreigner is a liability or an asset depends on circumstances that influence a particular foreign bank's ability to do business in a particular host country. However, few studies have tried to analyse the role of such factors. This paper attempts to shed light on some key factors.

Foreign banks can have a number of advantages compared to domestic banks. By servicing the same clients active in more than one country they may achieve efficiency gains. In addition, they may achieve efficiency gains by spreading best-practice policies and procedures over more than one country. Furthermore, they might be able to diversify risk better, allowing them to undertake higher risk, but also higher return projects. For example, foreign banks may have the advantage of more diversified funding bases, including having access to external liquidity from their parent banks, which lowers their deposit costs. Moreover, by being larger, they may achieve other scale advantages; for example, they can more likely afford sophisticated risk models which gives them superior risk management skills. At the same time, foreign banks are likely to incur additional costs compared to domestic banks. They may have less information compared to local banks on how to do business in a foreign country, putting them at a disadvantage. Furthermore, foreign banks might be exposed to discrimination by host country government and customers. And diseconomies might arise because of difficulties to operate and monitor from a distance. Depending on which effects are stronger, foreign banks may perform better or worse compared to domestic banks in their host country.

Earlier studies focus on the US and find that foreign owned banks perform significant worse than domestic banks (see, among others, DeYoung and Nolle 1996, and Mahajan, Rangan and Zardkoohi 1996). Using data from other industrialized countries, studies find either no differences between the performance of foreign and domestic banks (Vander Vennet 1996; Hasan and Lozano-Vivas 1998) or better performance by domestic banks (Sturm and Williams 2004). When studying foreign banks in developing countries, results vary as well. A number of studies other find, however, that foreign banks outperform domestic banks (Grigorian and Manole 2006; Berger, Hasan and Zhou 2009). Others find the opposite result (Nikiel and Opiela 2002; Yildirim and Philippatos 2007). And a third group finds no significant difference between domestic and foreign banks (Crystal, Dages and Goldberg 2001; Mian 2003).

[1] See Berger (2007) for an extensive survey of the literature.

It is possible that these different results are the consequence of different sample periods and different econometric techniques, but this unlikely explains all differences. Indeed, several studies suggest that host and home country characteristics play an important role as well. Berger, DeYoung, Genay and Udell (2000) find that, for the five industrialized countries they study, the performance of foreign banks compared to their domestic counterparts to depend on the country of origin of the foreign bank. Claessens, Demirguc-Kunt and Huizinga (2001) and Micco, Panizza and Yanez (2006) find that foreign banks tend to have lower profits than domestic banks in developed countries, but the opposite is true in developing countries, suggesting that the advantages of being foreign do not offset the costs as much in industrialized compared to in developing countries. And, using data for 13 (mostly developed) host countries, Miller and Parkhe (2002) find some evidence that the performance of a foreign bank is influenced by the competitiveness of both home and host countries.

In addition to home and host country characteristics, it is possible that cultural, geographical or institutional distance might impact the relative performance of foreign banks. Distance in the various dimensions between borrower and lender increases not only transaction costs, but also the information asymmetries a bank faces in its lending and borrowing decisions and therefore likely affects its profitability. Mian (2006) finds that foreign banks that are geographically close to the host country are better able to deal with local (soft) information. Berger, Klapper and Udell (2001) find similar results, with foreign banks with parents in other Latin American countries more likely to lend to small, informational opaque Argentine firms than other foreign banks do. Correa (2008) finds that in industrialized countries the post-acquisition performance of cross-border banks is higher when host and home country share the same language but lower when they share the same legal system. And, as an example from capital markets on the importance of distance, Coval and Moskowitz (2001) show that geographical proximate fund managers are better equipped to earn substantial abnormal returns in nearby investments.

By examining the relative performance of foreign banks in a large group of developing countries over the period 1999-2006, this study systematically analyzes which factors have an important impact on the advantage or disadvantage of being foreign. The large number of countries in our database enables us to exploit the variation in host country and source country characteristics and the distance between the two. In addition, the panel structure of our data allows us to disentangle possible differences in short and long-term effects of foreign ownership. We find that the location of the parent bank, the competitiveness in the host country and the geographical and cultural distance between host and home countries are important factors explaining the relative performance of foreign banks.

Our work adds to the literature in several ways. Most importantly, it extends the literature on the performance of foreign banks by documenting some of the factors that impact a foreign bank's ability to operate in a host country. As such, it provides an explanation for some of the contradicting results found in the literature. Second, by studying how distance influences the performance of foreign

banks, our study contributes to this rapidly widening literature on the impact of distance on the activities and performance of financial intermediaries. This includes studies that find evidence of the considerable impact of distance on international investment decisions (Buch (2003), loan rates (DeGryse and Ongena 2005), lending decisions (Mian 2006) and bank branching (Grosse and Goldberg 1991). Third, most studies focus only on one or a small group of (developed or developing) countries, with most notably exceptions, such as Claessens, Demirguc-Kunt and Huizinga (2001) and Micco, Panizza and Yanez (2006), whereas our results reflect evidence from a large number of countries. Fourth, our study considers the dynamics behind the performance of foreign banks, which has received limited attention in the literature, with a few notable exceptions (such as Majnoni, Shankar and Varheghi 2003 and Berger, Clarke, Cull, Klapper and Udell 2005).

We organize the rest of the paper as follows. The next section reviews the theoretical predictions regarding the factors that will affect the advantages and disadvantages of being foreign and the resulting impact of being foreign on profitability. Section 3 introduces the data and discusses the empirical methodology we employ. Section 4 shows and discusses the empirical results. Section 5 concludes.

2. Theoretical predictions

If the advantages of being foreign outweigh the disadvantages, foreign banks should outperform domestic banks. If the opposite is the case, domestic banks should perform better than their foreign counterparts. As some previous studies find different results this may be because a number of factors influence the extent to which being foreign is an asset or a liability. The literature provides suggestions for several factors that could potentially have an impact.

Home country characteristics

Berger, DeYoung, Genay and Udell (2000) find for a number of OECD countries that on average domestic banks are more efficient than foreign banks are but that these aggregate results mask considerable heterogeneity across foreign banks. Their results suggest that only some banks from a limited number of countries with specific favourable market or regulatory/supervisory conditions can outperform domestic banks in their host countries. They however do not provide an answer as to which home market conditions might give these banks an advantage.

A first factor that might have a positive impact on the performance of a foreign bank is the overall development of the home market. For example, the fact that the labour force is highly educated makes it easier for a bank to adopt new risk management techniques, new financial instruments and new technologies (Berger, DeYoung, Genay and Udell 2001). Furthermore, more advanced countries in general will have well developed regulatory systems, including a relatively strong safety net. This allows banks to undertake higher risk-higher return projects including investing in another country.

In addition, the degree of competition in the home country might provide foreign banks with an advantage in their host country. As in other industries, the degree of competition in the financial sector can affect the efficiency of the production of services, the quality of products, and the degree of innovation in that sector. A bank that has learned to work in a competitive environment with demanding customers in its home country has learned to innovate, pursue new business segments and adjust to changing circumstances (Aghion and Howitt 1998). Greater competition at home can thus lead to more efficient operations abroad.

Host country characteristics

In some type of countries it might be easier for foreign banks to acquire market share and thus perform better. As Claessens, Demirguc-Kunt and Huizinga (2001) point out in countries where the banking sector is inefficient, banking practices are outmoded and credit is not allocated based on commercial criteria, foreign banks might be able to reap higher profits than domestic banks. In addition, the development of the financial sector could have an impact on the performance of a foreign bank. In a country where a large part of the population does not yet have access to financial services it is easier to gain market share and therefore likely easier to make a higher profit. In contrast, in countries with a well developed banking sector, both domestic and foreign participants may be sophisticated. Even when foreign banks have technical advantages, they might not be enough to offset the informational disadvantages they face relative to domestic banks. Furthermore, in a market that is highly competitive it might be more difficult for a foreign bank to outperform domestic banks operating in the country as profit margins are small.

Distance

Distance might also have an impact on the benefits and costs of being foreign. The theory of financial intermediation (Diamond 1984, Boyd and Prescott 1986, Boot and Thakor 1997) builds on the notion that intermediaries serve to reduce transaction costs and information asymmetries. However, the severity of the asymmetric problem itself may be a function of distance (Hauswald and Marquez 2006). As such, it would be harder to make profitable investments when distance is large. Results from Coval and Moskowitz (2001) support this idea. They find that in the mutual funds sector, where information is a lot less opaque and agency issues less severe compared to banking, managers still earn substantial abnormal returns in investments that are geographically close.

Distance can also impact a foreign bank's performance as it may impede the flow of information within the bank. In a theoretical model Stein (2002) shows that greater distance decreases the incentives of a bank manager to collect soft information. Mian (2006), using data for Pakistan, tests this theory, arguing that distance is especially large for foreign banks as loan officer and CEO reside in different countries. He shows that greater cultural distance makes it more costly for foreign banks to collect and communicate soft information. Similar Berger, Klapper and Udell (2001) find that

foreign banks that are culturally close have less problems extending loans to opaque small Argentine firms than culturally distant foreign banks. These results suggest that distance can have a potentially strong impact on the performance of foreign banks. Especially when bank activities require local knowledge (like local deposit taking or lending to SMEs) it can be expected that domestic banks that are familiar with local customs and better equipped to find (soft) information outperform foreign banks.

Finally, distance can affect the performance of a foreign bank as it may increase the cost of management or reduce efficiency in other ways. Berger and DeYoung (2001, 2006) find that distance determines the effectiveness of internal control mechanisms within bank holding companies. In addition, research on the barriers faced by foreign owned institutions suggests that distance and cultural differences deter cross-border M&As (Buch and DeLong 2004).

In summary, theory predicts that distance between host and source country has a negative impact on the performance of a foreign bank compared to its domestic counterparts. Information availability in the host country, experience and bank activities may affect the strength with which distance influences performance.

3. Data and Empirical Methodology

Basic Data Description

We use a newly constructed database on bank ownership (see Claessens, Van Horen, Gurcanlar and Mercado 2008 for a complete description of the database). The database contains ownership and balance sheet information of banks in all developing countries over the period 1995-2006.[2] The coverage is comprehensive, with in the latter part of the period banks included roughly accounting for 90 percent or more of the banking system assets in each country. The database includes all currently and past active commercial banks that are or have been reporting to Bankscope during the sample period.[3] For each bank, we determine the year of its establishment and, if applicable, the year it became inactive. We treat mergers and acquisitions carefully to avoid double counting.

An important feature of the database is that for each year the bank is active over the period 1995-2006 its ownership is determined. Furthermore, if a bank is foreign owned, the country of residence of the owner is tracked. As such the database allows us to look at the impact of home and host country characteristics as well as linkages between these countries on the performance of foreign banks. We use the definition generally applied in the literature on foreign banking (e.g., Clarke, Cull,

[2] The databases does not include countries with less than five active banks in Bankscope.

[3] The full database also includes saving banks, cooperatives, bank holding companies and long term credit banks, however to keep the banks in the database as homogeneous as possible we only use commercial banks in this paper. Commercial banks account for 90% of all the banks in the database.

Martinez Peria and Sanchez 2005; Claessens, Demirguc-Kunt and Huizinga 2001) and consider a bank as foreign owned if 50 percent or more of its shares is owned by foreigners. To determine the home country of ownership, we sum the percentages of shares held by foreigners by the country of residence, with the country with the highest percentage of shares then considered the home country. Ownership is based on direct ownership, i.e., we do not consider indirect ownership. However, when the direct owner is an entity just established for tax purposes, we do not use the direct, but rather the relevant next level of ownership.

To track ownership and changes therein we use as our primary source the information available in Bankscope. We complement this information, however, with information from several other sources, including individual banks' websites and annual reports, parent companies websites, banking regulatory agency/Central Bank websites, reports on corporate governance, local stock exchanges, SEC's Form F-20, and country experts. Through extensive searches we are able to obtain ownership information for almost 95 percent of the banks in our sample for the entire period in which they were active.[4] Balance sheet information of the banks in the database is collected from Bankscope.

Although the database covers almost all developing countries, for our purposes it is preferable to only use a subset of countries. When testing how ownership affects performance in a multi-country setting one has to deal with an endogeneity problem. The decision of a bank to enter a certain country is conditional on the state of the local market (structure and concentration of the banking system, general profitability, quality of regulation and supervision, the contracting environment, etc.). As such, a selection bias can exist with foreign banks seeking out those markets where they can operate best. Most of this bias, however, can be overcome by including country control variables and having a control group of local banks. Therefore, in order to limit the endogeneity bias, we only include countries that are sufficiently open for foreign entry (at least 3 foreign banks are active over the entire sample period) and for which there is a large enough control group of domestic banks (at least 3 domestic banks are active over the entire sample period). These two conditions would limit our sample to only 33 countries. However, if we shorten the time period from 1999-2006 our subsample includes 51 countries.[5] By shortening the time period we do not lose much information as balance sheet information is rather scarce between 1995 and 1999. In our robustness tests we will show that our results are robust to different samples though.

Table 1 provides a list of all the countries in our sample. Even when using a sub-sample our database includes a wide variety of income levels. Ten countries are low income, 26 lower middle

[4] While our coverage is good, there are data limitations. For example, some foreign shareholders are trusts that hold shares on behalf of investors, which may or may not be foreigners, but available data do not provide this information.

[5] Zimbabwe also qualified, but as the economic situation in this country deteriorated so rapidly in the last few years we exclude it from the sample.

income and 15 countries are upper middle income countries.[6] The table shows the size of the banking system of each country in terms of number and total assets in 1999 and 2006. In addition, it shows the relative importance of foreign banks in the country. Countries vary substantially in size of the financial system and importance of foreign banks. In 1999 the number of banks ranges from the minimum number of 6 in Angola to 226 in Russia. In 2006 Cameroon and Trinidad and Tobago have the smallest number of banks (9), while Russia is still front runner with 203 banks. The relative size of the banking sector and its growth over time in terms of assets should be interpreted carefully as asset information is not always available (especially in 1999). Based on our information, Tanzania has the smallest and China the largest banking sector in 1999. In 2006, Armenia has the least assets while China again topped all countries with a vast margin. In terms of number of banks, the relative importance of foreign banks ranges in 1999 from 9% (India and Serbia and Montenegro) to 81% (Hungary) and in 2006 from 10% (China) to 84% (Hungary and Romania). In terms of assets the relative importance of foreign banks ranges in 1999 from 0% (which indicates missing information, i.e., is fictive) to 93% in Hungary. In 2006 the assets of foreign banks surpass 90% of total assets in four Eastern European countries (Bosnia & Herzegovina, Croatia, Hungary and Romania).

Home and host country characteristics

To capture the overall level of development of the home and host country we use GDP per capita (*gdpcap*). In addition, to see if it matters whether the parent bank is located in a high-income or a developing country we construct a dummy variable *developing*. This dummy is one if the foreign bank is from a developing country and zero if from a high income country. The division between developing and high income is based on the World Bank classification in 2006. To capture potential differences between the performance of foreign banks in low income and middle income countries we construct a dummy variable *low* which is one if the host country is a lower income country based on World Bank 2006 definitions. To measure financial development (*findev*) in the host country we use a simple measure often applied in the literature: M2 divided by GDP.

Measuring competition, however, is less straightforward. As Claessens and Laeven (2004) point out competitiveness of an industry cannot be measured by market structure indicators or performance measures alone. In order to capture the degree of effective competition it is preferable to use a structural model. As such we use their measure of competitiveness: the *H*-statistic based on the Panzar Rosse (1987) methodology. The Panzar Rosse *H*-statistic is calculated per country from reduced-form bank revenue equations and measures the sum of the elasticities of the total revenue of the banks with respect to their input prices. $H<0$ indicates a monopoly, $H=1$ reflects perfect competition and $0<H<1$ indicates monopolistic competition. As calculation is very data intensive the *H*-statistic is not time-varying and can only be calculated for a select number of countries (50 in total).

[6] As defined by the World Bank in 2006.

As a result, in the regressions where we examine the impact of competition in host and home country on the performance of foreign banks our sample will be reduced. For the exact calculation of the *H*-statistics and the countries for which the statistic is available, see Claessens and Laeven (2004).

Measuring Distance

There are different ways one can measure distance. The measure most commonly used in the literature captures geographical or cultural distance.[7] We proxy this type of distance by two dummies. Following Mian (2006) one of the dummies, *samereg*, equals one if host and source country are located in the same region (as defined by the World Bank).[8] The other, *comlang*, equals one if both countries share the same language

Distance can also be measured by the difference in institutional quality between host and home country. As banking is a highly institutionally sensitive activity, familiarity to deal with the institutional environment likely affects the ease with which a bank can use available information. A number of studies have found that institutional similarity matters in the location decisions of foreign banks (Galindo, Micco and Serra; Claessens and Van Horen 2008). We create a dummy variable, *instfam*, that captures institutional distance between source and host countries. The variable is based on the governance indicators of Kaufmann, Kraay and Mastruzzi (KKM, 2008). The KKM-indicators measure six dimensions of institutional quality: (1) voice and accountability, (2) political instability and violence, (3) government effectiveness, (4) regulatory quality, (5) rule of law and (6) control of corruption. For each dimension, indexes range from -2.5 to 2.5 with higher values indicating a better institutional environment.[9] We take the simple average of these six governance indicators and then calculate the absolute difference between the institutional quality in host and source country. When the difference between host and home country is smaller than the median difference *instfam* has a value one, if it is higher it is zero. We expect the relative performance of foreign banks to be better when geographical and cultural or institutional distance between host and home country is small.

Empirical methodology

There are several dimensions by which to study the performance of foreign banks. We opt for a very straightforward one and study the impact of bank ownership on the profitability (as measured by profit

[7]In general geographical distance is highly correlated with cultural difference, so we treat geographical and cultural distance as synonym.

[8] The World Bank categorizes developing countries in six regions, that is Eastern Europe and Central Asia, Latin America and the Caribbean, Sub-Saharan Africa, Middle East and Northern Africa, East Asia and Pacific and South Asia. We employ these same regions and add one: high income-OECD countries. This leaves us with a group of non-developing non-OECD countries. These countries are added to one of the regions based on their location.

[9] The measures are currently collected on an annual basis, but before 2002 only on a bi-annual basis. We use the value of the previous year for the years in which no indicator is available.

before taxes divided by total assets) of a bank. More specifically we use a panel model relating performance to bank ownership, the abovementioned interaction variables and a number of controls. We use country-year fixed effects to control for unobserved country characteristics that are allowed to vary over time. This way we can estimate whether in a given country foreign banks tend to outperform domestic banks. Our model thus already controls for those country characteristics that have proven to have explanatory power for bank performance, such as the general level of development, financial depth, banking market structure, the quality of information infrastructure, property rights and aspects of macro-economic policy of the country. Furthermore, this way we control for (country dependent) variation in profitability over time due to, for example, interest rate cycles and macroeconomic cycles.

We do, however, include a number of bank level controls. We include size of the bank measured by the share of the domestic banking market it captures (*share*). We expect larger banks in general to perform relatively well compared to smaller foreign banks. In addition we control for the loan to asset ratio (*loan*) and the deposit to asset ratio (*deposit*) to account for the fact that the average performance of different types of banks might vary. Furthermore, we control for the leverage of the bank (*leverage*) defined as equity divided by assets. Furthermore, we include a dummy (*public*) which is one if a domestic banks is majority owned by the government as to control for the fact that government owned banks tend to be relatively weak performers. Finally, we include a dummy variable, *problembank*, which is one if the bank (foreign or domestic) has exited the market within four years after entry.[10] Banks that exit the market soon after entry are likely banks that have underperformed. Not correcting for this could potentially bias the estimation. Table 2 reports the summary statistics of all the variables employed in the empirical specifications. The Appendix Table 1 provides a complete description of all variables used.

To summarize, we test what factors affect the profitability of foreign banks using the following specification:

$$\prod_{ict} = \alpha_0 + \beta_1 Own_{ict} + \beta_2 Own_{ict} * F_{ict} + \gamma_1 ' X_{ict} + \varepsilon_{ict} \qquad (1)$$

where $\prod_{ict}$ is profitability of bank i, in country c at year t. j indicates the home country of the foreign bank. *Own* is the ownership dummy, which is one if the bank is foreign owned. F_{ict} represents one of the factors (distance, home or host country characteristics) that might explain the differential impact of foreign ownership on profitability. X_{ict} is a vector of bank level variables. We estimate the model using OLS. All standard errors are robust and allow for clustering at the country level. We weigh the observations with the weights equal to the inverse of the number of banks in the host country to prevent any bias due to differences in market size. As in the first years after starting up a bank or

[10] For the banks that entered after 2002 we do not know whether they are "problem" banks or not. In our regressions we err on the side of caution and include these banks in the group of "problem" banks. However, our results are robust to including these banks in the group of normal banks.

acquiring an existing bank the profitability likely is affected by start-up costs we exclude observations in the first 2 years the (foreign or domestic) bank is active.

4. Empirical Results

Individual country regression

Before examining which factors can explain the cost of being foreign, we first look at individual country results. This enables us to see if indeed differences exist between countries with respect to the performance of foreign banks. For the individual country regressions we apply model (1) without country-year fixed effects but with year fixed effects

Results are summarized in Table 3. The table divides the countries in our sample in 4 groups. The first group (upper left quadrant) consists of countries for which the impact of ownership is positive and significant. In these countries foreign banks are on average more profitable than domestic banks. The second group (upper right quadrant) contains countries with a positive but insignificant parameter for ownership. Countries in which domestic banks tend to outperform foreign banks (negative and significant sign for ownership) are located in the lower left quadrant. The last group (lower right quadrant) displays those countries for which ownership has a negative sign but is insignificant.

The table indicates that in our group of 51 countries, all four cases occur. Foreign banks are performing better than domestic banks in 15 countries and worse in 8 countries. In the majority of countries there does not seem to be a significant difference between domestic and foreign banks. Of this group ownership has a positive sign in 13 countries and a negative sign in 15 countries.

These results reinforce the results of previous studies: when looking at aggregate data there is no straightforward relationship between bank ownership and performance. Apparently under some conditions being a foreigner is an asset, in some cases it is a liability and sometimes ownership just does not matter. In the next section we investigate which factors have an impact on the relative performance of foreign banks.

Foreignness and home and host country characteristics

We pool all countries together and test whether the impact of foreign ownership is dependent on certain factors, starting with home and host country characteristics. The results are provided in Table 4. The first column of the table shows that if we do not differentiate between different types of foreign banks we find no impact of foreign ownership on profitability.

However, as soon as we allow for heterogeneity with respect to home and host country we see that foreign ownership does matter. When looking at home country characteristics we find strong evidence that the level of development of the country in which the parent company is located influences the performance of foreign banks. We find a significant and positive effect when interacting

ownership with GDP per capita of the home country. The significance of the income effect becomes even stronger when we split home countries in high-income versus developing countries. We find that foreign banks outperform domestic banks when the parent is located in a high-income country. However, when the parent is located in a developing country a foreign bank performs significantly worse than a domestic bank. This suggests that technical and regulatory advances of foreign banks from high income countries make it easier for these banks to make profitable investments in developing countries. One could argue that these results are driven by the fact that foreign banks from high-income countries tend to be larger than foreign banks from developing countries and that it is scale not home country development that matters for the difference in profitability. However, we tested for this (results not shown) and find that if we control for the scale of foreign banks our results do not change.

Competition in the foreign bank's home country does not affect the performance of the bank. However, competition in the host country does have an impact. We find that when competition in the host country is limited foreign banks are more likely to outperform domestic banks. This is not surprising. When competition is still limited it will be easier for a bank to generate excess returns and thus make a larger profit. Other host country characteristics (the level of overall and financial sector development) do not matter much for the relative performance of a foreign bank.

When we combine both significant factors (developing country foreign bank and competition in the host country) in one regression (last column) we find that both results keep their significance, suggesting that both factors matter. Looking at the economic relevance of our findings we see that they are important. A foreign bank from a high income country investing in the host country with lowest competition (Turkey) earns on average a profit before tax of 0.72 higher than a domestic bank.[11] This is equal to 44 percent of the mean profitability. Similarly, this same bank in a country with strongest competition (Costa Rica) earns on average a profit before tax of 0.70 less than a domestic bank. A foreign bank from a developing country, on the other hand, earns on average 0.18 less compared to a domestic bank in the host country with lowest competition and 1.60 less in the host country with highest competition.

When looking at the control variables we see that they are in almost all cases very consistent across the regressions. Large banks tend to be more profitable than smaller banks. Banks that have a larger loan ratio and banks with a larger share of deposits also tend to be more profitable. Furthermore, banks with limited leverage (high share of equity in assets) are on average more profitable. Domestic banks that are majority government owned are less profitable compared to private banks. Finally, banks that exited the market within the first four years after entering are on average less profitable. None of these results are very surprising.

[11] The minimal level of competition in our sample of host countries is 0.46. This value times 3.107 and subtracted from 2.157 equals 0.72.

Foreignness and Distance

When testing for the impact of distance on the performance of foreign banks it is important to control for the home and host country characteristics that have an important impact on foreign bank performance. Especially it is important to control for the level of development when using region in which home and host country are located as proxy for geographical and cultural distance. After all, as all host countries are developing countries only a very small group of foreign banks from high-income countries (in effect only the non-OECD high-income countries) will be located in the same region. So without correcting for level of development of the home country, the dummy *samereg* will not only capture the impact of being geographically close but also the impact of being from a developing country.

As is clear from the results in Table 4, also competition in the host country is an important factor affecting a foreign bank's profitability. We do, however, not include this variable as a control. As we do not have the *H*-statistic for all the countries in our sample we will lose a lot of information (913 foreign bank-year observations) when we include this variable. We did however test whether our main results are sensitive to excluding this variable and this turns out not to be the case.

The results in Table 3 show that, after controlling for the level of income of the home country of the foreign bank, geographical and cultural distance does matter for performance of the foreign bank. Banks that are geographically and culturally close, either proxied by the home and host country being located in the same region or having the same language, have on average a higher profitability than foreign banks that are geographically and culturally distant. We check whether these results differ between high-income and developing country foreign banks but this is not the case (results not shown). Both types of foreign banks benefit significantly from being geographically and culturally close. Our results thus confirm the theoretical predictions.

In the case of institutions, however, we do not find a significant impact of being familiar.[12] One explanation for this finding is that the KKM governance indictors are too general to capture institutional familiarity that matters for banking. In one of our extensions we will examine whether this story changes when more specific institutional variables are used.

Summarizing, our results indicate that the relative performance of a foreign bank is affected by a number of factors. First, foreign banks from high income countries tend to be more profitable compared to domestic banks, while foreign banks from developing countries are less profitable. Furthermore, foreign banks entering a country where competition in the banking sector is limited are more profitable than foreign banks entering a country with a lot of competition. Finally, a foreign bank that is geographical and cultural close is more profitable than one that is distant. Our results indicate

[12] We tested whether we found different results when using a continuous variable capturing institutional difference between host and home country. This was not the case.

that it is important to control for this heterogeneity among foreign banks when examining the relative performance of foreign banks.

Robustness test

We conduct a robustness test to verify that our results are not affected by the sample of countries we focus on in the regression. Specifically, we run the regressions on a smaller sample of 33 countries for which the restrictions of at least 3 foreign and 3 domestic banks active in each year hold over the full period for which we have data (1995-2006).

We find that our results are robust to this different sample (Table 6). As was the case in our previous sample, without controlling for foreign bank heterogeneity our data indicate that ownership does not have a significant impact on the performance of banks. Again we find that the level of development of the home country and competition in the financial sector of the host country matter for foreign bank performance. Geographical and cultural distance reduces the profitability of foreign banks, although in this sample the interaction with *samereg* is positive but insignificant. Institutional familiarity, again, does not seem to have an impact on the performance of foreign banks.

In contrast to our previous result we do find this time that operating in a low income country has a positive and significant effect on the performance of a foreign bank. However, when we run a regression controlling for the impact of home country of the parent and competition in the host country, the impact of working in a low income country becomes insignificant (results not shown). All other omitted results are very similar to the ones found in the previous section.

Extensions

The first question one could ask is whether the time a foreign bank has been active in the host country has an impact on its performance. Especially, it is possible that the impact of distance is affected by the length of stay. Once you have operated in a country for some time you will understand the peculiarities of doing business in the country better. As such distance might effectively be reduced.

In order to test whether length of stay matters we split our sample in two groups. The first group (new banks) contains all the foreign and domestic banks that have been active in the country for 12 years or less. The second group (old banks) contains all banks that have been active in the country more than 12 years.[13] Results are shown in Table 7. We find that for new banks ownership does not seem to matter at all. New foreign banks (regardless their home country, competitiveness in the host coutnry or the distance between home and host country) do on average not perform any better or worse

[13] Keeping the sample together is problematic for two reasons. First, the interaction between ownership and the factors that can impact it and the double interaction of ownership, the factors that impact it and a dummy that distinguishes whether the foreign bank is old or new are highly correlated. As such the results would be affected by mulitcollinearity. Second, using a double interaction would mean that you compare new foreign banks with old foreign banks and old ánd new domestic banks. However, the more logical comparison would be comparing new foreign banks with new domestic banks and old foreign banks with old domestic banks.

than new domestic banks. Although almost all parameters have the expected signs, they are all (except one) insignificant.

The difference between foreign and domestic banks is much more pronounced for the more established banks. We do see that when comparing old domestic and foreign banks we find the same results as we found for the complete sample. This result suggests that if you face a disadvantage of being foreign because you, for example, are from a home country that is geographically and culturally distant, this disadvantage does not disappear over time. We checked for different cut-offs for domestic and foreign banks, but results were highly consistent.

We also examined whether type of bank matters for relative performance of a foreign bank and the factors that affect it. Arguably, a bank that generates a large portion of its assets from deposit taking needs to rely more on local information. In this respect you would, for example, expect for these banks distance to matter more. However, when we tested for this by splitting the sample in two groups (one with domestic and foreign banks with limited deposit ratio and one with banks with high deposit ratio) we did not find any consistent differences between these two types of banks (results not shown).

Finally we have a closer look at the impact of institutional distance. Instead of measuring institutional distance using the broad KKM governance indicators, we use the more specific doing business indicators. One big disadvantage of these indicators is, however, that they are only available for the last two years of our sample. In other words, we have to assume that the difference in institutions between home and source has stayed the same over the sample period. With this caveat in mind, we test whether several dimensions of doing business matter for the relative performance of foreign banks. Specifically, we test for distance with respect to the cost of registering property, legal rights, creditor information, investor protection and the cost of enforcing contracts. Similarly to our *instfam* variable we take the absolute difference between the level of each dimension in the host and home country of the foreign bank. If the difference is lower than the median difference than the dummy representing that specific dimension is one, if the difference is higher the dummy is zero. For a full description of the variables see the Appendix.

The results in Table 8 show that even if we look at more specific dimensions of institutional quality, the institutional distance between home and host country does not seem to have an impact on the performance of foreign banks. Thus, even though geographical and cultural distance do seem to matter, institutional distance, surprisingly, does not.

5. Conclusion

Although the performance of banks when entering a foreign country has received ample attention in the literature the results found so far were far from univocal. In some cases foreign banks performed better compared to domestic banks while in other cases the reverse was true. This study reconciles these differences by showing that a number of factors importantly contribute to the relative

performance of a foreign bank. Using data from a large number of developing countries over the 1999-2006 period, this study found strong evidence that the level of development in the home country, the competitiveness of the financial sector in the host country and the geographical and cultural distance between home and host country are important determinants for the profitability of a foreign bank.

Our results suggest that when studying the behaviour of foreign banks they should not be looked upon as a homogeneous group. Furthermore, they indicate that banks from certain countries will be better equipped to operate in foreign countries, suggesting that further consolidation of the world's financial sector is likely. However, with a number of emerging markets becoming more and more similar to high-income countries and realizing that being geographical and cultural close is a major asset in cross-border banking, it is expected that in the future banking groups from these countries will start to play an increasingly important role, especially in other developing countries.

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Table 1
Country coverage and characteristics of banking sector

The table reports the countries included in our sample. It provides information about the size of the banking sector and the relative importance of foreign banks in terms of numbers and assets in 1999 and 2006. A foreign bank is defined to have at least 50 percent foreign ownership.

Country	1999				2006			
	Number of banks	Total assets (thousand US$)	Ratio foreign banks to total banks	Ratio foreign assets to total assets	Number of banks	Total assets	Ratio foreign banks to total banks	Ratio foreign assets to total assets
Angola	6	355,579	0.50	0.00	11	7,227,363	0.55	0.51
Argentina	94	118,577,888	0.40	0.58	66	79,935,400	0.35	0.29
Armenia	10	131,979	0.40	0.35	10	937,972	0.60	0.52
Azerbaijan	22	379,626	0.18	0.00	20	3,641,726	0.15	0.04
Belarus	18	7,129,884	0.22	0.11	17	11,963,159	0.47	0.13
Bolivia	13	4,847,764	0.46	0.50	12	3,783,372	0.58	0.32
Bosnia & Herzegovina	26	847,633	0.23	0.28	27	8,753,051	0.56	0.93
Brazil	169	324,041,376	0.33	0.15	136	807,217,280	0.36	0.24
Bulgaria	25	1,539,386	0.44	0.60	25	21,330,820	0.68	0.77
Cameroon	8	1,338,541	0.38	0.66	9	3,573,703	0.56	0.73
Chile	28	64,370,800	0.54	0.20	26	114,616,544	0.42	0.31
China	48	425,009,088	0.15	0.00	68	4,183,970,560	0.10	0.00
Colombia	38	15,160,134	0.29	0.15	21	46,897,108	0.19	0.10
Costa Rica	25	859,202	0.36	0.10	16	11,344,553	0.50	0.14
Croatia	53	10,238,545	0.25	0.68	34	56,219,612	0.32	0.92
Czech Republic	31	45,115,196	0.45	0.58	21	147,019,488	0.52	0.78
Ecuador	36	1,305,500	0.19	0.01	22	11,153,300	0.23	0.04
Egypt	32	79,240,344	0.16	0.06	29	101,890,088	0.45	0.22
El Salvador	14	6,146,466	0.36	0.03	12	2,668,516	0.75	0.79
Ghana	14	924,117	0.50	0.59	15	3,434,458	0.60	0.64
Guatamala	34	3,925,982	0.21	0.09	25	8,715,088	0.24	0.04
Honduras	23	2,567,477	0.22	0.01	18	5,675,361	0.39	0.04
Hungary	31	23,782,900	0.81	0.93	25	107,399,400	0.84	0.95
India	70	109,916,192	0.09	0.06	65	822,792,704	0.11	0.06
Indonesia	96	95,940,776	0.27	0.04	67	130,600,080	0.42	0.12
Kazakhstan	22	1,533,655	0.36	0.07	22	66,570,956	0.41	0.06
Kenya	43	4,089,385	0.26	0.43	35	9,096,599	0.29	0.46
Latvia	21	1,266,426	0.29	0.69	21	28,936,032	0.43	0.60
Macedonia	14	914,747	0.21	0.02	16	3,535,409	0.44	0.57
Malaysia	42	126,841,000	0.33	0.14	34	291,326,688	0.41	0.15
Mexico	44	127,769,040	0.41	0.14	33	239,183,760	0.45	0.81
Moldova	14	73,795	0.36	0.48	14	1,611,698	0.43	0.24
Morocco	13	12,499,912	0.38	0.00	11	75,407,432	0.45	0.18
Pakistan	21	10,868,394	0.14	0.00	24	58,739,136	0.25	0.24
Paraguay	21	2,889,536	0.67	0.69	13	3,131,878	0.69	0.69
Philippines	38	5,793,662	0.18	0.00	30	85,399,536	0.17	0.01
Poland	49	14,335,412	0.63	0.55	42	162,652,944	0.71	0.85
Romania	28	13,492,174	0.46	0.37	25	55,020,840	0.84	0.92
Russia	226	16,412,585	0.12	0.19	203	297,644,544	0.18	0.24
Senegal	10	1,159,247	0.60	0.69	11	3,240,688	0.64	0.60
Serbia & Montenegro	33	10,955,451	0.09	0.02	41	16,620,306	0.63	0.75
South Africa	35	12,539,352	0.20	0.05	22	273,761,856	0.23	0.00
Tanzania	13	35,974	0.62	0.00	17	4,772,843	0.65	0.68
Thailand	16	114,330,784	0.19	0.06	16	215,523,648	0.25	0.04
Trinidad & Tobago	9	8,047,892	0.33	0.15	9	18,960,600	0.44	0.08
Tunisia	15	1,107,908	0.33	0.13	16	23,485,424	0.50	0.26
Turkey	59	74,375,096	0.15	0.03	35	378,389,632	0.37	0.12
Uganda	16	495,403	0.63	0.78	15	2,403,275	0.67	0.80
Ukraine	42	2,187,487	0.14	0.11	48	47,106,432	0.35	0.51
Uzbekistan	10	598,439	0.30	0.17	13	4,711,554	0.31	0.01
Venezuela	48	15,299,864	0.25	0.27	40	67,342,032	0.30	0.32

Table 2
Summary Statistics

The table provides the summary statistics of the variables employed in the empirical specifications. The summary statistics for the bank level variables are based on the full sample (7,923 observations). The summary statistics of the home and host characteristics and the distance variables are based on only the foreign banks in the sample (2,540 observations for all variables except competition_home (2281) and competition_host(1685)) A definition of the variables is provided in Appendix Table 1.

Variable	Mean	Median	Minimum	Maximum	SD
Bank-level					
Profitability	1.65	1.54	-24.59	14.37	3.32
Ownership	0.30	0.00	0.00	1.00	0.46
Share	4.40	1.22	0.00	100.00	8.53
Loan	48.00	49.27	0.00	98.49	19.57
Leverage	16.33	11.53	0.01	100.00	14.83
Deposit	73.08	79.35	0.00	99.46	18.75
Public	0.09	0.00	0.00	1.00	0.29
Problembank	0.05	0.00	0.00	1.00	0.22
Home characteristics					
Gdpcap_home	26,441	29,134	690	49,451	10,196
Competition_home	0.63	0.66	0.41	0.86	0.14
Host characteristics					
Gdpcap_host	7,759	7,899	639	22,004	4,362
Competition_host	0.70	0.73	0.46	0.92	0.10
Financial development_host	45.22	41.74	2.23	162.19	25.62
Distance					
Same region	0.18	0.00	0.00	1.00	0.38
Common language	0.19	0.00	0.00	1.00	0.39
Institutional familiar	0.44	0.00	0.00	1.00	0.50

Table 3
Impact of foreign ownership on profitability - Individual country regressions

The table provides an summary of the impact of foreign ownership on profitability for each country in the sample based on regression model (1). For countries located in the upper left quadrant the ownership dummy is positive and significant. For countries in the upper right quadrant it is positive but insignificant. For countries in the lower quadrant the ownership dummy is negative; significant for the countries in the lower left quadrant and insignificant for countries in the lower right quadrant.

	Significant			Insignificant		
Foreign better than domestic	Cameroon	Indonesia	Thailand	Angola	Czech Republic	Morocco
	China	Kazakhstan	Trinidad & Tobago	Belarus	Egypt	Romania
	Ecuador	Malaysia		Bosnia-Herzegovina	Guatamala	Russia
	Ghana	Poland	Turkey		Kenya	Tunisia
	Honduras	Serbia & Montenegro	Venezuela	Costa Rica	Latvia	
	India					
Domestic better than foreign	Argentina	Mexico		Azerbaijan	Hungary	South Africa
	Armenia	Moldova		Bolivia	Macedonia	Tanzania
	Brazil	Philippines		Bulgaria	Pakistan	Uganda
	Colombia			Chile	Paraguay	Ukraine
	Croatia			El Salvador	Senegal	Uzbekistan

Table 4
Impact of foreign ownership on profitability - Home and host characteristics

The table shows how different home and host characteristics impact the performance of foreign banks in developing countries. The dependent variable is profit before taxes divided by assets. *Own* is a dummy which is one if the bank is foreign owned. *Gdpcap_home* and *gdpcap_host* reflect gdp per capita in home and host country of the foreign bank respectively. *Developing* is a dummy which is one if the parent of the foreign bank is located in a developing country. *Comp_home* and *comp_host* are the Panzar Rosse (1987) *H*-statistics of the home and host country of the foreign bank respectively as calculated by Claessens and Laeven (2004). *Low* is a dummy which is one if the host country is a low-income developing country. *Findev_host* equals M2 as a percentage of GDP in the host country. *Share* is the ratio of the bank's assets to total assets of the country's banking sector. *Loan* captures the ratio of loans to assets of the bank. *Deposits* equals deposits as percentage of the bank's assets and *leverage* equals equity as percentage of assets. *Public* is a dummy which is one if a bank is majority owned by the government. *Problembank* is a dummy which is one if the foreign bank exited the market within four years after entering. The sample period is 1999-2006. All regressions are estimated using weighted OLS where the weights are equal to the inverse of number of banks active in the country in a given year. Regressions include a constant and country-year fixed effects. The robust t-statistics allowing for clustering at the country level appear in brackets and ***, ** and * correspond to one, five and ten percent level of significance respectively.

		Home characteristics			Host characteristics				Combined
	Baseline	Gdpcap	High vs developing	Competition	Gdpcap	Low vs middle	Competition	Financial development	Home and host
Own	0.167	-0.459	0.409**	0.978	0.495	0.039	1.901*	-0.191	2.157*
	[0.923]	[1.281]	[2.025]	[1.550]	[1.605]	[0.197]	[1.864]	[0.628]	[1.939]
Own*gdpcap_home		0.000*							
		[1.923]							
Own*developing			-1.039***						-0.902***
			[3.381]						[3.196]
Own*comp_home				-1.219					
				[1.258]					
Own*gdpcap_host					0.000				
					[1.320]				
Own*low						0.639			
						[1.307]			
Own*comp_host							-2.961*		-3.107*
							[1.829]		[1.770]
Own*findev_host								0.571	
								[1.387]	
Share	0.032**	0.031**	0.029**	0.031**	0.032**	0.031**	0.034***	0.037***	0.033***
	[2.577]	[2.503]	[2.423]	[2.618]	[2.582]	[2.590]	[3.347]	[4.386]	[3.407]
Loan	0.007	0.007	0.006	0.009**	0.007*	0.007	0.009*	0.009**	0.008*
	[1.625]	[1.624]	[1.489]	[2.046]	[1.730]	[1.634]	[1.970]	[2.361]	[1.897]
Deposit	0.010*	0.011*	0.011*	0.008*	0.010*	0.010*	0.009	0.011**	0.010*
	[1.794]	[1.922]	[1.938]	[1.752]	[1.896]	[1.700]	[1.665]	[2.054]	[1.757]
Leverage	0.033***	0.036***	0.037***	0.037***	0.033***	0.033***	0.054***	0.035***	0.057***
	[3.483]	[3.790]	[3.935]	[3.525]	[3.583]	[3.526]	[5.375]	[3.623]	[5.695]
Public	-0.374*	-0.362*	-0.322*	-0.349*	-0.348*	-0.387*	-0.433**	-0.335*	-0.422*
	[1.972]	[1.904]	[1.750]	[1.809]	[1.884]	[1.965]	[2.080]	[1.713]	[2.006]
Problembank	-0.595**	-0.597**	-0.608**	-0.675**	-0.602**	-0.618**	-1.014***	-0.552*	-1.020***
	[2.181]	[2.147]	[2.158]	[2.396]	[2.199]	[2.272]	[4.047]	[1.954]	[4.025]
Observations	7,923	7,923	7,923	7,609	7,923	7,923	5,479	7,658	5,479
R-squared	0.21	0.21	0.22	0.23	0.21	0.21	0.16	0.21	0.16

Table 5
Impact of foreign ownership on profitability - Distance

The table shows how different measures of distance impact the performance of foreign banks in developing countries. The dependent variable is profit before taxes divided by assets. *Own* is a dummy which is one if the bank is foreign owned. *Samereg* is a dummy which is one if home and host country are located in the same region. *Comlang* is dummy which is one if home and host country share the same language. *Instfam* is a dummy which is one if home and host country are institutionally similar. *Developing* is a dummy which is one of the parent if the foreign bank is located in a developing country. *Share* is the ratio of the bank's assets to total assets of the country's banking sector. *Loan* captures the ratio of loans to assets of the bank. *Deposits* equals deposits as percentage of the bank's assets and *leverage* equals equity as percentage of assets. *Public* is a dummy which is one if a bank is majority owned by the government. *Problembank* is a dummy which is one if the foreign bank exited the market within four years after entering. The sample period is 1999-2006. All regressions are estimated using weighted OLS where the weights are equal to the inverse of number of banks active in the country in a given year. Regressions include a constant and country-year fixed effects. The robust t-statistics allowing for clustering at the country level appear in brackets and ***, ** and * correspond to one, five and ten percent level of significance respectively.

	Same region	Common language	Institutional familiar
Own	0.386*	0.234	0.388
	[1.908]	[1.144]	[1.647]
Own*samereg	1.792*		
	[1.795]		
Own*comlang		0.810***	
		[3.053]	
Own*instfam			0.078
			[0.258]
Own*developing	-2.585**	-1.237***	-1.089***
	[2.522]	[4.047]	[2.786]
Share	0.029**	0.026**	0.029**
	[2.390]	[2.294]	[2.419]
Loan	0.007	0.006	0.006
	[1.530]	[1.416]	[1.488]
Deposit	0.010*	0.008	0.011*
	[1.857]	[1.567]	[1.991]
Leverage	0.036***	0.038***	0.037***
	[3.817]	[3.833]	[3.893]
Public	-0.311*	-0.325*	-0.324*
	[1.696]	[1.881]	[1.760]
Problembank	-0.617**	-0.560*	-0.606**
	[2.197]	[2.006]	[2.150]
Observations	7,923	7,903	7,923
R-squared	0.22	0.23	0.22

Table 6
Robustness - Countries with enough observations over period 1995-2006

The table shows how different home and host characteristics and different measures of distance impact the performance of foreign banks in developing countries. The dependent variable is profit before taxes divided by assets. *Own* is a dummy which is one if the bank is foreign owned. *Developing* is a dummy which is one if the parent of the foreign bank is located in a developing country. *Comp_host* is the Panzar Rosse (1987) *H*-statistics of the host country of the foreign bank as calculated by Claessens and Laeven (2004). *Samereg* is a dummy which is one if home and host country are located in the same region. *Comlang* is dummy which is one if home and host country share the same language. *Instfam* is a dummy which is one if home and host country are institutionally similar. *Share* is the ratio of the bank's assets to total assets of the country's banking sector. *Loan* captures the ratio of loans to assets of the bank. *Deposits* equals deposits as percentage of the bank's assets and *leverage* equals equity as percentage of assets. *Public* is a dummy which is one if a bank is majority owned by the government. *Problembank* is a dummy which is one if the foreign bank exited the market within four years after entering. The sample period is 1995-2006. All regressions are estimated using weighted OLS where the weights are equal to the inverse of number of banks active in the country in a given year. Regressions include a constant and country-year fixed effects. The robust t-statistics allowing for clustering at the country level appear in brackets and ***, ** and * correspond to one, five and ten percent level of significance respectively.

		Home and host characteristics			Distance		
	Baseline	High vs developing	Competition host	Combined	Same region	Common language	Institutional familiar
Own	0.234	0.432*	2.424**	3.073***	0.425*	0.276	0.562*
	[1.166]	[2.001]	[2.715]	[3.020]	[1.964]	[1.272]	[1.837]
Own*developing		-0.876***		-1.105***	-1.493	-1.039***	-0.564**
		[3.185]		[4.611]	[1.310]	[3.886]	[2.259]
Own*comp_host			-3.448**	-4.100**			
			[2.533]	[2.639]			
Own*samereg					0.727		
					[0.652]		
Own*comlang						0.736**	
						[2.242]	
Own*instfam							-0.359
							[1.141]
Share	0.044***	0.042***	0.033***	0.031***	0.042***	0.037***	0.041***
	[3.181]	[3.097]	[2.945]	[2.954]	[3.079]	[2.915]	[3.086]
Loan	0.005	0.004	0.009**	0.009**	0.004	0.004	0.005
	[1.258]	[1.154]	[2.386]	[2.439]	[1.144]	[0.921]	[1.259]
Deposit	0.005	0.006	0.007	0.008	0.006	0.005	0.006
	[0.941]	[1.282]	[1.163]	[1.417]	[1.271]	[0.993]	[1.164]
Leverage	0.033***	0.039***	0.053***	0.057***	0.038***	0.038***	0.038***
	[2.990]	[3.572]	[4.189]	[4.643]	[3.522]	[3.452]	[3.402]
Public	-0.573**	-0.557**	-0.758***	-0.748***	-0.549**	-0.550**	-0.555**
	[2.267]	[2.223]	[3.363]	[3.353]	[2.177]	[2.206]	[2.225]
Problembank	-0.442	-0.510*	-0.847***	-0.894***	-0.507*	-0.477*	-0.512*
	[1.614]	[1.791]	[4.085]	[3.878]	[1.791]	[1.740]	[1.801]
Observations	8,697	8,697	6,745	6,745	8,697	8,684	8,684
R-squared	0.16	0.16	0.14	0.15	0.16	0.17	0.17

Table 7
New versus old foreign banks

The table shows how different home and host characteristics and different measures of distance impact the performance of foreign banks in developing countries splitting the sample in two groups: old and new banks. New banks are domestic and foreign banks that have been active in the country 12 years or less. Old banks are domestic and foreign banks that have been active in the country for more than 12 years. The dependent variable is profit before taxes divided by assets. *Own* is a dummy which is one if the bank is foreign owned. *Developing* is a dummy which is one if the parent of the foreign bank is located in a developing country. *Comp_host* is the Panzar Rosse (1987) *H*-statistics of the host country of the foreign bank as calculated by Claessens and Laeven (2004). *Samereg* is a dummy which is one if home and host country are located in the same region. *Comlang* is dummy which is one if home and host country share the same language. *Instfam* is a dummy which is one if home and host country are institutionally similar. *Share* is the ratio of the bank's assets to total assets of the country's banking sector. *Loan* captures the ratio of loans to assets of the bank. *Deposits* equals deposits as percentage of the bank's assets and *leverage* equals equity as percentage of assets. *Public* is a dummy which is one if a bank is majority owned by the government. *Problembank* is a dummy which is one if the foreign bank exited the market within four years after entering. The sample period is 1999-2006. All regressions are estimated using weighted OLS where the weights are equal to the inverse of number of banks active in the country in a given year. Regressions include a constant and country-year fixed effects. The robust t-statistics allowing for clustering at the country level appear in brackets and ***, ** and * correspond to one, five and ten percent level of significance respectively.

	New banks				Old banks			
	Combined	Same region	Common language	Institutional familiar	Combined	Same region	Common language	Institutional familiar
Own	1.692	0.379	0.376	0.464	3.270**	0.491**	0.264	0.351
	[0.896]	[0.578]	[0.546]	[0.700]	[2.237]	[2.095]	[1.079]	[1.191]
Own*developing	-0.222	-1.993	-0.845**	-0.556	-1.372***	-2.865***	-1.253***	-1.470***
	[0.374]	[1.345]	[2.148]	[1.135]	[5.357]	[3.058]	[2.738]	[3.289]
Own*comp_host	-3.380				-4.188*			
	[1.237]				[1.785]			
Own*samereg		1.628				2.107**		
		[0.965]				[2.203]		
Own*comlang			0.267				0.900**	
			[0.586]				[2.439]	
Own*instfam				-0.149				0.608
				[0.272]				[1.620]
Share	0.050***	0.030*	0.028*	0.028*	0.033***	0.033***	0.031***	0.035***
	[4.690]	[1.997]	[1.922]	[1.943]	[3.583]	[3.144]	[3.105]	[3.290]
Loan	0.005	0.007	0.006	0.007	0.011**	0.010**	0.009**	0.010**
	[0.677]	[1.056]	[0.899]	[1.031]	[2.319]	[2.381]	[2.197]	[2.441]
Deposit	0.010	0.004	0.002	0.006	0.010	0.012*	0.009	0.012*
	[1.318]	[0.471]	[0.216]	[0.772]	[1.251]	[1.867]	[1.438]	[1.794]
Leverage	0.052**	0.013	0.016	0.017	0.058***	0.045***	0.046***	0.046***
	[2.393]	[0.887]	[0.989]	[1.034]	[4.175]	[3.412]	[3.384]	[3.592]
Public	-1.424	0.256	-0.013	-0.015	-0.427**	-0.368**	-0.385**	-0.391**
	[0.965]	[0.261]	[0.019]	[0.020]	[2.165]	[2.025]	[2.189]	[2.106]
Problembank	-1.880***	-1.649***	-1.514**	-1.572***				
	[3.451]	[2.858]	[2.650]	[2.715]				
Observations	1,097	1,842	1,829	1,842	4,382	6,081	6,074	6,081
R-squared	0.34	0.34	0.34	0.34	0.17	0.27	0.28	0.27

Table 8
Impact of foreign ownership on profitability - Distance in doing business

The table shows how different measures of insitutional distance impact the performance of foreign banks in developing countries. Based on the doing business indicators five different institutional distance measures are examined. The first colum tests whether institutional distance with respect to the cost of registering property matters for the performance of a foreign bank. The second column looks at distance with respect to legal rights. The third at the distance with respect to credit information. The fourth looks at investor protection and the last column tests for the impact of differences in the cost of enforcing contracts. The dependent variable is profit before taxes divided by assets. *Own* is a dummy which is one if the bank is foreign owned. *Businessfam* is a dummy which is one if the difference between host and home country in the specific dimension of doing business is below the median difference and zero otherwise. *Developing* is a dummy which is one if the parent of the foreign bank is located in a developing country. *Share* is the ratio of the bank's assets to total assets of the country's banking sector. *Loan* captures the ratio of loans to assets of the bank. *Deposits* equals deposits as percentage of the bank's assets and *leverage* equals equity as percentage of assets. *Public* is a dummy which is one if a bank is majority owned by the government. *Problembank* is a dummy which is one if the foreign bank exited the market within four years after entering. The sample period is 1995-2006. All regressions are estimated using weighted OLS where the weights are equal to the inverse of number of banks active in the country in a given year. Regressions include a constant and country-year fixed effects. The robust t-statistics allowing for clustering at the country level appear in brackets and ***, ** and * correspond to one, five and ten percent level of significance respectively.

	Registering property	Legal rights	Credit information	Investor protection	Enforcement contracts
Own	0.404	0.294	0.256	0.390*	0.332
	[1.641]	[1.383]	[1.146]	[1.956]	[1.586]
Own*businessfam	-0.236	0.104	0.163	-0.261	-0.080
	[1.051]	[0.479]	[0.584]	[1.044]	[0.287]
Own*developing	-0.709**	-0.819**	-0.688**	-0.735**	-0.738**
	[2.418]	[2.592]	[2.463]	[2.259]	[2.424]
Share	0.027**	0.027**	0.027**	0.027**	0.027**
	[2.172]	[2.140]	[2.133]	[2.138]	[2.135]
Loan	0.008*	0.007	0.008	0.007	0.007
	[1.698]	[1.544]	[1.653]	[1.597]	[1.621]
Deposit	0.006	0.007	0.006	0.007	0.006
	[1.085]	[1.210]	[1.110]	[1.190]	[1.129]
Leverage	0.035***	0.035***	0.035***	0.035***	0.035***
	[3.172]	[3.214]	[3.129]	[3.201]	[3.172]
Public	-0.326*	-0.313*	-0.318*	-0.323*	-0.327*
	[1.760]	[1.704]	[1.747]	[1.713]	[1.765]
Problembank	-1.305*	-1.320*	-1.327*	-1.316*	-1.328*
	[1.784]	[1.841]	[1.850]	[1.785]	[1.806]
Observations	7,373	7,385	7,367	7,385	7,371
R-squared	0.22	0.23	0.23	0.23	0.22

Appendix - Variable Definitions and Sources

Variable	Definition	Source
Banklevel		
Profitabality	Profit before tax divided by total assets	Bankscope
Own	Dummy which is one if 50 percent or more of the shares of the bank are owned by foreigners, zero otherwise.	Claessens, Van Horen, Gurgarlan and Mercado (2008)
Share	Size of the bank. Assets of the bank divided by total assets in the banking system of the country.	Bankscope
Loan	Total loans divided by total assets of the bank.	Bankscope
Leverage	Total equity divided by total assets of the bank.	Bankscope
Deposit	Total deposits and short-term funding divided by total	Bankscope
Public	Dummy which is one if the bank is for 50 percent or more owned by the government, zero otherwise.	Micco, Panizza and Yanez (2007)
Problembank	Dummy which is one if the bank exited the market within 4 years after entry, zero otherwise.	Claessens, Van Horen, Gurganlar and Mercado (2008)
Home and host characteristics		
Gdpcap	GDP per capita in current international $ in host or home country.	World Development Indicators
Comp	Panzar Rosse (1987) H-statistic as calculated by Claessens and Laeven (2004).	Claessens and Laeven (2004)
Findev	M2 divided by GDP in the host country	International Financial Statistics
Distance		
Samereg	Dummy which is one if home and host country share the same region, zero otherwise.	World Bank
Comlang	Dummy which is one if home and host country share	CIA World Factbook (2005)
Instfam	Dummy capturing whether home and host country are institutional distant or not. First the absolute difference between the quality of institutions of source and host countries, based on the simple average of the absolute difference of each of the six governance indicators, is calculated. When the difference is below the median difference the dummy has a value 1 if it is above it has a	Kaufmann, Kraay and Mastruzzi (2008).
Businessfam	Same as instfam but difference in quality of five doing business indicators (cost of registering property, legal rights index, credit information, investor protection index, cost of enforcing contracts.	Doing business indicators