

How Does Foreign Entry Affect the Domestic Banking Market?

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Does the entry of foreign banks make domestic banks more competitive? This study shows that, in developing countries, increasing the number (even more than the share) of foreign banks reduces both profits and overhead expenses of domestic banks.

Public Disclosure Authorized

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HG
3881.5
.W57
P63
NO. 1918
C:2



SLC084809

The World Bank
East Asia and Pacific Region
and
Development Research Group
May 1998



Summary findings

Banking markets are becoming increasingly international through financial liberalization and general economic integration.

Using bank-level data for 80 countries for 1988–95, Claessens, Demirgüç-Kunt, and Huizinga examine the extent of foreign ownership in national banking markets. They compare net interest margins, overhead, taxes paid, and profitability of foreign and domestic banks.

The comparative functions of foreign banks and domestic banks is very different in developing and industrial countries, possibly because of a different customer base, different bank procedures, and different regulatory and tax regimes:

- In developing countries foreign banks tend to have greater profits, higher interest margins, and higher tax payments than do domestic banks.

- In industrial countries it is the domestic banks that have greater profits, higher interest margins, and higher tax payments.

It is common to read, in the literature on foreign banking, that the entry of foreign banks can make national banking markets more competitive, thereby forcing domestic banks to operate more efficiently. Claessens, Demirgüç-Kunt, and Huizinga show that increasing the foreign share of bank ownership does indeed reduce profitability and overhead expenses in domestically owned banks — so the general effect of foreign bank entry may be positive.

Interestingly, the number of foreign entrants matters more than their market share, suggesting that they affect local bank competition more on entry rather than after gaining a substantial market share.

This paper — a joint product of the East Asia and Pacific Region and the Development Research Group — is part of a larger effort in the Bank to study the effects of increasing global integration of financial services. Copies of this paper are available free from the World Bank, 1818 H Street NW, Washington, DC 20433. Please contact Rose Vo, room MC4-404, telephone 202-473-3722, fax 202-522-2530, Internet address hvo1@worldbank.org. The authors may be contacted at sclaessens@worldbank.org, ademirguckunt@worldbank.org, or hhuizinga@worldbank.org. May 1998. (13 pages)

The Policy Research Working Paper Series disseminates the findings of work in progress to encourage the exchange of ideas about development issues. An objective of the series is to get the findings out quickly, even if the presentations are less than fully polished. The papers carry the names of the authors and should be cited accordingly. The findings, interpretations, and conclusions expressed in this paper are entirely those of the authors. They do not necessarily represent the view of the World Bank, its Executive Directors, or the countries they represent.

How Does Foreign Entry Affect the Domestic Banking Market?

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JUN 26 1998

FOR
RECONSTRUCTION AND DEVELOPMENT

Keywords: foreign entry, domestic banking.
JEL Classification: E44, G21

HG 3881.5 .W57 P63 NO.1918
Claessens, Stijn.
How does foreign entry
affect the domestic banking
market? /

¹ East-Asia and Pacific Region, The World Bank, Development Research Group, The World Bank, and Development Research Group, The World Bank and center and Department of Economics, Tilburg University, respectively. The findings, interpretations, and conclusions expressed in this paper are entirely those of the authors. They do not necessarily represent the views of the World Bank, its Executive Directors, or the countries they represent. We thank Anqing Shi for excellent research assistance.



1. *Introduction*

Recent years have seen an increased importance of international trade in goods and financial services. To facilitate such trade, many banking institutions have also become international.² Banks expand internationally by establishing foreign subsidiaries and branches or by taking over established foreign banks. The internationalization of the banking sector is facilitated by the liberalization of financial markets worldwide. Developed and developing countries alike now increasingly allow banks to be foreign-owned.

Financial liberalization of this kind proceeds on the premise that the gains to domestic market participants from foreign entry outweigh any losses to domestic banking institutions. Several authors have addressed the potential benefits of foreign bank entry for the domestic economy in terms of better resource allocation and higher efficiency (see Levine (1996), Walter and Gray (1983), and Gelb and Sagari (1990)). Levine (1996) specifically mentions that foreign banks may (i) improve the quality and availability of financial services in the domestic financial market by increasing bank competition, and enabling the application of more modern banking skills and technology, (ii) serve to stimulate the development of the underlying bank supervisory and legal framework, and (iii) enhance a country's access to international capital.

As yet, little cross-country systematic evidence exists that these presumed benefits of an internationalization of the banking sector indeed materialize. The literature, however, contains several case studies of financial liberalization episodes. McFadden (1994) reviews foreign bank entry in Australia, and finds that this has led to improved domestic bank operations. Bhattacharya (1993) reports specific cases in Pakistan, Turkey, and Korea, where foreign banks helped to make foreign capital accessible to fund domestic projects. Pigott (1986) describes the policies that have made increased foreign bank activity possible in nine Pacific Basin countries, and he provides some aggregate statistics on the size and scope of foreign banking activities.³ Using aggregate accounting data, Terrell (1977, Table 20-2) further compares the banking markets of 14 developed countries (8 of which allow foreign bank entry) for 1976 and 1977. Interestingly, countries that allow foreign bank entry on average experience lower gross interest margins, lower pre-tax profits, and lower operating costs (all scaled by the volume of business). Terrell (1977), however, does not control for influences on domestic banking other than whether or not foreign banks are permitted to enter. This paper aims to provide a systematic study of how foreign bank presence has affected the domestic banking markets in 80 countries. To do this, we use bank-level accounting data and macroeconomic data for the 1988-1995 period.

² See Aliber (1984) for an early survey of the literature on the internationalization of banking.

³ Cho and Khatkhate (1989) provide in-depth case studies of financial liberalization in five Asian countries, however with no particular emphasis on foreign bank entry. Liberalization, though, is shown to lead to faster growth of the financial system and to increased competitiveness of the banking system, even if there is no conclusive evidence that financial liberalization leads to lower intermediation margins. In their comparative study, Frankel and Montgomery (1991) also bypass the issue of internationalization.

We first examine the scale of foreign bank operations in each of the 80 countries. A bank is considered foreign, if at least 50 percent of its shares is foreign-owned. As measures of foreign bank penetration, we consider the importance of foreign banks in terms of numbers and in terms of assets.

The data also allow us to consider how foreign banks differ from domestic banks in terms of interest margins, taxes paid, overhead expenses, loan loss provisioning, and profitability. This work extends the work on the accounting decomposition of interest margins by Hanson and Rocha (1986) and, more recently, Demirgüç-Kunt and Huizinga (1997) to look at foreign and domestic banks separately. While foreign banks have lower interest margins, overhead expenses, and profitability than domestic banks in developed countries (consistent with Terrell's (1997) findings), the opposite is true in developing countries. This suggests that the reasons for foreign entry, as well as the competitive and regulatory conditions found abroad, differ significantly between developed and developing countries.

Next, we present some empirical results relating the share of foreign banks to the levels of the interest margins, profitability and overhead expenses (all relative to assets) of domestic banks. The equations, when estimated in first differences, similarly suggest that an increased foreign bank share reduces domestic bank profitability and overhead expenses. Foreign bank entry also reduces domestic banks' net interest margins (defined as net interest income divided by total assets), but this effect is not significant. Taken together, this evidence suggests that domestic banks become less profitable, because they lose market share to foreign entrants. In this scenario, domestic banking customers gain because their movement to foreign banks implies a revealed preference. Overall, the economy gains from the lower resource-cost of the domestic banking sector.

Interestingly, we observe the above results when we define the foreign bank share is in terms of numbers rather than asset size. The entry of foreign banks obviously precedes their gaining market share. Our results thus suggest that the benefits of foreign bank entry accrue rather early in time, before foreign banks have gained substantial market share.

The remainder of this paper is organized as follows. Section 3 describes the basic approach of the study. Section 3 discusses the data. Section 4 presents the empirical results. Section 5 concludes.

2. *The approach*

Below, we present information from the income statements of domestic and foreign banks. As a measure of bank efficiency, we consider the accounting value of a bank's net interest income over total assets, or *net margin/ta*. To reflect bank profitability, we consider the bank's before-tax profits over total assets, or *before tax profits/ta*. From the bank's income statement, *before tax profits/ta* satisfies the following accounting identity:

$$(1) \quad \text{before tax profits}/ta = \text{net margin}/ta + \text{non-interest income}/ta - \text{overhead}/ta - \text{loan loss provisioning}/ta$$

The *non-interest income/ta* accounts for the fact that many banks also engage in non-lending activities, such as investment banking and brokerage services. The *overhead/ta* variable represents the bank's entire overhead, while *loan loss provisioning/ta* simply measures actual provisioning for bad debts.

While the underlying data reflects international accounting standards as much as possible, some differences in accounting conventions regarding the valuation of assets, loan loss provisioning, hidden reserves, etc., no doubt remain.⁴ We focus on accounting measures of income and profitability, as (risk-adjusted) financial returns on bank stocks are equalized by investors in the absence of prohibitive international investment barriers.⁵ Similarly, Gorton and Rosen (1995) and Schranz (1993) focus on accounting measures of profitability when examining managerial entrenchment and bank takeovers.

In section 3 below, we provide information on aggregate income statement items for domestic and foreign banks in 80 countries. Also, we present accounting averages for country groups, by income and geographical location. Such average statistics for different groupings illustrate the differences between domestic and foreign banks in developing and developed countries.

Next, we analyze of the determinants of the interest, profitability, and overhead variables, or *net margin/ta*, *before tax profits/ta*, and *overhead/ta*. The regression analysis addresses what are the ultimate determinants of these three variables and serves to inform us who is affected by these underlying determinants, in an economic sense. The relationship between a bank's net interest margin and its overhead, for instance, tells us to what extent the bank can pass on its overhead cost to its depositors and lenders. The relationship between before tax profits and overhead, in turn, tells us how much of its overhead the bank can pass on to any of its customers (including, say, its brokerage customers).

The regression analysis starts from the following basic estimating equation:

$$(2) \quad I_{ijt} = \alpha_0 + \alpha_i FS_{jt} + \alpha_i B_{it} + \alpha_j X_{jt} + \varepsilon_{ijt}$$

where I_{ijt} = is the independent variable (either *net margin/ta*, *before tax profits/ta* or *overhead/ta*) for domestic bank i in country j at time t ; FS_{jt} is the share of foreign banks in country j at time t ; B_{it} are bank variables for bank i at time t ; X_{jt} are country variables for country j at time t . Further, α_0 is a constant, and α , α_i , and α_j , are coefficients, while ε_{ijt} is an error term. All regressions include country and time-specific fixed effects. The set of regressors varies with the dependent variable under consideration.

⁴ See Vitas (1991) for an account of the pitfalls in interpreting international bank operating ratios.

⁵ Also, financial returns data are not available for a similarly large set of banks and countries.

3. *The data*

This study uses income statement and balance sheet data of commercial banks from the BankScope data base provided by IBCA (for a complete list of data sources and variable definitions, see the Appendix). Coverage by IBCA is comprehensive, with banks included roughly accounting for 90 percent of the assets of banks in each country. We start with the entire universe of commercial banks, with the exception that for France, Germany and the United States only several hundred commercial banks listed as 'large' are included. To ensure reasonable coverage for individual countries, we include only countries where there are at least three banks in a country for a given year. This yields a data set covering 80 countries during the years 1988-1995, with about 7900 individual commercial bank observations. This data set includes all OECD countries, as well as many developing countries and economies in transition. For a list of countries, see Table 1.

First, we consider the extent of foreign bank penetration in national banking markets. Table 1 presents two measures of foreign bank penetration: the share of banks that is foreign-owned, and the share of foreign bank assets in total bank assets. The number penetration measure is an appropriate measure, if the number of domestic and foreign banks determines competitive conditions. This is the case, if domestic banking firms adjust their operations as soon as foreign entry occurs to prevent the foreign entrants from ever capturing significant market share. Alternatively, the share penetration measure is appropriate, if foreign banks start to have an impact only after they have gained substantial size. Foreign banks may indeed have to be sizable for there to be any significant transfer of banking technology to the domestic banking sector. Note that either penetration measure is a measure of actual foreign banking penetration, and thus does not capture the disciplining effects on domestic banks of potential foreign bank entry. The threat of foreign bank entry, however, may not be credible in the absence of actual entry.

From Table 1, we see that for most countries the number foreign penetration measure exceeds the asset penetration measure (this is the case for France, Germany, Italy, the U.K. and the U.S., but not Japan). This reflects that foreign banks tend to be smaller than domestic banks. Either penetration measure is zero for Finland, Guatemala, Haiti, India, Malta, Oman, and Yemen, reflecting regulatory barriers to foreign bank entry. At the other extreme, Nepal and Swaziland only have foreign-owned banks in our sample. Other countries with a large foreign bank presence (with both foreign penetration measures of at least 75 percent) are Bahrain, Botswana, Luxembourg, and New Zealand. A colonial past or the presence of a large neighboring country can explain some of these high ratios. Among the developed countries, Denmark, Finland, Italy, Sweden and the United States have relatively insulated banking markets, with foreign penetration measures below 10 percent. The last column for each country reports the total number of banks in the sample for 1995.

Next, we consider whether there is a systematic link between foreign bank penetration and national income. In Table 2 we present average foreign penetration shares by national income group.⁶ Interestingly, the foreign asset share in the low-income countries is comparable to that of the high-income countries, with somewhat higher penetration shares for middle-income countries. This finding suggests that differences in national foreign penetration shares in Table 1 are primarily due to national differences unrelated to national income. Table 2 also provides a breakdown of the average foreign penetration share by geographical region.⁷ Interestingly, the foreign penetration share is highest in the group of transitional economies at 0.54. This figure reflects the recent foreign takeovers and de novo entries.

Next, Table 3 presents the net interest margins and other accounting variables for domestic and foreign banks in the 80 countries in the 1988-1995 period. An ownership index of zero refers to the group of domestic banks, while a value of one refers to the foreign banks. As already evident from Table 1, not all countries harbor both domestic and foreign banks.

In some developing countries (such as Costa Rica, Jamaica, and Venezuela), foreign banks are able to realize net interest incomes of over 10 percent of assets. In these countries and in many other developing countries, foreign banks in fact achieve higher net interest margins than domestic banks. Instead, in most developed countries (for instance, in France, Germany, Japan, the United Kingdom, and the United States), foreign banks obtain lower net interest margins than domestic banks.

These differences may reflect varying reasons for banks to go abroad as well as the diverse regulatory conditions they find abroad after entering. Some banks expand abroad to be able to serve and retain important domestic customers with foreign operations, even if this does not translate into sizable interest margins. Perhaps this reason for foreign entry is particularly important for the developed countries. The relatively low interest margins foreign banks obtain in the developed countries may also reflect that foreign banks in these countries engage in wholesale rather than retail transactions. These low margins may also be due to the fact that any technical advantages foreign banks may have in developed countries are not significant enough to overcome the informational disadvantages they face relative to domestic banks.

In developing countries, foreign banks may be able to realize high interest margins, because they are frequently exempt from credit allocation regulations and other such restrictions. Especially in countries where domestic banking markets are dominated by state banks, institutions frequently use non-commercial criteria to allocate their credit. Furthermore, pervasive market inefficiencies and outmoded banking practices that exist

⁶ For country groupings by income, see the World Development Report (1996).

⁷ Countries in transition are China, the Czech Republic, Estonia, Hungary, Lithuania, Poland, Romania, Russia, and Slovenia. Neither this group of countries nor the industrial economies are in regions in the strict sense.

in developing countries should also lead to high interest margins for foreign banks, outweighing the information disadvantages they face.

The *overhead/ta* variable reflects the bank's overhead associated with its deposit and loan operations as well as any other activities. Foreign banks can be expected to face high overhead costs if they have to overcome large informational disadvantages, but they may have low overhead expenses if they engage mostly in wholesale transactions. Most developed countries, such as Canada, France, Japan, the United Kingdom, and the United States have foreign banks with lower overhead (as a percentage of assets) than domestic banks. In many developing countries however, foreign banks tend to have higher overhead.

Next, the *tax/ta* variable reflects primarily the corporate income tax in the host country. Differences in this variable between domestic and foreign banks may reflect a different de jure tax treatment, although most countries do not discriminate in this regard. More likely, any tax burden differences reflect differences in the activity mix, and banks' efforts to shift profits worldwide so as to minimize their global tax bill. Prima facie, foreign banks can be expected to have more opportunities to shift taxable income abroad than domestic banks. In any event, banks have an incentive to shift profits out of (into) high-tax (low-tax) jurisdictions. An interesting case is the United States where foreign banks pay about two thirds the taxes paid by domestic banks (*tax/ta* of 0.3 vs. 0.5 percent). Also in some other developed countries, such as in Australia, Austria, Belgium, Canada, France, the Netherlands and Spain, foreign banks pay relatively low taxes. This pattern is not as pervasive in developing countries: counter examples include Colombia, Costa Rica, and Egypt. An important determinant of actual tax bill is no doubt tax enforcement, which varies from country to country.

Next, the *loan loss provisioning/ta* variable measures provisioning during the accounting year for any previously contracted credits. Differences between domestic and foreign banks here may reflect a difference in customer mix (with foreign banks concentrating on large corporations rather than mortgage or consumer loans). Alternatively, different provisioning ratios may reflect differences in foreign and domestic banks' ability to screen bad credit risks. On net, foreign banks have higher provisioning in Germany, Japan, the United Kingdom and the United States, but lower provisioning in Austria, Canada, and France. Also in developing countries, foreign banks do better or worse than domestic banks in this regard in specific cases.

Finally, the table provides information on differences in net profits over assets, or *net profits/ta*, for domestic and foreign banks. As an accounting residual, this variable is affected by each of the foregoing accounting variables in the table. In addition, the required net profits of foreign banks may be influenced by the tax regime of the bank's parent country. A foreign bank that will benefit from a foreign tax credit, for instance, may accept a relatively low net-of-host-country-tax profitability. At the same time, domestic and foreign banks may accept different net profits to the extent that their cost of capital differs. Foreign banks, specifically, may be able to raise equity capital

internationally, and therefore accept a lower net profitability. Foreign banks have lower net profits in most developed countries, whereas they generally have higher net profits in developing countries.

Table 4 provides average accounting data for banks by different country groupings. Considering the breakdown by income, we see that foreign banks on average obtain lowest interest margins in high-income countries, and they achieve highest margins in lower income countries. At the same time, foreign banks achieve higher (lower) interest margins than domestic banks in low income and lower middle income (high middle income and high income) countries. Overhead expenses, taxes and net profitability of foreign banks in low-income countries similarly tend to be relatively high. Note that banks in low-income countries have higher overhead expenses than banks in high-income countries, despite lower wages in low-income countries. This probably reflects bank overstaffing and difficulties in evaluating loans in low-income countries. Interestingly, for all four income groups foreign banks have higher loan loss provisioning than domestic banks, despite the fact that foreign banks generally provide relatively little risky consumer credit. The reason may be that foreign banks are at an informational disadvantage in identifying good credit risks, or that they have more conservative reserving policies.

Turning to the breakdown by geographical region, we see that foreign banks achieve far better interest margins in Africa than the domestic banks. Generally, for domestic and foreign banks alike the achieved interest margins are highest in Latin America and in the transitional economies. In both cases, high overhead expenses seem to be the driving factor behind the high interest margins. Except in Africa, foreign banks have higher non-interest income to total asset ratios compared to domestic banks since they tend to engage in nonlending activities to a greater extent. Turning to taxes paid, the taxation of banking appears to be very high in the transitional economies, followed by Africa. Foreign banks pay lower taxes only in transitional and industrialized economies. Finally, only in Africa and in Latin America do foreign banks achieve higher net profitability than the domestic banks.

4. *Empirical results*

Barth, Nolle, and Rice (1997) using bank-level accounting data for 1993 have considered the impact of bank powers on their return to equity for a set of 19 countries. Demirgüç-Kunt and Huizinga (1997) use a broader data set for banks in 80 countries for the period 1988-1993 to examine how a of variety bank variables (including ownership), and additional tax policy, legal and financial structure variables affect banks' net interest income and profitability. The results indicate that foreign ownership (as a bank characteristic) leads to higher net interest margins and profits in developing countries, while this result is reversed in developed countries. Extending this work, this section examines how foreign bank penetration measures affect the operation of domestic banks, specifically their margins, profits and overheads.

We can include the number foreign penetration measure or, alternatively, the asset foreign penetration measure in regressions along the lines of eq. (2) to investigate how foreign bank entry affects domestic banking firms. The dependent variables in these regressions are the *net margin/ta*, *before tax profits/ta*, and *overhead/ta* variables for domestic banks, respectively. The three corresponding equations are first estimated in levels, and then in first differences. The latter specification captures how domestic bank operations are affected differentially by changes in the foreign ownership share. The estimation technique is weighted least squares, with the weight being the inverse of the number of domestic banks in a country in a given year. This weighing procedure corrects for the varying number of banks across countries. As controls, several bank-specific variables and several macroeconomic indicators are included.

We find that the number penetration measure performs well in the regressions (see Tables 5 and 6), while the asset foreign penetration measure yields insignificant coefficients. From this, we infer that the number of foreign players, or perhaps potential foreign players, matters rather than their overall relative size.⁸

Turning to the results of the level regressions in Table 5, we see that the *foreign bank share* variable enters the *net margin/ta* regression positively, while it enters the *before tax profits/ta* regression and the *overhead/ta* regressions negatively.

The positive coefficient in the margin equation does not mean that foreign entry is expected to cause higher interest margins for domestic banks. On the one hand, foreign banks clearly are attracted to banking markets with high interest margins. On the other hand, foreign banks, after they enter, can be expected to push down domestic interest margins. The positive relationship between the *net margin/ta* variable and the *foreign bank share* mirrors the first of these effects.

The profitability and overhead estimations are probably less contaminated by this simultaneity since foreign banks may put little weight on the profitability or operation costs of domestic banks in their entry decisions, as the two types of banks presumably apply very different banking techniques. Foreign bank entry, however, should offer direct competition to domestic banks, depressing profits and forcing them to reduce overhead costs. This explains the negative coefficients of the foreign bank share in profit and overhead regression in Table 5.⁹

Next, the three regressions are estimated in first differences to focus on the differential impact of foreign bank entry on the domestic banking market. The results are presented in Table 6. In the table, we see that the differences *foreign bank share* variable is negative but not significant in the *net margin/ta* regression, while it enters negatively in the *before tax profits/ta* and *overhead/ta* regressions. These last two negative

⁸ This is interesting as in industrial organization models of competition the numbers of players of any kind rather than their ultimate sizes are frequently taken to be the driving variables.

⁹ If we replace the foreign share of banks with foreign share of bank assets in the regressions, the coefficients are negative in all three regressions but they are not significant.

relationships, consistent with the results in Table 5, suggest that foreign bank entry offers direct competition to domestic banks, thereby reducing their profits and prompting them to cut overhead expenses.¹⁰

As controls, the regressions include four bank variables: the lagged value of equity over total assets, or $equity/ta_{t-1}$, *non-interest earning assets/ta*, *customer & short term funding/ta*, and *overhead/ta*.¹¹ The regressions also include four macroeconomic indicators that can be expected to affect bank performance: GDP per capita (*gdp/cap*), the annual growth rate in real GDP (*growth*), the annual rate of change of the GDP deflator (*inflation*), and the *real interest*. These controls are also chosen in Demirgüç-Kunt and Huizinga (1997), with similar results. The $equity/ta_{t-1}$ variable enters the *net margin/ta* and *before tax profits/ta* regressions positively in Table 5. As also found in Berger (1995), this suggests that well-capitalized banks engage in prudent and profitable activities. Banks face the incentive to behave prudently, if they have a high franchise value on account of sizable costs of entry (see, for instance, Caprio and Summers (1993), and Stiglitz (1996)).

Of special interest is the *overhead/ta* variable in the *net margin/ta* and *before tax profits/ta* regressions in Tables 5 and 6, indicating how higher overhead costs are in part passed on depositors and lenders, and in part absorbed by the bank as lower before-tax profits. Finally, note that higher *growth*, *inflation*, and *real interest* variables lead to higher net margin, before tax profits, as well as overhead. Inflation is expected to increase overhead costs, as it increases the frequency of transactions. All the same, the net effect of inflation on bank profitability is estimated to be positive, which is probably due to earnings through delayed crediting of customer accounts (i.e. float) in inflationary environments.

5. Conclusion

Banking markets are becoming increasingly international on account of financial liberalization and overall economic integration. This paper presents evidence on the scale of foreign participation in national banking markets in 80 countries. Also, it provides some evidence on how foreign banks operate differently from domestic banks. These differences can reflect a different customer base, different bank procedures as well as different relevant regulatory and tax regimes. A main finding is that foreign banks tend to have higher interest margins, profitability, and tax payments than domestic banks in developing countries, while the opposite is true in developed countries.

In the literature on foreign banking, it is frequently asserted that foreign bank entry can render national banking markets more competitive, and thereby can force domestic banks to start operating more efficiently. This paper provides empirical evidence that a larger foreign ownership share of banks indeed reduces the profitability

¹⁰ Again, replacing the foreign share of banks with foreign share of bank assets in the regressions, leads to negative but insignificant coefficients in all three regressions.

¹¹ Customer & short term funding here stand for demand deposits, savings deposits, and time deposits.

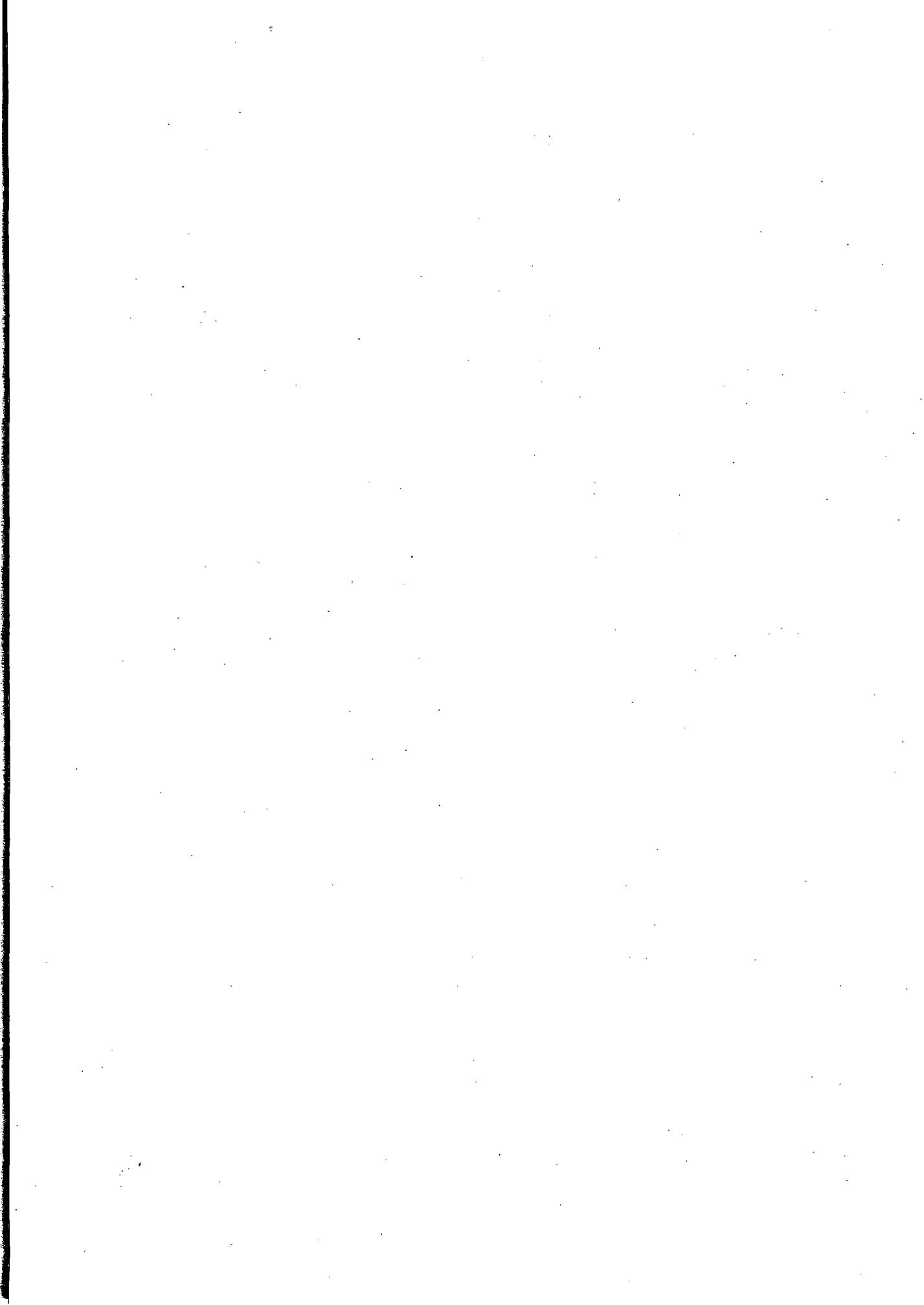
and the overhead expenses of domestically owned banks. This reduction in domestic bank costs may mean that the overall welfare implications of foreign bank entry are positive. An interesting finding is that the number of entrants matters rather than their market share. This indicates that foreign banks affect local bank competition upon entry rather than after they have gained substantial market share.

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