

# Foreign banks in syndicated loan markets \*

Rainer Haselmann and Paul Wachtel

This version: May 2010

## ABSTRACT

Foreign banks play a prominent role in syndicated loan markets. In this paper we examine foreign banks' motives in participating in cross-border deals in 25 European countries. We find that current explanations of foreign banking activities can only account partly for the high rate of foreign involvement in syndicated loan markets. Foreign banks tend to lend to more transparent firms compared to their domestic counterparts only in relative small financial systems. In large developed markets we find contrary to the current literature that foreign banks tend to lend to especially risky borrowers and projects.

JEL Codes: F36, G15, G21, P34.

Keywords: foreign banks, syndicated lending, small financial systems;

---

\*Bonn University, Adenauerallee 24-42, 53113 Bonn, phone: +49-228-73 9209, fax:+49-228-73 5924, rainer.haselmann@uni-bonn.de; Stern School of Business, New York University, 44 West 4th Street, New York, NY 10012, phone: +1-212-998 4030, fax: +1-212-995 4218, pwachtel@stern.nyu.edu; We would like to thank Thorsten Beck, Ralph De Haas, William Greene, Steven Ongena, Beatrice Weder di Mauro and the seminar participants at Bar Ilan University and the European Bank for Reconstruction and Development for their helpful comments. Errors, however, are the sole responsibility of the authors.

# 1. Introduction

Foreign bank activity has increased dramatically in recent years as barriers to foreign bank entry and activity have largely broken down. In many countries foreign banks are responsible for a large fraction of bank lending (Clarke, Cull, Peria, and Sanchez 2003).<sup>1</sup> Foreign banks are particularly active in the syndicated loan markets. In our sample of twenty four European countries, a foreign bank acts as the lead arranger in about one third of all deals and participates as lead arranger together with domestic banks in another forty percent of all deals. Consequently less than one third of all deals are domestically arranged without at least one foreign lead arranger. Moreover, foreign bank underwriting of syndicated loans is found throughout the European markets, in small countries as well as the largest countries with the most sophisticated domestic financial systems. Our objective is to gain an understanding of why the share of foreign banks in syndicated loan markets is so high. Our motivation is that the standard explanations in the literature for foreign bank activity are not always consistent with the levels and patterns of foreign bank participation in syndicated loan markets.

The syndicated loan market provides a good laboratory to examine foreign banking activity because it is large and has many cross border features. In this market firms can go to either domestic or foreign banks (or a consortium of both) that will syndicate a loan to buyers in any market. We will use detailed data on syndicated loans, including interest rates, from Dealscan. We match the loan data with information about the borrowing firms from Amadeus. Thus, our data set includes detailed information on lenders and borrowers throughout Europe for the period 1995 - 2007.<sup>2</sup> Furthermore, by focusing on Europe, we have a sample of many countries with both large and small financial markets.

Although syndicated loans are often viewed as a hybrid with characteristics of bank loans and public debt, they are closer to bank debt because of the role of the lead arranger

---

<sup>1</sup>According to the Bank for International Settlements, international financial claims of bank offices are now thirty-eight times larger than 30 years ago (as of September 2008); see BIS locational banking statistics 2009).

<sup>2</sup>The one drawback of the data set is that it is restricted to relatively large firms and loans. Small businesses, entrepreneurs and non-corporate borrowers will not be participating in this market so our topic is capital market globalization for larger firms.

(Dennis and Mullineaux 2000 and Sufi 2007). The lead arranger drafts the loan terms, monitors compliance and typically holds the largest share of the loan. Of course, the fact that the loan is syndicated and that only a part of it is likely to remain on the balance sheet of the arranger creates pricing incentives that might be different than in other debt markets (Harjoto, Mullineaux, and Yi 2006). However, our interest is not the comparison of syndicated loans to other sources of financing but in the activities of foreign arrangers in the syndicated loan market and differences in their market role across large and small financial systems.

The literature on foreign banks emphasizes the disadvantages faced by foreign banks. Foreign banks have less local, market or firm specific information (so called 'soft' information) than their domestic counterparts and must also overcome cultural and bureaucratic barriers in the host country (see Khanna and Palepu 1999, Buch 2003, Petersen and Rajan 2002; Mian 2006). Given the costs imposed by these barriers, the literature provides some specific reasons why foreign bank entry takes place. First, foreign banks tend to follow their customers abroad when they undertake FDI or enter the foreign markets (Buch and Golder 2001). When the foreign bank serves existing customers from their home country, informational and cultural barriers are basically not present. Second, foreign banks might have a technological advantages (e.g. in form of a better monitoring technology) over domestic banks and thus operate more efficiently.<sup>3</sup> Foreign bank entry occurs because the technological advantages outweigh the informational disadvantages.

The first motive for foreign banking activity (follow-your-customer) is unlikely to account for the large share of foreign banking activity that we observe in the syndicated loan data. The second motive (the technology advantage over domestic banks) might be present in small or less developed financial systems. Small financial markets suffer from diseconomies of scale (Bossone and Long 2001, Andritzky 2007) and may be unable to provide the range of services found in major financial centers from sophisticated equity markets to the competitive provision of banking services. The disadvantages from market size provide a motive for foreign bank entry into these markets. In large developed financial markets, it

---

<sup>3</sup>Empirically, Bonin, Hasan, and Wachtel (2005) and Claessens, Demirgüç-Kunt, and Huizinga (2001) find that foreign banks tend to operate more efficiently than domestic banks in transition and developing financial markets.

is however unlikely that foreign banks have a technological advantage over their domestic counterparts. So it remains unclear what motives drive foreign banking activity in large developed financial markets.

Our paper provides new insights about the underlying forces that drive foreign bank activities. We find that foreign banks are extremely active in syndicated loan markets in both large and small countries, but there are significant differences in their activities in these two different types of markets. In small financial markets, we find that syndicated loans with foreign bank lead arrangers go to larger firms with more tangible assets that are more often publicly listed than the loans with domestic bank lead arrangers. It appears that the foreign banks can exploit their technological advantage in these markets and lend to large borrowers that are able to provide 'hard' information to their creditors. In large financial systems foreign banks actually lend to significantly more leveraged borrowers than domestic banks. Thus, different motives have to explain foreign banking activity in large financial systems. We believe that the motivation of foreign banks in large financial systems is actually opposite from the motives in small financial systems. Thus in large financial markets, foreign banks do not appear to be less 'aggressive' in their lending than domestic banks as argued by Mian (2004). In large financial markets, foreign banks tend to take on especially risky projects and diversify these risks by international syndication. That is, after controlling for loan and borrower characteristics, we find that foreign bank lead arrangers charge higher spreads in large as compared to small financial systems.

We maintain that the risk appetite of foreign lenders is more important than the costs of overcoming the barriers faced by foreign lenders in large financial markets. Costs in overcoming these barriers are likely to be higher in small financial markets and this should be reflected in the spreads foreign banks charge to compensate for these extra costs. There are other differences between small and large financial markets which would tend to lead to higher spreads in smaller markets. First, larger more developed financial systems are more competitive. They tend to have less concentrated banking systems and more active non-bank financial institutions competing as lenders (Bossone and Long 2001). Furthermore, equity and bond markets are concentrated around large financial centers and play a negligible role

in small financial systems. Second, the prevalence of large banks leads to scale economies in financial services that should be reflected in smaller spreads in large countries. Third, standardized accounting information, ratings agencies and active public securities markets all serve to make information about firms more transparent in large markets (Bossone and Long 2001). Thus our finding that foreign banks charge a relative higher spread in large financial systems is evidence for our risk taking argument.

Although loan syndication is an international phenomenon with broadly similar characteristics in many countries, there is little prior cross-national research. Carey and Nini (2007) examine the home bias in syndicated lending and are puzzled by unexplained pricing discrepancies between the U.S. and European markets. Nini (2004) shows that syndicated loans in emerging markets with both foreign and domestic lead arrangers have lower spreads than other similar loans which he attributes to the local knowledge of the domestic arranger. Most recently, Giannetti and Yafeh (2010) show that loan spreads increase with the ‘cultural distance’ between the lead arranger and the borrower. There does not appear to be any prior research that looks at the specific role of foreign banks in syndicated loan markets in both large and small markets.

Most of the literature on foreign banking discusses the expansion of banks into smaller or emerging markets (e.g. Giannetti and Ongena 2008). Foreign bank lending to informationally opaque borrowers is restricted by the geographic and cultural distance between a foreign bank’s headquarters and the local market (Mian 2006). Berger and Udell (2002) and Petersen (2004) argue that since foreign banks are less able to collect ‘soft’ information about local firms, they are likely to refrain from lending to small firms, for which such information is more relevant. Thus, foreign banks are expected to lend more to large firms thereby neglecting small and medium enterprises (see also Sengupta 2007). Claessens and van Horen (2008) argue that banks enter a foreign market when they can increase profitability within an acceptable risk profile. In a similar manner, Mian (2004) shows that private domestic banks appear to be more ‘aggressive’ in their lending than foreign banks. Thus, the literature indicates that foreign and domestic banks behave differently. While we find support for these implications from the literature in small financial markets, foreign banks

tend to behave differently in large financial markets regarding their risk-taking behavior. We show that foreign banks lend to significantly more leveraged firms and charge a higher spread (after controlling for borrower and loan characteristics) in large as compared to small financial systems.

In the next section, we describe the dataset constructed from Dealscan and Amadeus and briefly summarize earlier work on syndicated loans. In the following section, we develop our empirical strategy and present our empirical estimates. The last section summarizes our conclusions.

## **2. Data and literature**

Our primary sample is based on syndicated loans from Loan Pricing Corporation's Dealscan dataset for all European countries that report more than 50 loans for the years 1995 to 2007. We focus on a specific geographic area in order to reduce the problem of cross-country heterogeneity.<sup>4</sup> Dealscan provides detailed information on loan contract terms (most importantly the spread above LIBOR), lead arrangers and lenders. Definitions of the variables constructed from Dealscan are shown in Table I. These include loan characteristics such as maturity and size. In addition, other work (Sufi 2007) with the Dealscan data has indicated that both the loan purpose and the tranche type have a significant effect on loan rates. The parameterization here with dummy variables is designed to capture these influences in a tractable fashion. A bank is defined as foreign owned if foreigners or foreign entities own 50 percent or more of its assets. In addition, a bank is considered foreign if it is a subsidiary of a domestic bank that is itself owned by foreigners.

In order to obtain more information on the characteristics of the borrowing firm, we match the Dealscan data on loan contracts to Bureau van Dyck's Amadeus database for financial statements. The characteristics of the borrowing firm capture differences in risk due to the firm's industry and the financial condition of the firm. Amadeus is a comprehensive,

---

<sup>4</sup>Carey and Nini (2007) find that there are significant differences in loan pricing between different geographic areas that cannot be explained by loan, borrower or lender characteristics.

pan-European database containing financial information on public and private companies of all sizes. Since there is no common identification code for the Amadeus and Dealscan databases, we match the two datasets by firm name and industry classification code using the 'Reclink' algorithm in Stata. We are able to obtain firm data from Amadeus for 6416 Dealscan loan contracts.<sup>5</sup> Since we do not know whether a loan was granted at the end, beginning or within a year, we match the accounting data from the year  $t-1$  to each loan contract that was that became active in year  $t$ . If accounting data for the year  $t-1$  was not available for a given firm, we use data from year  $t$ . The definitions of variables obtained from both sources are shown in Table I. We exclude from our data loans to the financial sector and loans for leveraged buy outs which leaves us with a 2819 loan contracts in our data set. The distribution of loan observations across countries is shown Table II along with the mean spreads. Finally we obtain macro data on financial sector size, development and concentration from the World Bank World Development Indicators and from Barth, Caprio, and Levine (2008).

We are not the first researchers to utilize the Dealscan data on loan syndications. Earlier work has focused on the structure of the financial industry without information about the borrowing firm or characteristics of the national markets. For example, Harjoto, Mullineaux, and Yi (2006) examine the differences in loan pricing by investment banks and commercial banks and, similarly, Steffen (2008) analyzes the effect on loan pricing of an ongoing banking relationship between the lead arranger and the borrower. Earlier, Carey, Post, and Sharpe (1998) used syndicated loan data to examine differences in the lending behavior of banks and private finance companies. They find that both types of intermediaries are equally likely to finance information-problematic borrowers. Ivashina (2008) models the determinants of the fraction of a syndicated loan that is retained by the lead bank. Sufi (2007) examines the determinants of syndicated loan structures and finds that when the moral hazard problem in loan monitoring is severe, a larger share of the loan is retained by the lead bank. Qian and Strahan (2007) find that institutional quality (e.g. creditor rights) influences the characteristics of syndicated loan contracts. In countries with stronger creditor protection, loans have more concentrated ownership, longer maturities, and lower interest rates.

---

<sup>5</sup>There were 15,585 Dealscan deals and over 40 percent were matched with the Amadeus firm data.

Among the recent papers on syndicated lending, our analysis is most closely related to Carey and Nini (2007). They examine differences in syndicated loan pricing in geographic areas. They find that interest rate spreads on loans are smaller in Europe than in the US which cannot be explained by differences in lender, borrower or loan characteristics. They argue that the differences persist because borrowers have a strong home bias. Thus, national markets remain segmented which differs from our findings below that cross border syndication and foreign bank participation have led to substantial strides in market integration.

## **3. Findings**

### **3.1. Descriptive Analysis**

The mean spread over LIBOR of syndicated loans differs enormously across European countries and between foreign and domestic lead arrangers (see Table II).<sup>6</sup> Foreign bank lead arrangers charge on average a higher spread than domestic banks and loans with at least one foreign and one domestic lead arranger (mixed) show the lowest average spread. There are at least three possible reasons why foreign banks charge on average a higher spreads compared to their domestic competitors: First, they lend to more risky borrowers or issue loans contracts that have less favorable terms for the creditor. In this case the higher spread compensates for the extra risk of the lender. Second, foreign banks have higher costs involved with lending operations abroad (e.g. due to a lack in local knowledge). These higher costs outweigh the value of any technological advantages that they might have and therefore foreign banks charge a higher spread. Third, the foreign banks might provide better service and better access to a broad network of syndicate participants. A borrowing firm might value this because the 'certification' provided by a well known foreign bank lead arranger might facilitate future access to funds.<sup>7</sup> The lower spreads for mixed arrangers could be due to the combination of the technical know how of the foreign participant and the local knowledge of the local participant.

---

<sup>6</sup>Spreads includes the contract spread over LIBOR on the loan's outstanding balance plus any annual fees and any upfront fee prorated over the life of the loan.

<sup>7</sup>This argument was suggested by Ralph De Haas.



Whether foreign banks lend to more or less risky borrowers compared to their domestic competitors can be seen by comparing borrower and loan characteristics of these two types of arrangers. The first three columns of Table III contrast mean borrower (in Panel A) and loan (in Panel B) characteristics for loans arranged by domestic, foreign or mixed lead arrangers. On average foreign banks lend to larger firms that tend to be more leveraged although these firms have more tangible assets, have lower ROE and more cash and working capital.

As noted earlier, foreign banks may not be able to utilize ‘soft’ information on borrowers and thus may prefer transparent borrowers. Consistent with this we see from Table III that borrowers from foreign arrangers tend to be large, publicly listed firms with a higher tangibility ratio. The differences in the means of these measures between domestic and foreign lead arrangers are statistically significant.

Nevertheless, we find mixed evidence for the finding that domestic arrangers are more ‘aggressive’ in their lending compared to foreign banks and thus, lend to more risky borrowers (Mian 2004). Although foreign banks tend to lend to firms with more cash and working capital, their customers tend to be more leveraged. Loans made by mixed arrangers go to much larger firms with more cash and greater tangibility than other loans. There are also differences in the characteristics of the loans from different types of arrangers as shown in Panel B. Syndicated loans are made with a variety of contractual structures and with various terms and purposes. In addition, the loans are made to firms in all industries. Loans from foreign and mixed lead arrangers are larger, have higher spreads and shorter maturity than those made by domestic arrangers.

### **3.2. Cross-Country Analysis**

In the following section, we will control for both the loan and borrower characteristics in order to examine whether loan spreads can be explained by the differences among foreign, mixed and domestic bank lead arrangers. Thus, we formulate a base line regression to

explain interest rate spreads in the syndicated loan market that controls for both loan and borrower characteristics:

$$\log(\text{spread}_{ijt}) = \alpha_{it} + \beta_{jt} + \delta \text{Foreign}_{jt} + \gamma \text{Mixed}_{jt} + \varepsilon_{ijt}. \quad (1)$$

The dependent variable is the logarithm of the spread between the Libor rate and the specific loan contract rate as explained before of loan  $i$  by borrower  $j$  at time  $t$ . Loan contract characteristics are summarized by  $\alpha_{it}$  and borrower characteristics by  $\beta_{jt}$ . The variables used to control for the specific characteristics of the loan as well as the risk characteristics of the borrowing firm are shown in Table I. The dummy variable  $\text{Foreign}_{jt}$  takes the value of one if a loan is arranged by a foreign lead arranger and zero otherwise.  $\text{Mixed}_{jt}$  takes the value of one if a loan is arranged by both foreign and domestic lead arrangers and zero otherwise. Our coefficients of interest are  $\delta$  and  $\gamma$  that measure whether foreign and mixed lead arrangers charge a different spread to their borrowers after controlling for loan and borrower characteristics.

Least squares estimates of the base line equation for all loans in our sample are shown in the first column of Table IV. The full sample includes 1840 loan contracts for which all data are available.<sup>8</sup> The base line equation explains 33 percent of the variance in spreads. The coefficients in the base line equation are as expected and are mostly significant. Spreads increase with the borrower's leverage ratio and decrease with loan size, firm size, the tangibility ratio, and cash flow. Spreads are lower for public companies and, interestingly, do not vary with maturity.

The second column adds dummy variables for the type of lead arranger; domestic lead arrangers are the left out category. Spreads are significantly lower (about 10%) for mixed lead arrangers although there is no significant difference between domestic and foreign lead arrangers. The addition of the dummies has virtually no affect on the coefficients for the loan and borrower characteristics.

---

<sup>8</sup>There are fewer observations in these regression than in Table II because of missing data for some loan and borrower characteristics.

These estimates indicate that, with borrower and loan characteristics held constant, there is no difference in the spreads charged by foreign and domestic lead arrangers although mixed leads do behave differently. These results do not provide a conclusive explanation of the role of foreign banks in the syndicated loan markets. As argued in the introduction, the motives for foreign banking operations discussed in the literature seem to be mostly valid for small or less developed financial systems where national banking markets may not be competitive and capital markets are less developed. We suggested that these small or emerging market arguments may not apply to large developed markets. Thus, a better explanation of the role of foreign banks may be found by examining differences in the role played by foreign banks in syndicated loan markets in small versus large financial systems.

We explore the influence of financial sector development by adding a measure of financial market development to the base line equation. The measures used are the absolute size of the credit market and the relative size of the private credit market. In the first instance, the variable is the log of total private credit and in the second instance it is the ratio of total private credit to GDP.<sup>9</sup> The variation in our measures of financial market development among the countries in our sample is shown in Figures 1 and 2. Figure 1 shows that the credit markets in Germany, UK, France, and Italy are the largest with Spain and the Netherlands coming next. Figure 2 shows that the countries with the largest financial markets relative to GDP are Iceland, Switzerland, Denmark, UK, Ireland, and the Netherlands.

The third and fourth columns of Table IV show the base line equation with one of the financial market development indicators added. The equations show significant positive relationships between spreads and both market size and market depth. The elasticity of the spread with respect to the absolute size of the credit market is .036 and with respect to the relative size of the credit market it is .111 (evaluated at the mean of the credit to GDP ratio in percent across loan observations, 111.7). Even with absolute or relative financial market size held constant, the spreads for mixed bank arrangers are significantly lower and the spreads for foreign arrangers are no different than domestic arrangers. The other coefficients in the equations are relatively unchanged.

---

<sup>9</sup>The data for total private credit is obtained from the IMF - International Financial Statistics and GDP from the World Bank - World Development Indicators. Both figures are reported in US dollars.

Our earlier observation of the raw data indicated that foreign banks might play a different role in different markets. For example, the summary statistics in Table II show clearly that the spreads of foreign lead arrangers are higher in large countries. Average rate spreads are well above the overall mean in the most developed markets (United Kingdom and Germany) and the spreads charged by foreign leads are among the highest in these markets. This is surprising since we would expect a priori that foreign banks charge a higher spread in small financial markets where only few economies of scale can be realized (e.g. the fixed costs of establishing lending operations can only be spread over a smaller number of borrowers) and where information asymmetries tend to be more serious. Of course, the differences in spreads across countries could also be due to differences in the characteristics of both the loans and borrowers among countries.

### 3.3. Small versus large financial systems

We will further explore the relationship between arranger type and market development. Since the type of arranger varies in each country, we have the opportunity to control for country heterogeneity. By focusing on within country variation we can overcome the well-known omitted variable problem that generally goes along with cross-country analysis. We estimate the following expanded equation:

$$\begin{aligned} \log(\text{spread}_{ijt}) = & \alpha_{it} + \beta_{jt} + \eta_k + \delta_0 \text{Foreign}_{kt} + \gamma_0 \text{Mixed}_{jt} + \sigma \text{Market}_{kt} \\ & + \delta_1 \text{Foreign}_{jt} * \text{Market}_{kt} + \gamma_1 \text{Mixed}_{jt} * \text{Market}_{kt} + \epsilon_{ijt}, \end{aligned} \quad (2)$$

where  $\alpha_{it}$  and  $\beta_{jt}$  are loan and borrower effects as discussed before. Country fixed effects are denoted by  $\eta_k$ . The size of a financial market is captured by  $\text{Market}_{kt}$ , that is one of the two measures introduced above in year  $t$  for country  $k$ . Our coefficients of interest are  $\delta_1$  and  $\gamma_1$  which indicate how market size effects the spreads for different arrangers. We cluster standard errors by country of operation.

Table V shows a summary of the estimates of this equation with each of the measures of financial market size. All the baseline measures of lender and borrower characteristics are

included in the equations although only the arranger type and market size coefficients are shown. We measure market size in absolute terms (the log of total private credit) in column 1 and in relative terms (total private credit as a percent of GDP) in column 2. The coefficient of the interaction term for foreign lead arrangers is positive and statistically significant no matter whether we measure market size in absolute (column 1) or relative (column 2) terms. This results supports our main hypotheses that foreign banks play a different role in small versus large financial systems. Even information asymmetries tend to be smaller in large financial systems and foreign banks are likely to realize economies of scale in these markets, they charge a higher spread. The most likely explanation for this finding is that foreign banks finance more risky projects in large compared to small financial systems. An issue we will discuss in detail in Table 6. The interaction coefficient of mixed lead arrangers is not statistically significant in column 1 and 2. Thus, we find no evidence for a similar behavior when foreign and domestic lead arrangers cooperate.

We can further test for the robustness of our findings by controlling for heterogeneity over time in specification 2. Thus we add year fixed effects in columns 3 and 4. Our coefficients of interest are hardly affected by the inclusion of year fixed effects. Since several firms have several loan contracts with domestic, foreign and mixed lead arrangers, we can also include firm fixed effects. This is a strong test, since it holds constant all borrower characteristics and borrower differences e.g. due to different risk characteristics get averaged out. Results including firm fixed effects are reported in columns 5 and 6.<sup>10</sup> The interaction coefficient of foreign lead arrangers with absolute market size remains positive and significant. Thus, foreign banks charge a higher spread in large financial systems even if we average out all borrower differences. This finding, however, disappears if we measure market size by a relative measure (column 6).

Finally, most of our sample banks operate in several countries. Thus, we can exploit within bank variation of spreads. Since we can only define a fixed effect for each bank, all observations with several lead arrangers are dropped from these tests. Results are presented in columns 7 and 8. We find again strong support for our hypothesis that foreign banks

---

<sup>10</sup>Since we do not have the borrower name for a couple of observations N decreases slightly.

charge different spreads in small versus large financial systems. The interaction coefficient is positive and significant for both measure of market size.

To gain a better understanding of the influence of financial market size on spreads, we separate the European countries into large and small markets. Using the absolute market size (see Figure 1), the four largest financial markets are the UK, Germany, France and Italy. Although, the distinction between these four large financial markets and the other countries is arbitrary, we will examine whether the behavior of foreign or mixed arrangers is different in these large markets compared to elsewhere.<sup>11</sup>

Table VI report mean borrower and loan characteristics by type of lead arranger in these four large markets compared to the others. We also show t-tests for the differences in the means between the large and small financial markets. There are some striking differences to take note of. Foreign bank lead arrangers make longer maturity loans to more leveraged firms with fewer tangible assets in large markets compared to small markets. In small markets domestic lead arrangers lend to firms with lower ROE while in large market, foreign lead arrangers lend to firms with lower ROE. Generally, these data suggests that foreign bank lend to larger and less risky firms as suggested by Mian (2006) and Berger and Udell (2002) only in small financial systems. In large markets we find no evidence in this direction - if at all we find evidence for the opposite (based on the leverage ratio).

Finally, we want to use our new measure for market size to test for the robustness of our results from Table V. Therefore, we substitute a dummy *BigCountry* that takes the value of one if a borrower is from UK, Germany, France or Italy and zero otherwise for market size in specification (2). The interaction coefficient measures the difference of the spread foreign banks in large versus small countries compared to domestic banks (the dummy *BigCountry* itself gets absorbed by country fixed effects). The results are summarized in Table VII. The table shows only the coefficients on the variables of concern and omits the coefficients on the loan and borrower characteristics which are, of course, included in the estimation. Re-

---

<sup>11</sup>We experimented with alternative choices of the group of large countries such as eliminating Italy or adding Spain and found that the results reported here are robust. In addition, looking at individual countries quickly leads to small samples and idiosyncrasies that make drawing conclusions impossible.

sults support previous findings of Table V. We find a significant positive interaction with the foreign arranger controlling for country and year fixed effects (columns 1 and 2). The interaction remains positive and significant when we substitute borrower fixed effects (column 3) in the specification. Only if we control for bank fixed effects we do not find a significant coefficient.

All in all, there is strong evidence here of a significant interaction that distinguishes the behavior of foreign arrangers in the four large financial markets from behavior elsewhere. In order to provide a numerical example of the magnitude of spread changes we estimate the same specification excluding country fixed effects (column 5). We show here the differences from the omitted category - domestic bank lead arrangers in small markets subsequently:

	Domestic	Mixed	Foreign
Small	<i>Base</i>	-0.022	-0.03
Large	0.384	0.294	0.577

The arranger type has a negligible effect on spreads in small markets. The spread for foreign and mixed arrangers is slightly lower than for domestic bank arrangers which would be consistent with some informational or efficiency advantage of these lenders in less developed markets. As for the large, markets, first, all three arranger types have larger spreads in large markets than in small markets. Second, there are pronounced differences among arranger types in large markets. In particular, foreign banks as lead arrangers in the four large markets have substantially higher spreads than either domestic or mixed arrangers. It appears that syndicated lending in large markets is riskier and, importantly, that foreign lead arrangers take on more risk than either domestic or mixed arrangers. By contrast, foreign bank syndicates have about the same spreads as domestic syndicates in small countries. This finding is in contrast to the usual understanding of foreign banking activity. We find that foreign banks are more aggressive in these large markets and that there is little difference among arrangers types in small markets. We conclude that the higher spreads charged by foreign arrangers in the large markets are due to an increased willingness to take on risk and establish a presence in these markets. In small markets, we find that foreign arrangers charge slightly less. The foreign arrangers might be concerned with country risk which is hard to diversify away in small markets where they may have only a few clients.

## 4. Conclusion

One financial market where cross border activity is substantial is the syndicated loan market. In our sample of European loan syndications since 1995, fully 71 percent of all loans include some foreign participation. Foreign banks are active participants in syndicated loan markets throughout Europe. Foreign banks can use the syndicated loan market to establish a market presence and expand their activity abroad.

To better understand the integration of capital markets in Europe, we analyzed the spreads faced by banks on syndicated loans. After holding constant the characteristics of both the loan and the borrower, we find that the motivation for foreign entry differs between small and large countries. Specifically, rate spreads are larger in big countries, particularly for foreign banks. This suggests that loan syndications which spread risks are used for risky lending in large countries. In small countries, where markets are less developed, spreads do not differ as much by arranger type, particularly for non LBO loans. That is, in small countries, loan syndications by foreign banks serve to complete markets and fill in for the absence of domestic borrowing opportunities particularly when they collaborate as mixed leads with domestic banks with local knowledge. Overall, syndicated lending is an important vehicle for foreign bank participation in both large and small countries. However, capital market integration, as illustrated by the syndicated loan market, serves different functions in the large and small markets.



## References

- Andritzky, J. R., 2007, "Capital Market Development in a Small Country: The Case of Slovenia," IMF Working Papers 07/229, International Monetary Fund.
- Barth, J. R., J. Caprio, Gerard, and R. Levine, 2008, "Bank regulations are changing : for better or worse ?," Policy Research Working Paper Series 4646, The World Bank.
- Berger, A., and G. Udell, 2002, "Small business credit availability and relationship lending: The importance of bank organisational structure," *Economic Journal*, 112, 32–53.
- Bonin, J. P., I. Hasan, and P. Wachtel, 2005, "Bank performance, efficiency and ownership in transition countries," *Journal of Banking & Finance*, 29, 31–53.
- Bossone, Biagio; Honohan, P., and M. Long, 2001, "Policy for Small Financial Systems," Discussion paper.
- Buch, C. M., 2003, "Information or Regulation: What Drives the International Activities of Commercial Banks?," *Journal of Money, Credit and Banking*, 35, 851–69.
- Buch, C. M., and S. M. Golder, 2001, "Foreign versus domestic banks in Germany and the US: a tale of two markets?," *Journal of Multinational Financial Management*, 11, 341–361.
- Carey, M., and G. Nini, 2007, "Is the Corporate Loan Market Globally Integrated? A Pricing Puzzle," *Journal of Finance*, 62, 2969–3007.
- Carey, M., M. Post, and S. A. Sharpe, 1998, "Does Corporate Lending by Banks and Finance Companies Differ? Evidence on Specialization in Private Debt Contracting," *Journal of Finance*, 53, 845–878.
- Claessens, S., A. Demirgüç-Kunt, and H. Huizinga, 2001, "How Does Foreign Entry Affect Domestic Banking Markets?," *Journal of Banking and Finance*, 25, 891–911.
- Claessens, S., and N. van Horen, 2008, "Location Decisions of Foreign Banks and Institutional Competitive Advantage," DNB Working Papers 172, Netherlands Central Bank, Research Department.
- Clarke, G., R. Cull, M. S. M. Peria, and S. M. Sanchez, 2003, "Foreign Bank Entry: Experience, Implications for Developing Economies, and Agenda for Further Research," *World Bank Research Observer*, 18, 25–59.
- Dennis, S. A., and D. J. Mullineaux, 2000, "Syndicated Loans," *Journal of Financial Intermediation*, 9, 404–426.
- Giannetti, M., and S. Ongena, 2008, "Lending by Example: Direct and Indirect Effects of Foreign Banks in Emerging Markets," *Tilburg University*.
- Giannetti, M., and Y. Yafeh, 2010, "Do Cultural Differences Between Contracting Parties Matter? Evidence from Syndicated Bank Loans," Discussion paper.
- Harjoto, M., D. Mullineaux, and H.-C. Yi, 2006, "A Comparison of Syndicated Loan Pricing at Investment and Commercial Banks," *Financial Management*, 35, 49–70.

- Ivashina, V., 2008, "Asymmetric Information Effects on Loan Spreads," *Journal of Finance*.
- Khanna, T., and K. Palepu, 1999, "Emerging Market Business Groups, Foreign Investors, and Corporate Governance," NBER Working Papers 6955, National Bureau of Economic Research, Inc.
- Mian, A., 2004, "Foreign, Private Domestic, and Government Banks: New Evidence from Emerging Markets," *Journal of Banking and Finance*.
- Mian, A., 2006, "Distance Constraints: The Limits of Foreign Lending in Poor Economies," *Journal of Finance*, 61, 1465–1505.
- Nini, G. P., 2004, "The value of financial intermediaries: empirical evidence from syndicated loans to emerging market borrowers," Discussion paper.
- Petersen, M., 2004, "Information: Hard and soft," Working paper series, Northwestern University.
- Petersen, M. A., and R. G. Rajan, 2002, "Does Distance Still Matter? The Information Revolution in Small Business Lending," *Journal of Finance*, 57, 2533–2570.
- Qian, J., and P. E. Strahan, 2007, "How Laws and Institutions Shape Financial Contracts: The Case of Bank Loans," *Journal of Finance*, 62, 2803–2834.
- Sengupta, R., 2007, "Foreign entry and bank competition," *Journal of Financial Economics*, 84, 502–528.
- Steffen, S., 2008, "What Drives Syndicated Loan Spreads? Moral Hazard and Lending Relationships," Working paper series, Goethe University Frankfurt; New York University - Department of Finance.
- Sufi, A., 2007, "Information Asymmetry and Financing Arrangements: Evidence from Syndicated Loans," *Journal of Finance*, 62, 629–668.

**Table I**  
**Definition of variables**

---

Characteristics of loan:

---

lg(spread):	basis points above LIBOR
Maturity:	maturity of loan contract in months
lg(loansize):	logarithm of the face value of the loan (in \$)
Pcorporate:	Dummy if loan is for corporate purpose
Plbo:	Dummy if loan is for leveraged buyout
Pproject:	Dummy if loan is to finance a project
Coven:	Dummy if financial covenants are specified in the contract
Nrlenders:	number of lenders participating in loan
Trevolver:	Dummy if specific tranche type is revolver loan
TtermA:	Dummy if specific tranche type is term A loan
TtermB:	Dummy if specific tranche type is term B loan
Ttermrest:	Dummy if specific tranche type is higher than term B loan

---

Characteristics of borrowing firm:

---

log(asset):	logarithm of total assets
Tangibility:	ratio of firms fixed assets to total assets
Leverage:	ratio of debt to total assets
ROE:	return on shareholder funds (equity)
Cash:	ratio of cash flow to operating profit
WorkingCap:	working capital per employee
Sichightech:	Dummy if firm operates in high tech industry
Siclowtech:	Dummy if firm operates in low tech industry
Sicholding:	Dummy if firm is a financial holding company
Tikdum:	Dummy if firm is publicly listed

---

Characteristics of financial markets:

---

lg(PCredit):	logarithm of total private credit
PCredit to GDP:	ratio of total private credit to GDP

---

**Table II**  
**Sample composition and spreads by country and nationality of arranger**

Notes: This table reports the number of loan contracts and mean spreads above Libor for each sample country. In the last three columns mean spreads arranged by nationality of the lead arrangers are shown.

country	Freq.	Percent	Spread	Foreign	Domestic	Mixed
Austria	5	0.18	84.50	175.00	-	24.17
Belgium	42	1.49	60.34	54.48	86.25	72.75
Croatia	17	0.60	140.00	130.36	-	185.00
Czech Republic	15	0.53	103.03	101.46	125.00	-
Denmark	10	0.35	43.95	65.83	-	34.57
Finland	58	2.06	62.37	53.42	69.38	72.40
France	404	14.33	85.59	146.96	108.98	57.47
Germany	510	18.09	113.97	215.89	109.16	85.48
Greece	76	2.70	107.17	120.68	142.50	84.09
Hungary	8	0.28	69.75	58.25	-	81.25
Iceland	3	0.11	158.33	160.00	155.00	-
Ireland	18	0.64	158.89	163.33	75.00	167.50
Italy	161	5.71	140.52	163.36	131.16	144.14
Luxembourg	11	0.39	50.91	56.67	-	25.00
Netherlands	140	4.97	117.57	101.69	170.95	95.69
Norway	93	3.30	90.39	66.76	92.85	109.43
Poland	79	2.80	93.35	98.17	96.00	83.96
Portugal	23	0.82	79.71	52.17	-	115.50
Romania	24	0.85	243.33	243.04	-	250.00
Slovakia	11	0.39	140.82	138.00	-	148.33
Slovenia	1	0.04	55.00	55.00	-	-
Spain	426	15.11	92.81	122.11	91.32	86.66
Sweden	111	3.94	64.93	84.55	76.25	52.66
Switzerland	81	2.87	92.91	83.26	96.67	101.79
United Kingdom	492	17.45	115.32	161.30	103.16	98.13
<b>Total (Mean)</b>	<b>2819</b>	<b>100</b>	<b>(102.62)</b>	<b>(114.87)</b>	<b>(108.10)</b>	<b>(98.91)</b>

**Table III**  
**Borrower and loan characteristics**

Notes: t-statistics are presented in parentheses below the differences.

	Means			Differences		
	domestic	foreign	mixed	domestic vs foreign	domestic vs mixed	foreign vs mixed
<b>Panel A: Borrower characteristics</b>						
total assets (millions)	277.10	748.12	4158.23	471.02 (3.08)	3881.13 (7.66)	3410.11 (6.28)
leverage	0.59	0.62	0.62	0.02 (1.48)	0.03 (1.96)	0.00 (0.06)
tangibility	0.59	0.63	0.65	0.04 (2.84)	0.06 (4.66)	0.01 (1.12)
ROE	11.14	7.53	9.81	-3.61 (-0.83)	-1.33 (-0.49)	2.28 (-0.58)
Cash	0.10	0.11	0.12	0.01 (0.76)	0.02 (1.79)	0.01 (0.82)
Working capital	0.01	0.11	0.22	0.10 (3.12)	0.21 (3.13)	0.11 (1.4)
SICHighTech	0.12	0.08	0.13	-0.04 (-2.89)	0.01 (0.55)	0.05 (3.67)
SICLowTech	0.14	0.11	0.14	-0.03 (-1.55)	0.00 (0.2)	0.03 (1.9)
TikDum	0.14	0.30	0.39	0.16 (7.6)	0.25 (12.71)	0.09 (4.18)
<b>Panel B: Loan characteristics</b>						
Spread	107.82	129.97	87.71	22.15 (3.78)	-20.12 (-4.34)	-42.27 (-7.28)
Maturity	71.98	68.34	58.27	-3.64 (-1.27)	-13.71 (-6.5)	-10.08 (-4.51)
LoanSize (millions)	356.45	538.22	1692.44	181.77 (4.95)	1335.99 (13.46)	1154.22 (10.99)
Pcorporate	0.85	0.82	0.91	-0.03 (-1.71)	0.05 (3.92)	0.09 (5.87)
Coven	0.14	0.19	0.18	0.05 (2.7)	0.04 (2.55)	-0.01 (0.52)
NrLenders	8.43	9.63	16.33	1.21 (3.02)	7.90 (18.8)	6.70 (14.47)

**Table IV**  
**Estimates of the base line equation**

Notes: The table shows regression results from estimating specification  $\log(\text{spread}_{ijt}) = \alpha_{it} + \beta_{jt} + \delta \text{Foreign}_{jt} + \gamma \text{Mixed}_{jt} + \varepsilon_{ijt}$ . Variables are defined as in Table I. Robust t-statistics are reported below each coefficient in parentheses. The bottom line of the table states the number of observations and adjusted R-squared of each estimation. \*,\*\* indicates significance at the 5%, and 1%, respectively.

	(1)	(2)	(3)	(4)
maturity	-0.000 (0.07)	-0.000 (0.22)	-0.000 (0.23)	-0.000 (0.26)
lg(loansize)	-0.119 (5.86)**	-0.106 (5.15)**	-0.114 (5.46)**	-0.113 (5.36)**
lg(asset)	-0.021 (4.01)**	-0.022 (4.07)**	-0.021 (4.03)**	-0.021 (3.93)**
tangibility	-0.165 (2.11)*	-0.154 (1.96)	-0.150 (1.89)	-0.144 (1.81)
leverage	0.482 (5.27)**	0.490 (5.34)**	0.492 (5.36)**	0.488 (5.32)**
sichtech	-0.083 (1.60)	-0.078 (1.50)	-0.093 (1.80)	-0.078 (1.51)
siclowtech	-0.020 (0.40)	-0.014 (0.29)	-0.016 (0.33)	-0.016 (0.33)
sicholding	-0.211 (4.52)**	-0.212 (4.55)**	-0.211 (4.52)**	-0.202 (4.32)**
pcorporate	-0.109 (1.63)	-0.102 (1.53)	-0.100 (1.49)	-0.105 (1.56)
ROE	-0.088 (0.34)	-0.079 (0.30)	-0.033 (0.13)	-0.100 (0.38)
cash flow	-0.229 (3.00)**	-0.219 (2.88)**	-0.229 (3.02)**	-0.226 (2.98)**
working cap	-0.004 (0.27)	-0.004 (0.28)	-0.005 (0.39)	-0.005 (0.40)
coven	0.472 (9.33)**	0.463 (9.28)**	0.465 (9.29)**	0.463 (9.27)**
nrlenders	-0.008 (3.51)**	-0.007 (3.34)**	-0.007 (3.25)**	-0.007 (3.14)**
tikdum	-0.150 (3.43)**	-0.145 (3.31)**	-0.147 (3.34)**	-0.146 (3.32)**
trevolver	-0.105 (2.86)**	-0.099 (2.70)**	-0.100 (2.74)**	-0.099 (2.70)**
ttermA	0.564 (4.38)**	0.556 (4.36)**	0.539 (4.24)**	0.554 (4.30)**
ttermB	0.727 (5.72)**	0.718 (5.73)**	0.705 (5.67)**	0.712 (5.66)**
ttermrest	0.804 (3.64)**	0.808 (3.64)**	0.810 (3.68)**	0.816 (3.66)**
Foreign		-0.005 (0.10)	0.041 (0.78)	0.007 (0.15)
Mixed		-0.104 (2.35)*	-0.090 (2.04)*	-0.104 (2.36)*
lg(Pcredit)			0.036 (2.35)*	
Pcredit to GDP				0.001 (2.07)*
Constant	6.894 (20.00)**	6.663 (18.93)**	5.633 (9.81)**	6.666 (18.85)**
Observations	1840	1840	1835	1835
R-squared	0.33	0.33	0.33	0.33

**Table V**  
**Lending spreads of foreign, domestic and mixed lead arrangers and absolute credit market size**

Notes: Variables are defined as in Table I. Robust standard errors are reported below each coefficient in parentheses. The bottom line of the table states the number of observations and the adjusted R-squared of each estimation. \*,\*\* indicates significance at the 5%, and 1%, respectively.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
lg(PCredit)	0.048 (0.76)		0.155 (1.51)		-0.202 (2.42)**		0.586 (4.34)***	
Pcredit to GDP		0.003 (1.98)**		0.004 (2.55)**		0.002 (0.93)		0.009 (3.11)***
Mixed	-0.334 (0.25)	-0.021 (0.14)	0.560 (0.43)	0.042 (0.29)	-2.326 (1.14)	0.255 (1.19)	-	-
Foreign	-3.295 (2.30)**	-0.260 (1.53)	-2.754 (1.99)**	-0.122 (0.74)	-5.230 (2.35)**	0.017 (0.07)	-4.246 (1.61)	-0.369 (1.22)
Foreign*lg(PCredit)	0.104 (2.34)**		0.090 (2.09)**		0.165 (2.39)**		0.138 (1.69)*	
Mixed*lg(PCredit)	0.008 (0.20)		-0.017 (0.44)		0.068 (1.08)		-	
Foreign*Pcredit to GDP		0.003 (1.87)*		0.002 (1.67)*		0.001 (0.39)		0.005 (1.91)*
Mixed*Pcredit to GDP		-0.001 (0.25)		-0.001 (0.28)		-0.003 (1.80)*		
country fixed effects	yes	yes	yes	yes	yes	yes	yes	yes
year fixed effects	no	no	yes	yes	no	no	no	no
firm fixed effects	no	no	no	no	yes	yes	no	no
bank fixed effects	no	no	no	no	no	no	yes	yes
Observations	1835	1835	1835	1835	1789	1789	726	726
R-squared	0.40	0.40	0.46	0.46	0.89	0.89	0.55	0.56

**Table VI**  
**Borrower characteristics small versus big countries**

Notes: t-statistics are presented in parentheses below the differences. This table reports mean values of borrower characteristics. The sample is split up between big and small countries ('big country' and 'small country'). 'big country' is short for the countries UK, Germany, France, Italy and 'small country' are the remaining sample countries. Variables are defined as in Table I.

	small countries			big countries			Differences small vs big		
	domestic	foreign	mixed	domestic	foreign	mixed	domestic	foreign	mixed
<b>Panel A: Borrower characteristics</b>									
total assets (millions)	8.15	13.78	99.85	439.46	1998.48	7053.48	431.31 (2.576)	1984.70 (7.419)	6953.63 (9.288)
leverage	0.59	0.57	0.60	0.59	0.69	0.63	0.01	0.12	0.02
tangibility	0.63	0.66	0.65	0.57	0.59	0.64	(0.250)	(4.996)	(1.598)
ROE	11.10	14.01	13.57	11.17	-4.51	7.07	(-3.035)	(-2.785)	(-0.628)
Cash	0.13	0.12	0.14	0.09	0.11	0.11	(0.022)	(-2.075)	(-1.779)
Working capital	-0.01	0.00	0.04	0.01	0.31	0.35	(-2.129)	(-0.512)	(-1.981)
SICHighTech	0.07	0.07	0.08	0.16	0.10	0.17	(0.711)	(4.486)	(2.997)
SICLowTech	0.12	0.15	0.17	0.15	0.05	0.12	0.09	0.03	0.09
TikDum	0.07	0.28	0.24	0.18	0.33	0.50	(3.713)	(1.570)	(4.825)
							0.03	-0.09	-0.04
							(1.348)	(-3.887)	(-2.212)
							0.11	0.04	0.27
							(4.430)	(1.192)	(10.633)
<b>Panel B: Loan characteristics</b>									
Spread	102.54	102.77	88.38	111.01	176.86	87.22	8.47	74.10	-1.16
Maturity	82.47	62.22	65.92	65.66	78.97	52.66	(1.511)	(6.864)	(-0.184)
LoanSize (millions)	197.01	507.53	1000.29	452.50	591.11	2200.87	-16.81	16.75	-13.26
Pcorporate	0.76	0.82	0.85	0.91	0.83	0.95	(-4.340)	(3.791)	(-5.716)
Coven	0.13	0.16	0.14	0.14	0.23	0.20	255.49	83.58	1200.58
NrLenders	7.13	11.16	14.03	9.21	7.00	18.02	(5.952)	(1.316)	(8.267)
							0.16	0.01	0.10
							(6.124)	(0.202)	(6.822)
							0.01	0.08	0.06
							(0.263)	(2.551)	(2.898)
							2.08	-4.16	3.99
							(4.314)	(-6.286)	(7.014)

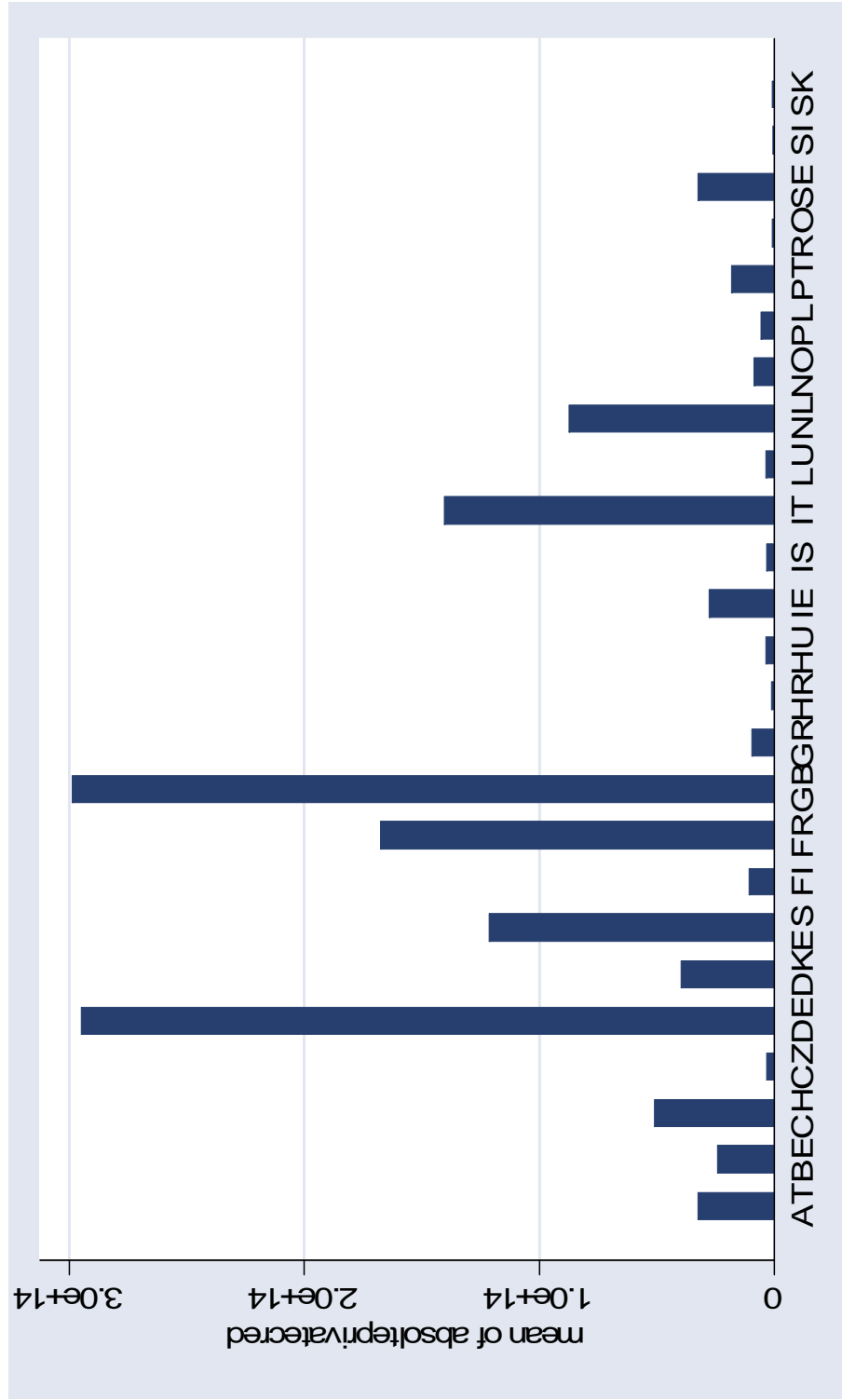


**Table VII**  
**Lending spreads of foreign lead arrangers in small versus large countries**

Notes: The table shows regression results from estimating specification  $\log(\text{spread}_{ijt}) = \alpha_{it} + \beta_{jt} + \gamma \text{Foreign} + \sigma \text{BigCountry} + \delta \text{Foreign} * \text{BigCountry} + \varepsilon_{ijt}$ . Variables are defined as in Table I. Robust standard errors are reported below each coefficient in parentheses. The bottom line of the table states the number of observations and the adjusted R-squared of each estimation. \*,\*\* indicates significance at the 5%, and 1%, respectively.

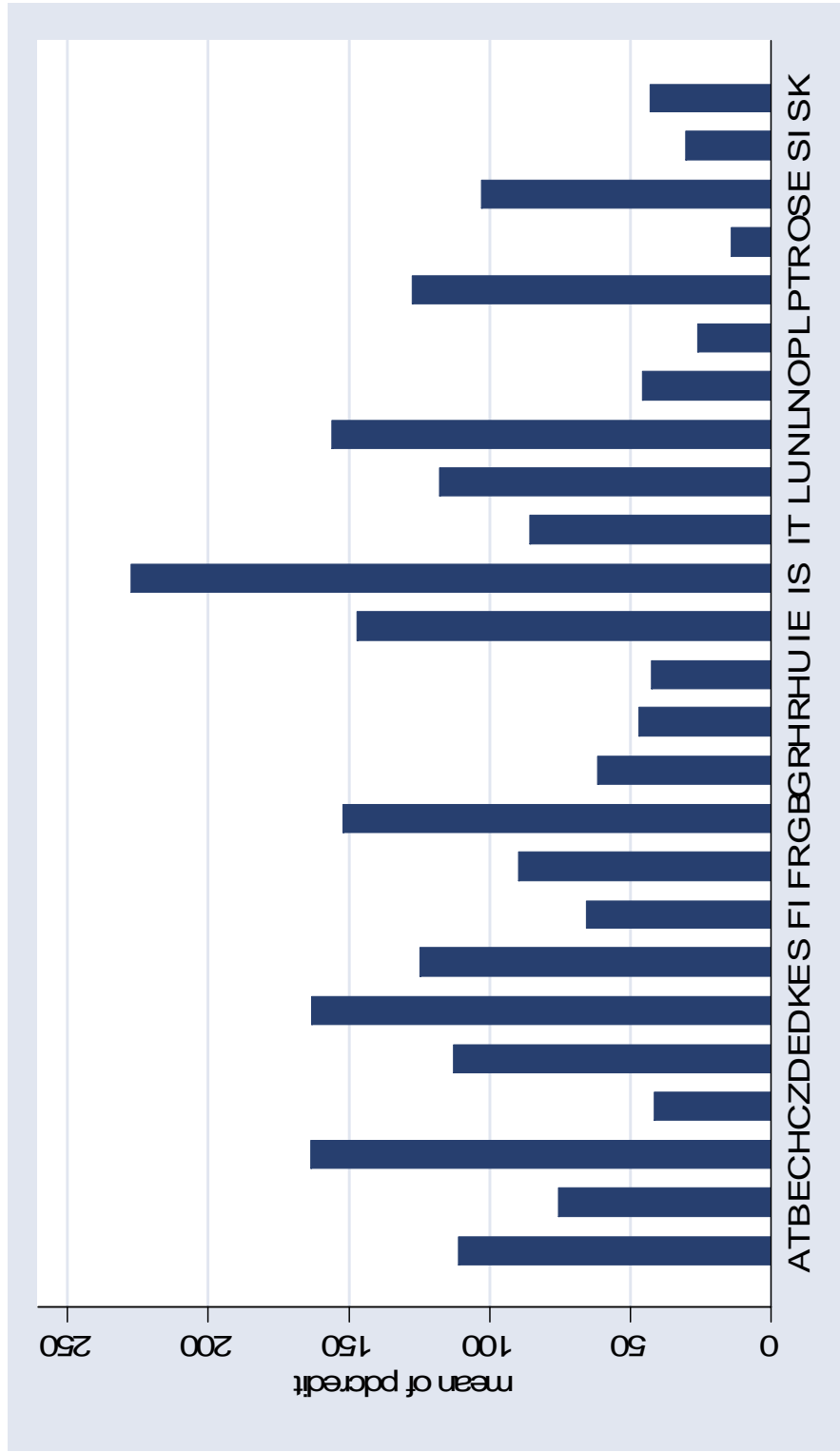
	(1)	(2)	(3)	(4)	(5)
BigCountry	-	-	-	-	0.384 (5.62)***
Mixed	-0.018 (0.28)	0.071 (1.17)	-0.234 (2.61)***	-	-0.022 (0.35)
Foreign	-0.029 (0.40)	0.057 (0.84)	-0.155 (1.53)	0.192 (1.38)	-0.030 (0.42)
Foreign*BigCountry	0.162 (1.67)*	0.159 (1.69)*	0.486 (3.28)***	0.085 (0.48)	0.223 (2.19)**
Mixed*BigCountry	-0.080 (1.03)	-0.126 (1.69)*	0.216 (1.78)*	-	-0.068 (0.90)
country fixed effects	yes	yes	yes	yes	no
year fixed effects	no	yes	no	no	no
firm fixed effects	no	no	yes	no	no
bank fixed effects	no	no	no	yes	no
Observations	1835	1835	1789	726	1835
R-squared	0.40	0.46	0.89	0.56	0.35

Figure 1. Private credit by country - Absolute Size



Notes:

**Figure 2.** Private credit to GDP by country - Relative Size



Notes: