Foreigners vs. Natives: Bank Lending Technologies and Loan Pricing

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Abstract

Do domestic and foreign banks differ in their lending techniques and loan pricing models? Are such differences driven by different clienteles? Using a sample of firms that borrow from both domestic and foreign banks in the same month, we show significant differences in lending techniques and loan pricing. Foreign banks charge lower interest rates, but grant loans at a shorter maturity and are more likely to demand collateral than domestic banks. Foreign banks also base their pricing on credit ratings and collateral pledges, while domestic banks price according to length, depth and breadth of the relationship with the borrower. These findings confirm that foreign and domestic banks can cater to the same clientele but with different lending techniques: foreign banks with transaction-based and domestic banks with relationship-based lending techniques.

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1. Introduction

The past two decades have seen a large increase in foreign bank entry across the globe. In the context of financial liberalization and privatization of financial institutions, many developing countries opened their banking systems to foreign banks. The increase in foreign bank participation has been especially strong in the transition countries of Central and Eastern Europe and Latin America, reaching well above 80% of the number of banks in several countries of Central and Eastern Europe.[1] The rapid increase in foreign bank participation has important repercussions not only for the market structure, but also for the financial service provision in an economy, including lending to small and medium-sized enterprises (SMEs). The effects of foreign bank participation on lending to SMEs have been a controversial issue among academics and policy makers alike.

Theory is ambiguous on the effect of foreign bank entry on SME lending. On the one hand, some theories suggest that, given their hierarchical organizational structure, foreign and large banks tend to lend to large and transparent firms relying on "hard" information, while domestic and small banks, given their decentralized structure, are better equipped to extend loans to small and opaque firms based on "soft" information (Stein (2002)). Detragiache, Gupta and Tressel (2008), for example, show that foreign banks tend to "cherry pick" clients and extend loans only to large and transparent firms because they are better at monitoring hard information. On the other hand, Berger and Udell (2006) argue that only differentiating between transactional and relationship lending is oversimplified. Large foreign banks may be able to overcome their informational disadvantage with the help of alternative transactional lending technologies, which are better suited for small and opaque firms. Hence, foreign banks may be able to target the same clientele as domestic banks by employing different lending technologies. Whether foreign banks cater to different clienteles and/or use different lending technologies for the same clientele is ultimately an empirical question.

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[1] See, for example, Claessens, Van Horen, Gurcanlar and Mercado Sapiani (2008).

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This paper compares the contract terms and loan pricing models of domestic and foreign banks holding constant differences in their clienteles. While previous papers have explored whether banks of different ownership lend to different firms, thereby linking different lending techniques to different firm characteristics, we eliminate the composition bias by focusing on a sample of firms that borrow from at least one domestic and one foreign bank in the same month. More specifically, we compare the contract terms and pricing models of domestic and foreign banks when lending to exactly the *same firm* in the *same month*. Exploring within-firm, within-month variation allows us to control for unobserved firm characteristics. We are thus able to separate the two different effects of foreign bank entry, the focus on different clientele and the use of different lending techniques and loan pricing models, by focusing completely on the latter. It is important to distinguish between these two effects, as it allows a better assessment of the effect of foreign bank entry on overall lending in a country as a function of information and contractual environment. Our analysis makes use of detailed loan-level data from the public credit registry of Bolivia for the period between March 1999 and December 2003.

The Bolivian credit market provides a good setting to analyze differences between foreign and domestic banks in their lending techniques. The Bolivian banking sector was already fully liberalized and privatized during the sample period, allowing us to contrast domestic and foreign-owned banks without any distortions from the existence of government-owned banks. Moreover, foreign and domestic banks are, in principle, subject to the same regulations such that there is no differential regulatory treatment, which could influence our results. However, Bolivia has both foreign branches and foreign subsidiaries, which have – consistent with global practice – different business models. Both the number and market shares of domestic and foreign banks are relatively balanced and stable during the sample period, enabling meaningful comparisons (Claessens et al. (2008)). Like for many other countries that recently opened their doors to foreign banks, Bolivia's credit markets are opaque. Many firms, for example, do not have audited financial statements, and if they do, the quality of such statements is often poor (Sirtaine, Skamnelos and Frank (2004)). It is thus important to understand how in such a setting domestic and foreign banks may be able to overcome their informational disadvantage and meet firms' financing needs.

We have detailed data on every loan such as date of origination, maturity date, contract terms, including interest rates, collateral, and loan amount as well as data on firm characteristics such as their

industry, physical location, legal structure, banking relationships, and repayment behavior. Unlike previous papers, we are able to exploit within firm-month variation in loan contracts by comparing the contract terms of domestic and foreign banks to the same firm in the same month. This identification strategy allows us to remove any unobserved firm heterogeneity and thus avoid selection biases. In addition, the data availability allows us to control for firm characteristics that may vary across banks in the same month, such as their respective assessment of the firm's risk of default and the strength of the bank-firm relationship, as well as other contract characteristics. Both firm and loan characteristics could influence the loan interest rate and be systematically correlated with bank ownership. So it is important to control for them. As a result, we can directly test whether foreign banks demand different interest rates, employ different lending technologies, and use different pricing models than domestic banks even when lending to exactly the same firm in the same month.

We find that foreign banks charge loan interest rates that are on average between 89 and 107 basis points lower than the interest rates of domestic banks, which comprises a 9% discount relative to the interest rate of domestic bank loans in the sample. This effect continues to exist and does not vary in size when we add controls separately or jointly, when we split the sample according to firm size or when we control for banks' funding costs and market share. On the other hand, foreign bank loans are, on average, 27 percentage points more likely to have collateral and have maturities that are up to 33% shorter than domestic bank loans. We also find that domestic banks base their loan pricing on the length of their relationship with the borrower, especially in the case of smaller firms, while foreign banks have a more transaction-based pricing approach, relying on borrower ratings and collateral, especially for larger firms.

Our findings are consistent with significant differences between foreign and domestic banks in how they cater to enterprise borrowers. While foreign banks rely more on collateral and shorter maturity as disciplining tools and hard information as input for the loan pricing, domestic banks rely more on relationship and soft information as lending technologies, but compensate with higher interest rates. This confirms findings by Beck, Demirgüç-Kunt and Martínez Pería (2011) and De la Torre, Martínez Pería and Schmukler (2010) that both foreign and domestic banks can cater to SMEs, but with different lending techniques.

Our paper contributes to the literature on foreign bank entry. Proponents of foreign bank entry argue that foreign banks have a comparative advantage when entering new markets in terms of better access to capital, economies of scale, risk diversification, lending technologies, and management expertise (see, for example, Detragiache et al. (2008), Clarke, Cull, Martínez Pería and Sanchez (2005)). Foreign banks are thus expected to have positive effects on the host country's banking sector by increasing competition, fostering credit growth, lowering volatility, and implementing best practices in terms of supervision and regulation from their home country. Critics of foreign bank participation argue that foreign banks may actually decrease stability by exposing host countries to negative shocks and contagion from the home market. Moreover, distance constraints and informational disadvantages may prevent foreign banks from lending to small and opaque firms (see, for example, Mian (2006)).[2]

More recently, the literature has challenged the view that foreign-owned banks cannot cater to the financing needs of local firms, including the long-held belief that foreign and large banks only engage in arms-length lending based on hard information. For example, Clarke et al. (2005) show that large foreign banks often have a greater share and higher growth of lending to small businesses than large domestic banks. Incorporating market size structures of the banking sector in the U.S., Berger, Rosen and Udell (2007) show that there is no advantage or disadvantage for large banks to lend to small businesses. Based on firm-level observations of listed and unlisted companies in Eastern Europe, Giannetti and Ongena (2009) find that all firms benefit from foreign bank lending in terms of growth in firm sales, assets, and leverage, although the effect diminishes for small firms. In another study they find that foreign banks do not limit the access to credit for unlisted firms, although foreign banks are more likely to cater to large and

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[2] Country-level evidence on developing countries confirms the conventional paradigm of foreign banks shying away from lending to SMEs. Using loan-level data from Argentina, Berger, Klapper and Udell (2001) find that large and foreign banks are less likely to lend to small and opaque firms. A recent paper by Berger, Klapper, Martínez Pería and Zaidi (2008), relying on firm-level and bank ownership data in India, suggests that transparent firms are more likely to receive loans from foreign banks and, as a result, tend to enter into and maintain multiple banking relationships while diversifying across bank ownership types. With the help of country-, bank-, and bank-municipality-level data, Beck and Martínez Pería (2010) reveal an overall decline in banking outreach after foreign bank entry in Mexico. Finally, Gormley (2010) observes the "cream-skimming" effect of foreign bank participation introduced by Detragiache et al. (2008) and an overall decrease in lending after foreign bank entry in India. In the same manner, cross-country evidence on poor economies (Detragiache et al. (2008)), Latin American countries (Clarke et al. (2005)), and CEE countries (De Haas, Ferreira and Taci (2010)) confirms the claim that foreign banks rely on transactional lending, while domestic banks are the ones to provide credit to SMEs. Several papers have considered the costs of credit for borrowers with different entry and participation modes of foreign banks, including Claeys and Hainz (2007), Martínez Pería and Mody (2004) and Degryse, Havrylchyk, Jurzyk and Kozak (2011).

foreign-owned firms (Giannetti and Ongena (2012)). Using cross-country data, De la Torre et al. (2010) and Beck et al. (2011) provide evidence from bank surveys that foreign banks are as suitable as domestic banks in serving small businesses but apply transaction-based rather than relationship-based lending techniques. Most of this literature has focused on differences in clientele rather than on direct measures of lending techniques.

We improve upon this literature by focusing on differential loan characteristics and loan pricing models across foreign and domestic banks, holding constant any differences in their clienteles. Our paper is most closely related to the paper by Mian (2006). We both rely on credit registry data with detailed loan-level information and both investigate differences between foreign bank and domestic bank lending. However, while Mian (2006) focuses on differences in clienteles of foreign and domestic banks, the first effect of foreign bank entry, we explore differences in lending technologies to a given and identical clientele, the second effect of foreign bank entry. In particular, he uses firm characteristics as proxies for hard and soft information. In contrast, we have direct information on lending techniques and pricing and can therefore gauge the impact of foreign bank entry on lending conditions. Although we do not have such a rich variation in the origin of foreign banks, we are able to distinguish between foreign branches and subsidiaries which can serve as a proxy for distance constraints.

The rest of the paper is organized as follows. Section 2 describes the dataset and presents descriptive statistics. Section 3 presents our empirical tests. Section 4 presents our results and several robustness checks, and Section 5 concludes.

2. Data

The paper utilizes data from the *Central de Información de Riesgos Crediticios* (CIRC), the public credit registry of Bolivia, provided by the Bolivian Superintendent of Banks and Financial Entities (SBEF). Since CIRC's creation in 1989, the SBEF requires all formal (licensed and regulated) financial institutions operating in Bolivia to record information on all loans. We have access to the entire credit registry for the period between January 1998 and December 2003. For each loan, we have information on the origination and maturity dates, contract terms, and ex post performance. For each borrower, we have information about their industry, physical location, legal structure, bank lending relationships, and

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whether they have been delinquent or defaulted on another loan in the recent past. The credit registry is used by the SBEF to monitor and supervise the banking sector. It is also used by banks to better evaluate and monitor their clients. In particular, the SBEF requires that some borrower and loan information is shared among banks to alleviate the otherwise pervasive information asymmetries in the Bolivian credit markets.[3] Nevertheless, as shown in Ioannidou and Ongena (2010) and Berger, Frame and Ioannidou (2011) important information asymmetries remain.

The data include loans from both commercial banks and nonbank financial institutions (e.g., microfinance institutions, credit unions, mutual societies, and general deposit warehouses). To keep the set of lenders homogenous in terms of financial structure and regulation, we focus exclusively on loans granted by commercial banks. Table 1 provides a list of the 13 commercial banks that were active in Bolivia during the sample period, seven of which are foreign owned.[4] Four of the foreign banks are branches and three are subsidiaries and, together, they account on average for 39% of the commercial banks' loans. As can be observed in Table 1, many of the branches are part of large multinational banks with a relatively small presence in Bolivia. Finally, most foreign banks have a lower cost of deposits than most domestic banks. On average, foreign banks pay 100 basis points lower interest rates on their deposits.

Insert Table 1 about here

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[3] After written authorization from a prospective customer, a lender can access the registry and obtain a credit report, which contains information on all outstanding loans of the customer for the previous two months. Entries include the originating bank, loan amount, loan type, value of collateral, value of overdue payments, and the borrower's credit rating from the originating bank. Loans with overdue payments remain in the registry until they are paid off, even if they are past maturity. Hence, any past defaults and delinquencies in the past two months are observable to other lenders through the registry. Instead, delinquencies that were paid off more than two months ago are not observable through the registry.

[4] A bank is considered foreign owned if at least 50% percent of its equity is owned by foreign investors.

For the purposes of our analysis, we focus on commercial loans granted between March 1999 and December 2003.[5] Commercial loans represent an important segment of the credit markets for which collateral is a negotiated term that is only sometimes present. Among commercial loans, there are several types of contracts in the data, including credit cards, overdrafts, installment loans, single-payment loans, and credit lines. We focus exclusively on installment and single-payment loans and refer to these as "standard debt contracts". These contracts account for 92% of the total value of commercial loans during the sample period. Of these contracts, 98% are denominated in U.S. dollars, and we use only these loans in our analysis. To ensure the use of timely information, we only study the originations of "new loans"; renegotiations of previous loans and loans drawn on pre-existing lines of credit are excluded.[6]

All in all, this yields 32,279 loans to 2,672 firms. Table 2 provides summary statistics for these 32,279 loans, which we refer to as the "universe". Summary statistics are also provided separately for loans originated by foreign and domestic banks. The stars next to the mean values of domestic bank loans indicate whether the differences between domestic and foreign banks are statistically significant. ***, **, * indicate significance at the 1%, 5%, and 10% levels, respectively. Table A1 in the Appendix provides detailed definitions for all variables used.

Insert Table 2 about here

As can be observed in Table 2, 47% of loans are installment loans. The average loan amount is US$162,000, 25% of them are secured, and the average loan maturity is 11 months. In terms of price, the average loan carries an interest rate of 13.5% and a spread of 10% over the rates of US Treasury Bills of

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[5] Although we have data as of January 1998, we start our sample in March 1999 since prior to this date the data do not allow us to distinguish between commercial and consumer loans. We use prior information from January 1998 through February 1999 to fill in the history of bank-firm relationships as well as the firms' credit history.

[6] Renegotiations are identified as follows. Banks are required to indicate whether a new loan is a renegotiation of a previous performing or nonperforming loan. We use this information to exclude renegotiation. Loans drawn on pre-existing lines of credit, instead, are identified as follows. When a borrower draws on a pre-existing line of credit, a "new loan" appears in the registry with an origination date and contact terms as of the date the bank originated the credit line. Since the date the loan first appears in the registry is subsequent to the origination date, we can identify when a "new loan" is a draw on a pre-existing line of credit and exclude it from our sample.

comparable maturity. In terms of firm characteristics, 49% of loans are given to limited liability firms. Loans to joint stock companies, limited partnerships, sole proprietorships, and general partnerships are much less common, with 23%, 13%, 13%, and 1%, respectively. The average firm in the sample maintains an outstanding debt of around US$2,000,000. Only 21% of loans are given to firms with recent repayment problems (i.e., delinquency or default in the past year). Around 87% of loans have the best rating at origination of 1, 10% have the second best rating (2), and 3% have the two worst ratings (3 and 4). Around 56% of loans are given to firms with multiple bank-lending relationships. The average relationship length is 22 months, nearly 26% of loans are given to firms with additional lending products at the bank, and 71% of the loans are given to firms with at least 50% of their outstanding loans from the bank.

When comparing the terms of domestic and foreign bank loans, some striking differences emerge. Loans originated by foreign banks are on average larger by around US$70,000 and carry interest rates that are lower by around 66 basis points. Foreign bank loans are also more likely to be secured: 38% of the foreign bank loans have collateral, while only 16% of domestic bank loans do. Their maturities are also shorter by around 4 months. While these differences are consistent with foreign banks employing different lending technologies and offering different contract terms, they could also be explained by differences in firm composition as domestic and foreign banks may favor or attract different types of firms.

In fact, as can be observed in Table 2, the clients of foreign banks are, on average, larger and riskier firms with "weaker" bank-lending relationships. In particular, loans originated by foreign banks are less likely to be given to sole proprietorships and more likely to be given to joint stock companies, which are typically larger firms.[7] The firms' outstanding bank debt is also substantially larger among foreign bank loans (by around US$680,000), consistent with a distribution tilted towards larger firms. When looking at credit quality, we also observe that the incidence of recent repayment problems is substantially higher among foreign bank loans and that credit ratings are worse, suggesting a riskier pool of borrowers. In terms of relationship characteristics, the incidence of multiple relationships is higher among foreign

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[7] Joint stock companies are similar to general partnerships in that all partners have limited liability, but unlike general partnerships the firm's ownership is transferable.

bank loans and the average relationship length is shorter by around 2 months, consistent with shorter and more dispersed relationships. Other products from a bank and a "primary bank" status are also less likely among foreign bank loans, consistent with overall weaker relationships.

Similar to Mian (2006), the results highlight the fact that there are important differences in the clientele of domestic and foreign banks. In particular, we also find that foreign banks have rather large and transparent firms in their loan portfolio and lend at shorter maturities. Mian (2006) concludes that the lower representation of soft information firms in the loan portfolio of foreign banks indicates that foreign banks shy away from lending to small firms and thus from relationship lending. We acknowledge the differences in clientele but do not infer from these results that foreign banks are bound to use only transactional lending. Based on our detailed data, we rather want to directly test for differences in lending technologies to a given and identical clientele.

In order to understand whether differences in contract terms between domestic and foreign bank loans are solely due to their different clienteles or also due to the use of different lending technologies, we eliminate the firm-composition effect by comparing the contract terms of domestic and foreign bank loans to the *same firm* in the *same month*. To this end, we restrict our analysis to a sub-sample of loans to firms that receive a new loan from at least one foreign and one domestic bank in the same month. The restriction results in a sub-sample of 5,137 loans to 287 firms. This sub-sample constitutes 25% of the total lending amount of the entire sample.

The second part of Table 2 provides summary statistics for our sub-sample and compares it to the "universe" of all loans. Like in the first part, statistics are provided for all loans in the sample as well as for foreign and domestic banks separately. The stars next to each mean value indicate whether it is statistically different from its corresponding value for the entire sample.[8] As can be observed in Table 2, our sub-sample draws more heavily on the largest firms. This is true for both domestic and foreign banks. For example, the average loan amount and the outstanding bank debt are significantly higher for both groups. Similarly, sole proprietorships are much less common, while joint stock companies are more

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[8] In particular, we construct a specific test statistic with a correspondingly adjusted variance for our mean comparisons. This test statistic accounts for the fact that we compare the means of the entire sample with the means of a sub-sample. The derivation of the statistic and its asymptotic behavior is available upon request.

frequent. With respect to credit quality results are somewhat mixed. The incidence of past repayment problems is higher in our sub-sample, suggesting riskier firms. This is true for both domestic and foreign banks. However, when looking at credit ratings the picture is different. While the ratings for foreign bank loans are worse, the ratings of the domestic bank loans are better, despite their worse credit histories. It is hard to know what drives this discrepancy. It is possible that domestic banks are inflating their ratings to accommodate their larger and more powerful customers or relax regulatory constraints such as reserve requirements, but it is also possible that differences are due to ratings being forward looking.[9] With respect to relationship characteristics, we find that firms in our sample have on average longer relationships with their banks but are less likely to have a primary bank, which is expected given that we focus on firms with multiple relationships which also tend to be larger.

In our regression analysis, we also present results for subsamples of smaller and larger firms within the sample of firms that borrow from both domestic and foreign banks in the same month. While we do not have direct firm size measures in our data set, for each firm, we calculate the average outstanding debt across all financial institutions over the sample period and then determine the median firm according to the total outstanding debt calculated in the first step. We then create two subsamples with firms and months below and above this median (US$1,014,978).[10] In robustness tests, we also try other sample splits, using the 30th and 70th percentiles of the total outstanding debt (US$466,568 and US$2,329,930).

3. Methodology

We examine whether domestic and foreign banks employ different lending technologies by conducting two sets of empirical specifications. We first test whether loans originated by domestic and foreign banks

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[9] The latter could explain our findings if somehow our sub-sample of domestic bank loans draws more heavily on firms for which past performance is less predictive of future performance.

[10] Although these numbers seem high compared to the average outstanding firm debt of our total sample, we can consider the firms in our sample to be small and medium size enterprises due to their limited availability of financial statements and their size compared to standard size measures for SMEs. As indicated in the paper by Ayyagari, Beck and Demirguc-Kunt (2007) the SME Department of the World Bank considers firms with total assets and total sales of up to US$3,000,000 as small enterprises and of up to US$15,000,000 as medium enterprises.

have systematically different loan contract characteristics. We compare the interest rates, the maturities, and the incidence of collateral of loans originated by domestic and foreign banks to the same firm in the same month, controlling for several other factors that might explain any observed differences between them. In a second step, we also explore whether domestic and foreign banks use systematically different factors to price loans to their customers. Specifically, we gauge whether the incidence of collateral, the rating of the borrower by the bank and the length, depth and breadth of the relationship affect the pricing of loans and whether these relationships vary significantly across banks of different ownership.

To investigate whether domestic and foreign banks charge systematically different interest rates to their clients we estimate the following model using Ordinary Least Squares (OLS):

$$LoanSpread_{ijkt} = \alpha_1 + \beta_1 ForeignBank_{jt} + \beta_2 Firm_{jkt} + \beta_3 Loan_{ijkt} + \eta_j \times \gamma_t + \varepsilon_{ijkt}, \tag{1}$$

where i, j, k, t index loans, firms, banks, and time (month-year), respectively. The $LoanSpread_{ijkt}$ equals the loan interest rate minus the rate on US Treasury securities of comparable maturity at loan origination. Our key explanatory variable, $ForeignBank_{jt}$, is a dummy variable that indicates whether the originating bank is foreign-owned. Our set of control variables includes several indicators that control for firm and other loan characteristics as well as firm-month fixed effects.

The vector $Firm_{jkt}$ is comprised of firm characteristics that vary within the same month across banks. This includes the firm's rating at each bank as well as indicators of the strength of the bank-firm lending relationship at the time of the loan origination. For ratings, we include two dummy variables: $Rating2_{jkt}$ and $Rating3\&4_{jkt}$. $Rating2_{jkt}$ equals 1 if the firm's rating equals 2, and equals zero otherwise, while $Rating3\&4_{jkt}$ equals 1 if the firm's rating equals either 3 or 4, and equals zero otherwise.[11] ($Rating1_{jkt}$, which indicates the best rating, is the omitted category.) To gauge the intensity of a bank-firm relationship we employ three variables: $RelDuration_{jkt}$, $RelScope_{jkt}$, and $PrimaryBank_{jkt}$. $RelDuration_{jkt}$ is equal to the natural logarithm of one plus the number of months we observe the bank-firm pair in a credit

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[11] To gain statistical power, ratings 3 and 4 are merged into one dummy variable given the small number of loans with such ratings (see descriptive statistics in Table 2).

relationship;[12] *RelScope_{jkt}* is dummy variable indicating whether the firm has other credit products from the bank (e.g., credit cards, overdrafts, mortgages); and *PrimaryBank_{jkt}* is dummy variable indicating whether the bank accounts for more than 50% of the firm's outstanding bank debt.

The vector *Loan_{ijkt}* includes other loan characteristics such as *Installment_{ijkt}*, *LoanAmount_{ijkt}*, *Collateral_{ijkt}*, and *Maturity_{ijkt}* to account for differences in other loan contract terms. This assumes that these contract terms are determined prior to the loan interest rate. However, since each of these terms could be determined simultaneously with the loan interest rate and is thus potentially endogenous, we also estimate our model without these variables. *Installment_{ijkt}* is a dummy variable indicating whether the loan is an installment loan as opposed to a single-payment loan. *LoanAmount_{ijk}* is measured as the natural logarithm of one plus the amount of loan proceeds at origination in US dollars. *Collateral_{ijk}* is a dummy variable indicating whether the loan is secured, and *Maturity_{ijk}* is the natural logarithm of one plus the number of months between loan origination and maturity.

Finally, $\eta_j \times \gamma_t$, are firm fixed effects, η_j, interacted with time (month-year) fixed effects, γ_t, to account for observable and unobservable firm characteristics. Our estimates are thus obtained using only within firm-month variation for the sub-sample of firms that borrow from both domestic and foreign banks in the same month. This is the reason for which we do not include time-invariant firm characteristics. In addition to estimating the above regression for the whole sample, we also estimate it separately for firms of different size using their total outstanding bank debt as a proxy of their size. In all cases, the standard errors are clustered at the firm level to account for the possibility that the observations of the same firm across different loans, bank, and time are correlated with each other.

Our maturity and collateral regressions are similar to the interest rate regressions presented above. They include the same set of controls and they are estimated with and without the other contract terms among the explanatory variables. The loan interest rate is never included among the control variables as it is most likely determined after the collateral and maturity decisions, consistent with the maintained

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[12] *RelDuration_Square_{jk}* (i.e., the square of *RelDuration_{jk}*) is also sometimes included in our specifications. In all cases, we estimated the regressions with and without the square term to test for the possibility of a non-linear relationship. If the square term is found to be statistically significant, we report the regression results with the square term. If not, we report the results without the square term.

assumption in most of the extant empirical literature in banking (see, among others, Berger and Udell (1995), Harhoff and Körting (1998), Elsas and Krahnen (1998), Degryse and Ongena (2005)). Both the maturity and the collateral regressions are estimated using OLS. For collateral, we use OLS instead of a non-linear Probit or Logit model as we would otherwise lose a large number of firm-month clusters with no variation in collateral across different banks for the same firm within the same month.[13]

Given our set of controls variables, a statistically significant β_1 would indicate that the interest rates on domestic and foreign bank loans to the *same firm* in the *same month* are systematically different, even after controlling for possible differences in banks' credit risk assessment, the strength of the bank-firm lending relationship, as well as other loan contract terms. As hypothesized in the literature, such differences could be stemming from systematic differences in funding costs, market power or lending technologies. To investigate these possibilities, we first augment equation (1) by introducing indicators of funding costs and market power to examine whether these factors can explain the systematic differences in interest rates between domestic and foreign banks. Second, we use the regressions on maturity and collateral to investigate whether different lending technologies are driving the results.

Next, we examine whether the factors that explain the variation in the loan interest rates to the same borrower in the same month vary systematically between domestic and foreign banks by introducing interactions between the foreign bank dummy and our control variables:

$$LoanSpread_{ijkt} = \alpha_2 + \gamma_1 ForeignBank_{jt} + \gamma_2 Firm_{jkt} + \gamma_3 Loan_{ijkt} +$$

$$\gamma_4 ForeignBank_{jt} \times Firm_{jkt} + \gamma_5 ForeignBank_{jt} \times Loan_{ijkt} + \eta_j \times \gamma_t + \varepsilon_{ijkt}, \qquad (2)$$

where i, j, k, t index loans, firms, banks, and time (month-year), respectively. All variables are defined as in equation (1). In this case, our focus is on the coefficients of the interaction terms, which indicate whether credit ratings, relationship strength, and other loan contract terms are used differently by domestic and foreign banks when pricing their loans. Since the coefficients are again estimated using only

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[13] Because of the large number of fixed effects in our model relative to the smaller number of periods for which a borrower is observed, a non-linear model could also give inconsistent estimates; this is known as the "incidental parameter problem" (see discussion in Cameron and Trivedi (2005), for example).

within borrower-month variation such differences would point to the use of different lending technologies. If, for example, foreign banks rely more on transaction-based technologies, such as credit scoring and asset-based finance, we would expect credit ratings and collateral to play a more prominent role in foreign banks' pricing. Similarly, if domestic banks rely more on relationship lending, we expect the relationship variables to be more important for the domestic banks' pricing. As in the case of regression (1), we allow for clustering of the error terms on the firm level.

4.   Results

In this section, we first report regressions exploring the relationship between bank ownership and loan contract terms and then the differential relationship between loan characteristics, ratings and relationship characteristics, on the one hand, and interest rate pricing, on the other hand, across banks of different ownership. Finally, we report several additional results and robustness tests.

4.1   Bank ownership and loan contract terms

The results in Table 3 show that foreign banks charge the same borrower in the same month about 89 to 107 basis points lower interest rates than domestic banks, confirming the difference reported in the descriptive statistics. As can be observed in Column I, loans originated by foreign banks carry on average 89 basis points lower interest rates than loans originated by domestic banks. This difference is statistically significant at the 1% level and remains unchanged when we additionally control for possible differences in credit ratings and the strength of the bank-firm relationships in Column II. Controlling for other contract terms in Column III leads to an increase in the interest rate difference from 89 to 107 basis points, which suggests that other contract terms may systematically differ between domestic and foreign banks and partly explain the interest rate differential. Finally, results in Columns IV and V confirm the results for both the smaller and the larger firms in our sample. The estimated difference is 113 basis points for the

larger firms and 96 basis points for the smaller firms.[14] Overall, these findings indicate that regardless of the controls that we include or the size of firms that we study, foreign banks charge systematically lower interest rates than domestic banks. The estimated differences are in the order of 10% of the average loan spread in our sample.

Insert Table 3 about here

Turning to control variables, we find that a lower credit rating is associated with significantly higher interest rates, while stronger lending relationships are typically associated with lower interest rates. Loans with ratings equal to 2 pay interest rates that are between 47 to 51 basis points higher than the interest rates on loans with a rating equal to 1, the best rating, while there is an even higher though insignificant interest spread for loans with a rating of 3 or 4. Being a firm's primary bank is associated with lower interest rates by 33 to 49 basis points, though this effect continues to hold only for smaller firms. Splitting the sample by firm size reveals that ratings matter only for the pricing of loans to larger firms, while relationship characteristics matter only for the pricing of loans to smaller firms. For larger firms, we find that loans with ratings equal to 2, 3, or 4 carry economically and statistically significant premiums over loans with ratings equal to 1. This is not the case for loans to smaller firms. For smaller firms, relationship characteristics seem to matter instead. We find that lending relationships that are longer than seven months are associated with lower interest rates. The same holds for primary bank status, suggesting that for smaller firms stronger lending relationships carry lower lending rates. With respect to other contract terms, we find that installment loans and uncollateralized loans carry higher interest rates, but only for larger firms, while longer maturity loans carry lower interest rates. Variation in the loan amount, on the other hand, is not significantly associated with interest rates variation.

The results in Table 4 show that the interest rate differential cannot be explained by differences in market shares or funding costs. As shown in Table 2, foreign banks have significantly lower funding costs

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[14] Similar results are obtained if we instead split firms using the 30th and 70th percentiles of the total outstanding bank debt with a 113 basis point estimated difference for larger firms and 92 basis points for smaller firms.

and many of them have smaller market shares than domestic banks. These differences could be driving the interest rate differential that we find. Lower funding costs could allow foreign banks to charge lower loan interest rates. A higher market share may be associated with either higher or lower loan interest rates depending on whether the effects of market power or economies of scale dominate. To investigate the role of funding costs and market power, we re-estimate our model controlling for both characteristics.[15] Results are presented in Table 4 and show that neither the lower cost of funds nor their smaller market shares explain the lower loan rates of foreign banks. In all specifications, the foreign bank dummy continues to enter with the same economic and statistical significance as before, while neither funding costs nor market shares enter significantly. All other results with respect to the control variables remain the same as in Table 3.

Insert Table 4 about here

Next, we explore how other contract terms may also vary between domestic and foreign banks. In particular, we investigate whether the maturity of loans and the likelihood of pledging collateral vary between domestic and foreign banks even when lending to the same borrower in the same month. Results are presented in Table 5. Columns I to III present results of the maturity regressions and Columns IV to VI present results for the collateral regressions. As discussed earlier, both the maturity and the collateral regressions are estimated using OLS.

Insert Table 5 about here

The results in Table 5 show that foreign banks grant loans with shorter maturities than domestic banks. As can be observed in Columns I to III of Table 5, loans granted by foreign banks have maturities that are between 19% and 33% shorter than loans granted by domestic banks. At the average maturity of

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[15] To better measure the bank's marginal cost of deposits we use the interest rate on savings deposits denominated in US$. Similar results are obtained if we use the bank's average cost of deposits, calculated as total interest income to total deposits.

nine months, this implies a difference of two to three months. With respect to our control variables, we find that variation in credit ratings is not significantly associated with variation in loan maturities. Relationship characteristics, on the other hand, seem to play an important role. Loans to borrowers with longer relationships (more than eleven months) and a primary bank status with a bank have longer maturities. Additional products, on the other hand, are associated with shorter maturities, although this effect is significant only at the 10% level. With respect to other contract terms, we find that installment loans, loans with larger loan amounts and collateralized loans have longer maturities.

The results in Table 5 also show that foreign bank loans are more likely to have collateral, suggesting a clear trade-off between domestic and foreign banks. As can be observed in Columns IV to VI of Table 5, foreign bank loans are between 27 and 31 percentage points more likely to have collateral; a large effect given that only 33% of all loan contracts in our sample include collateral. We also find that loans to borrowers with a rating of 2 rather than 1 are more likely to pledge collateral. Loans to borrowers with longer relationships and a primary bank status with a bank are less likely to have collateral. These results support previous empirical findings in the relationships lending literature (see, for example, Petersen and Rajan (1994), Berger and Udell (1995), Elsas and Krahnen (1998), Harhoff and Körting (1998), Machauer and Weber (1998)). With respect to other contract terms, we find that installment loans are less likely to have collateral, while longer maturity loans are more likely to have collateral.

Summarizing, our results suggest that foreign banks charge lower interest rates than domestic banks, but are more likely to ask for collateral and grant loans at shorter maturities, even when lending to the same borrower in the same month. Overall, these results are consistent with foreign banks employing transaction-based lending technologies as a cheaper alternative to relationship lending. Collateral allows banks to sort observationally equivalent borrowers, mitigate ex post frictions (such as moral hazard and costly state verification), and reduce losses when a borrower defaults (see, among others, Bester (1985), Chan and Kanatas (1985), Thakor and Udell (1991), Holmstrom and Tirole (1997), Gale and Hellwig (1985)). Similarly, lending at shorter maturities could help banks to better screen and monitor their clients by forcing more frequent information disclosure and renegotiation of contract terms (see, among others, Barnea, Haugen and Senbet (1980), Flannery (1986), Diamond (1991), Rajan (1992)).

There is thus a clear trade-off for borrowers when taking out loans from both domestic and foreign banks, which may explain why firms maintain active relationships with both domestic and foreign banks. Results with respect to the control variables also suggest that banks employ different lending technologies and pricing models for firms of different size. Relationship characteristics matter mainly for the pricing of loans to smaller firms, while credit ratings and other contract terms matter for the pricing of loans to larger firms.

4.2   Bank ownership and loan pricing

We now turn to the second empirical model to gauge differences between foreign and domestic banks in their loan pricing. In particular, Table 6 reports results for the fully interacted model of equation (2). Column I shows the estimated coefficients for domestic banks, Column II reports the coefficients of the interaction terms with the foreign bank dummy,, the difference of foreign banks relative to domestic banks, and Column III shows the cumulative coefficients for foreign banks. In Column IV-VI and VII-IX, we also report the corresponding specifications for smaller and larger firms, respectively.[16]

Insert Table 6 about here

The results in Table 6 show significant differences between domestic and foreign banks in the pricing of their loans even when lending to the same firm in the same month. The results in Columns I to III reveal that foreign banks are the ones to use credit ratings to price their loans. Specifically, we find that the variation in credit ratings is significantly related to the variation in interest rates in the case of foreign but not in the case of domestic banks. Moreover, as can be observed in Columns VI and IX, foreign banks use credit ratings mainly for the pricing of their loans to larger firms. Domestic banks instead seem to base their pricing on the strength of their lending relationship with the firm, particularly for smaller firms. As

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[16] As before, smaller and larger firms are defined using the median firm's total outstanding bank debt as a threshold as in Table 3. However, similar results are obtained if we use the 30th and the 70th percentiles instead.

can be observed in Column IV, smaller firms with longer relationships and a primary bank status with a domestic bank are charged lower interest rates. These effects are less pronounced for larger firms. While the coefficient of the primary bank status in Column VII remains statistically significant, the size of the coefficient is much smaller (in absolute terms) and relationships length is not found to matter for larger firms. With the exception of additional products from the bank, which are positively related to interest rates, none of the relationship characteristics is found to significantly explain the interest rate variation of foreign bank loans in Columns VI and IX.

Turning to other contract terms, we observe that collateral pledges are associated with lower interest rates for larger firms in the case of foreign banks, but not in the case of domestic banks. Installment loans are charged higher interest rates by both domestic and foreign banks, but only in the case of larger firms. While variation in the loan amount is not significantly associated with variation in interest rates, higher maturity loans attract lower interest rates, both from domestic and foreign banks.

All in all, these findings are consistent with foreign banks using transaction-based technologies, such as credit scoring and asset-based finance, especially for larger firms. Domestic banks instead engage more in relationship lending, especially in the case of smaller firms. These results confirm the new paradigm that domestic and foreign banks can cater to the same clientele using different lending technologies (see, for example, Berger and Udell (2006) and De la Torre et al. (2010)). However, it also highlights the need to adequately control for differences in clientele as the use of different lending technologies for firms of different size could produce similar but misleading results.

4.3 Additional results and robustness tests

In this section, we present several additional results as well as robustness tests for our main findings. First, we explore differences between two different legal forms of foreign bank presence – foreign branches and foreign subsidiaries. Second, we perform additional robustness tests addressing concerns of collusion between banks. Finally, we also examine whether our findings are relevant beyond our limited and selective sample of enterprises that borrow from both domestic and foreign banks at the same time.

First, we explore differences between two different legal forms of foreign bank presence – foreign branches and foreign subsidiaries. As discussed earlier, during the sample period, Bolivia had four foreign branches and three foreign subsidiaries. The literature suggests that branches and subsidiaries follow different business models. Foreign subsidiaries are only under the regulation of the host country, while branches are under the regulation of both the home and host country as they are not separate legal entities from the parent company. More importantly and as discussed by Cerutti, Dell'Ariccia and Martinez Peria (2007), foreign branches are typically smaller operations focusing on small segments of the overall market, such as wholesale operations and investment banking, with less focus on retail operations. As discussed in the literature, greater geographical and cultural distance between loan origination and the bank's top management—where the bank's lending policies are decided— can result in the targeting of larger and more transparent clients and the use of different lending technologies with greater emphasis on hard information (e.g., Mian (2006) and Stein (2002)). As a result, we expect that the differences between domestic and foreign banks in their lending techniques are even more pronounced for foreign branches than foreign subsidiaries.

To investigate whether the legal form of foreign bank presence matters, we re-estimate a slightly modified version of equation (1), in which the foreign bank dummy is split into its two components and the sample is restricted to firms that obtained at least one loan from a domestic bank, a foreign subsidiary, and a foreign branch in the same month. The resulting sample includes 689 loans to 30 unique firms. Results, presented in Table 7, show that both foreign branches and foreign subsidiaries charge lower interest rates and demand more collateral than domestic banks and that these differences are more pronounced for the foreign branches. With respect to maturity, we find that while foreign subsidiaries have shorter maturity loans relative to domestic banks, foreign branches do not.

Insert Table 7 about here

As the sample for the Table 7 regressions is very small, we relax the restriction that firms must be borrowing from all three types of banks in the same month and consider a sample of firms borrowing from the three types of banks at any point during the sample period, resulting in a sample of 7,040 loans to 117

firms. We thus replace the firm-month fixed effects with firm and time fixed effects. The results, which are available upon request, are similar to those presented in Table 7. The only difference is that the coefficient of foreign branch is now negative and statistically significant in the maturity regression, but still smaller in size than the coefficient of foreign subsidiary (-0.209 branches as opposed to -0.449). In all cases, the differences between branches and subsidiaries are statistically significant at the 1% level. All in all, these results confirm our findings for both types of foreign banks and give additional insights into different disciplining and risk mitigation tools chosen by foreign branches and foreign subsidiaries. While foreign branches focus on having collateral for their loans, foreign subsidiaries focus more on a shorter maturity.

Second, we subjected our results to a series of robustness checks. (To conserve space the results of these checks are discussed below, but are not presented in tables.) First, we investigate whether within a given month there is any systematic pattern in the order in which firms obtain loans from domestic and foreign banks and whether our findings are sensitive to any such ordering. For the 5,137 loans in our sample, we find that in 2,330 cases the domestic bank was first, in 2,417 cases the foreign bank was first, and in 390 cases the foreign and the domestic banks granted the loans at exactly the same day. Re-estimating equation (1) for these three sub-samples yields results that are similar with those presented earlier and detects no statistically significant differences between them. Second, we explore whether there is a difference between firm-month observations where all loans to a firm in a given month were granted at the same or a different day. Loans originated at the same day may be capturing syndicated loans, which could carry systematically different contract terms. Again, we find no statistically significant differences between the two sub-samples and our results are confirmed for both sub-samples. Third, we also re-estimate equation (1) for various sub-periods (e.g., for each year or each quarter in our sample). Results show that the differences documented earlier are present throughout the sample period, consistent with the persistent use of different lending technologies by domestic and foreign banks.

In a final test, we re-estimate equation (1) on a sample of firms that did *not* have loans from both domestic and foreign banks in the same month. We thus use the 27,142 observations from the universe of observations presented in Table 2 that were not part of the regression sample so far (i.e., firms that borrow either from domestic or from foreign banks but not both). Unlike in the previous regressions, we therefore

include firm- and month-fixed effects, but not their interaction. While this sample does not allow the clean identification that we have used so far, it shows whether the trade-off we have identified between different elements of the loan conditionality holds for the larger population of borrowers in Bolivia. Results are reported in Table 8 and show that the differences between domestic and foreign banks for the larger sample of borrowers are similar to those reported for our restricted sample. The economic size of the effects is smaller for the interest rate spread and collateral and larger for the maturity difference. These results confirm that our findings are relevant beyond our limited and selective sample of enterprises with access to both domestic and foreign banks at the same time.

Insert Table 8 around here

4.4 Bank ownership and default probability

So far we have documented a clear trade-off in loan conditionality and loan pricing by foreign and domestic banks. But what are the consequences for repayment? If foreign and domestic banks set their loan conditions and price their loans in an optimal way, then we should not observe any differences in arrears, i.e., borrowers should be as likely to repay loans given to them by a domestic or a foreign bank in the same month. In this final section, we test this hypothesis. For this, we define a dummy variable that equals one if a loan is in arrears for more than 30 days or is downgraded to the default status (rating 5) and use OLS regressions to relate the arrears probability to bank ownership, including the same control variables as before as well the interest rate. Since some of the loans in our sample mature after the end of the sample period, i.e., they are right-censored, we work with a smaller sample of 4,495 loans and 281 borrowers. Given the differences in collateral and maturity across bank ownership, we also estimate this model separately for secured and unsecured loans as well as for loans with maturities below and above the sample median.

The results in Table 9 show that loans given by foreign banks are more likely to be in arrears than loans given by domestic banks to the same borrower in the same month, although this result only holds in the sub-sample of above-median maturity loans. The results in Columns I and II show that loans given by foreign banks are 3.7 to 4 percentage points more likely to go into arrears than loans given by domestic

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banks in the same month. Among the control variables, only maturity enters significantly and positively, suggesting that a longer maturity is associated with a higher arrears probability. These results seem surprising because they contradict the idea that foreign banks price their loans, set collateral standards and determine the maturity to mitigate risks effectively. However, when we split the sample by collateralized and non-collateralized loans in Columns III and IV, we find a smaller coefficient estimate for collateralized loans, although the foreign bank dummy does not enter significantly in either of the two sub-samples. When we estimate the regression separately for loans above and below the median maturity in Columns V and VI, we find a significant effect only for higher-maturity loans, but not for lower-maturity loans. Together, these sub-sample estimations suggest that the arrear disadvantage for foreign banks is stronger among uncollateralized and longer-maturity loans, consistent with the focus of foreign banks on collateral and short maturities as risk mitigation instruments.

Insert Table 9 about here

5. Conclusions

With the increase of the worldwide globalization of financial markets, the investigation of foreign bank entry and presence has become an interesting question for both researchers and policymakers. The effects of foreign bank participation are not only important for the development of the banking sector in a country but will also have real effects on the economy as a whole, especially in countries with bank-finance dependent firms. Such circumstances require the investigation of the benefits and costs of foreign bank participation and lending. Most country-level and cross-country studies confirm that foreign banks tend to lend to large and transparent firms and thus "cherry-pick clients", leaving the difficult firms to domestic banks.[17] In contrast, fewer studies find that foreign and large banks engage in lending to both smaller and larger firms.[18]

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[17] See e.g., Beck and Martínez Pería (2010), Berger et al. (2001), Berger et al. (2008), Clarke et al. (2005), De Haas et al. (2010), Detragiache et al. (2008), Gormley (2010), Mian (2006).

[18] See e.g., Beck et al. (2011), Berger et al. (2007), De la Torre et al. (2010), Giannetti and Ongena (2009).

This paper shifts the focus from differences in clientele and indirectly associated lending technologies of foreign and domestic banks to a direct investigation of loan contract terms and loan pricing models. While we confirm that foreign and domestic banks have different clienteles, we find that eliminating the firm composition bias provides interesting insights into the effects of foreign bank entry. More specifically, we choose a sample of firms that borrow from at least one domestic and one foreign bank in the same month. We are thus able to separate the two different effects of foreign bank entry, the focus on different clientele and the use of different lending techniques and loan pricing models, by focusing on the latter.

The paper suggests that foreign banks consistently charge lower interest rates to both smaller and larger firms. This result cannot be explained by the lower funding costs or higher market power of foreign banks but rather by their use of collateral and shorter maturities as disciplining tools. In line with theories on foreign bank lending, we confirm that foreign banks favor asset and rating based and thus hard information lending techniques, while domestic banks can cater to the same firm clientele using relationship and soft information as lending technologies. Moreover, we find the strategy of lower interest rates and higher collateral to be even more pronounced for foreign branches, while foreign subsidiaries are more likely to combine lower interest rates with shorter maturities. While these differences should reflect optimal lending decisions by domestic and foreign banks, we also find that foreign bank loans are more likely to fall into arrears than domestic bank loans. This effect is, however, stronger among uncollateralized and higher-maturity loans, which gives support to the risk mitigation techniques of foreign banks to grant shorter maturities and ask for better collateral.

All in all, firms seem to be facing a clear trade-off when taking out loans from both domestic and foreign banks. Still, they are profiting from foreign bank participation which increases their choices for borrowing opportunities. In particular, it seems that the sharing of hard information such as borrower ratings through the credit registry partly eliminates the informational disadvantage of foreign banks when extending loans to small and opaque firms. As suggested by Berger and Udell (2006) any form of hard information will help foreign banks to assess firms better and facilitate lending to them. Accordingly, our results advance the idea that foreign banks strategically use information on borrower ratings when setting interest rates for both smaller and larger firms.

Our results also allow an assessment of the effects of foreign bank entry as a function of the informational and contractual frameworks of countries. As foreign banks depend more on collateral and credit ratings, our results suggest that foreign banks will not be able to lend to SMEs in countries where collateral rights cannot be effectively created and enforced and in markets with little information available about enterprises.

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Table 1: Summary Statistics for Commercial Banks Operating in Bolivia

The table provides summary statistics on all commercial banks that were active in Bolivia between March 1999 and December 2003.We split banks into foreign branches, foreign subsidiaries and domestic banks. A bank is considered to be foreign if more that 50% of its shares are foreign owned. **Entry/ Acquisition** indicates at which point in time the bank entered the market or was acquired by a foreign bank. **Total Assets** stands for the average value of total assets in millions of US$ during the sample period. **Market Share** stands for a bank's total loans in the country to the total loans in the country per month. **Cost of Funds** stands for the average interest rate on dollar deposits in a month.

Bank	Entry/ Acquisition	Total Assets		Market Share		Cost of Deposits	
		Mean	Std Dev	Mean	Std Dev	Mean	Std Dev
Foreign Branches							
Citibank*	01/01/66	975134.000	198429.000	0.069	0.024	3.034	1.634
ABN Amro*	07/08/98	530089.000	48568.000	0.014	0.007	4.721	0.454
Banco do Brasil*	07/01/61	76124.000	16741.000	0.018	0.012	3.938	1.324
Banco de la Nación Argentina*	04/28/58	14614.171	4031.653	0.016	0.012	5.320	1.361
Foreign Subsidiaries							
Banco Santa Cruz	07/17/98	833.479	354.155	0.105	0.044	3.003	1.686
Banco de Crédito de Bolivia	12/30/92	589.057	97.402	0.161	0.053	4.245	1.438
Banco Solidario	03/15/99	94.936	6.970	0.004	0.002	5.509	1.850
Domestic							
Banco Industrial		682.490	48.450	0.263	0.054	4.021	1.366
Banco Nacional de Bolivia		621.065	17.808	0.118	0.047	5.037	1.434
Banco Mercantil		598.895	31.616	0.108	0.038	4.691	1.514
Banco de la Unión		443.784	90.026	0.060	0.027	5.886	1.766
Banco Económico		284.716	36.613	0.039	0.020	6.265	1.503
Banco Ganadero		207.390	21.950	0.046	0.016	5.586	1.599

* consolidated total assets based on annual reports from Dec 1998 until Dec 2003

Table 2: Summary Statistics

The table reports summary statistics for the entire sample of 32,379 loans and 2,672 firms, referred to as population, during the period March 1999 to December 2003. Summary statistics are also provided separately for loans originated by foreign and domestic banks. The definitions of the variables can be found in the Appendix, Table A1. The stars next to the mean values of domestic bank loans indicate whether the differences between domestic and foreign banks are statistically significant based on simple *t*-statistic. ***, **, * indicate significance at the 1%, 5%, and 10% levels, respectively. The second part of the table reports summary statistics for a sub-sample of 5,137 loans to 287 firms and compares it to the "universe" of all loans. Like in the first part, statistics are provided for all loans in the sample as well as for foreign and domestic banks separately. The stars next to each mean value indicate whether it is statistically different from its corresponding value for the entire sample based on an adjusted *t*-statistic.

Variable Names	Population						Sample					
	All		Foreign		Domestic		All		Foreign		Domestic	
	Mean	St. Dev.	Mean	St. Dev.	Mean	St. Dev.	Mean	St. Dev.	Mean	St. Dev.	Mean	St. Dev.
Loan Terms												
Installment	0.470	0.499	0.500	0.500	0.450 ***	0.498	0.461	0.499	0.482	0.500	0.437	0.496
Loan Amount	161,908	468,898	204,725	564,162	134,714 ***	394,297	251,098 ***	524,793	239,967 ***	436,543	263,231 ***	606,387
Collateral	0.245	0.430	0.376	0.484	0.161 ***	0.368	0.331 ***	0.470	0.461 ***	0.499	0.188 ***	0.391
Maturity	10.859	16.272	8.304	10.926	12.481 ***	18.717	8.817 ***	11.211	7.049 ***	7.382	10.744 ***	14.007
Interest Rate	13.448	2.887	13.041	3.020	13.706 ***	2.769	12.617 ***	2.951	12.203 ***	2.863	13.069 **	2.979
Loan Spread	9.949	2.763	9.352	2.990	10.328 ***	2.537	9.155 ***	2.594	8.774 ***	2.654	9.570	2.460
Legal Structure												
Sole Proprietorship	0.125	0.331	0.096	0.295	0.144 ***	0.351	0.046 ***	0.210	0.034 ***	0.180	0.060 ***	0.237
General Partnership	0.009	0.096	0.005	0.073	0.012 ***	0.108	0.005 ***	0.070	0.001 ***	0.039	0.009 *	0.092
Limited Partnership	0.130	0.337	0.139	0.346	0.125 ***	0.331	0.147 ***	0.354	0.166 ***	0.373	0.125	0.331
Joint Stock Company	0.229	0.420	0.273	0.446	0.201 ***	0.401	0.358 ***	0.479	0.381 ***	0.486	0.332 ***	0.471
Limited Liability Company	0.486	0.500	0.472	0.499	0.494 ***	0.500	0.428 ***	0.495	0.411 ***	0.492	0.446 ***	0.497
Other	0.020	0.142	0.014	0.118	0.025 ***	0.155	0.017 **	0.128	0.006 ***	0.077	0.028	0.166
Bank Debt												
Outstanding Debt	1,991,796	3,879,224	2,410,193	4,194,117	1,726,061 ***	3,640,433	5,452,792 ***	6,474,100	5,146,245 ***	6,395,487	5,786,901 ***	6,543,670
Credit Quality												
Past Non-Performance	0.209	0.407	0.246	0.431	0.186 ***	0.389	0.304 ***	0.460	0.284 ***	0.451	0.325 ***	0.468
Rating 1	0.873	0.332	0.860	0.347	0.882 ***	0.323	0.857	0.350	0.815 ***	0.388	0.903	0.296
Rating 2	0.098	0.298	0.096	0.295	0.100	0.299	0.119 ***	0.324	0.150 ***	0.357	0.085 ***	0.279
Rating 3	0.024	0.154	0.035	0.185	0.017 ***	0.130	0.023	0.150	0.033	0.179	0.012 **	0.110
Rating 4	0.004	0.063	0.008	0.091	0.001 ***	0.036	0.001 ***	0.028	0.001 ***	0.039	0 ***	0
Relationship Characteristics												
Multiple Relationships	0.555	0.497	0.620	0.485	0.514 ***	0.500	1	0	1	0	1	0
Rel. Duration	22.079	16.065	20.840	15.272	22.866 ***	16.500	23.071 ***	16.354	23.407 ***	16.543	22.705	16.142
Scope	0.259	0.438	0.224	0.417	0.281 ***	0.450	0.255	0.436	0.206 **	0.404	0.310 ***	0.462
Primary	0.714	0.452	0.665	0.472	0.744 ***	0.436	0.283 ***	0.451	0.312 ***	0.464	0.252 ***	0.434
Observations	32,279		12,538		19,741		5,137		2,679		2,458	

Table 3: Determinants of Loan Interest Rate

The table reports OLS regressions for a sample of 5,137 loans to 287 firms that received a new loan from at least one foreign and one domestic bank in the same month during the period March 1999 to December 2003. The dependent variable is *Loan Spread*, the loan interest rate minus the rate on US Treasury securities of comparable maturity at loan origination. Columns I-III report regression results with different control variables. Columns IV-V report regression results with all control variables, where the sample is divided between firms with outstanding bank debt below or above the sample median. Standard errors are clustered at firm level and presented in parenthesis. ***, **, and * indicate significance at the 1%, 5%, and 10%, respectively.

	I	II	III	IV	V
		Benchmarks		smaller firms	larger firms
Bank Characteristics					
Foreign Bank	-0.887***	-0.893***	-1.068***	-0.961***	-1.126***
	(0.134)	(0.135)	(0.147)	(0.280)	(0.168)
Borrower Characteristics					
Rating 2		0.468*	0.513**	0.067	0.632**
		(0.268)	(0.241)	(0.485)	(0.256)
Ratings 3 & 4		0.831	0.661	-0.429	1.099**
		(0.650)	(0.544)	(1.284)	(0.551)
Relationship Characteristics					
Rel Duration		0.393	0.119	1.270**	-0.337
		(0.291)	(0.243)	(0.596)	(0.255)
Rel Duration-Square		-0.096	-0.046	-0.307*	0.049
		(0.071)	(0.061)	(0.157)	(0.063)
Rel Scope		0.223	0.121	0.209	0.103
		(0.194)	(0.163)	(0.342)	(0.178)
Primary Bank		-0.491***	-0.326**	-0.614**	-0.147
		(0.153)	(0.137)	(0.259)	(0.162)
Other Contract Terms					
Installment			0.542***	0.347	0.569***
			(0.149)	(0.376)	(0.159)
Loan Amount			0.017	0.094	0.003
			(0.098)	(0.115)	(0.108)
Collateral			-0.371**	-0.133	-0.428**
			(0.162)	(0.265)	(0.181)
Maturity			-1.191***	-1.213***	-1.164***
			(0.133)	(0.187)	(0.160)
Constant	9.617***	9.365***	11.783***	11.299***	12.010***
	(0.070)	(0.280)	(0.954)	(1.397)	(1.038)
Fixed Effects					
Borrower×Time Fixed Effect	Included	Included	Included	Included	Included
R-squared	0.671	0.678	0.731	0.734	0.718
Observations	5,137	5,137	5,137	1,129	4,008

Table 4: Determinants of Loan Interest Rate with Bank Characteristics

The table reports OLS regressions for a sample of 5,131 loans to 287 firms that received a new loan from at least one foreign and one domestic bank in the same month during the period March 1999 to December 2003. The sample size is smaller than in the benchmark regrssions as bank characteristics are not observed for all banks. The dependent variable is *Loan Spread*, the loan interest rate minus the rate on US Treasury securities of comparable maturity at loan origination. In all regressions, additional other bank characteristics are included. Columns I-III report regression results with different control variables. Columns IV-V report regression results with all control variables, where the sample is divided between firms with outstanding bank debt below or above the sample median. Standard errors are clustered at firm level presented in parenthesis. ***, **, and * indicate significance at the 1%, 5%, and 10%, respectively.

	I	II	III	IV	V
		Benchmarks		smaller firms	larger firms
Bank Characteristics					
Foreign Bank	-0.689***	-0.729***	-0.987***	-0.692**	-1.101***
	(0.179)	(0.173)	(0.171)	(0.343)	(0.193)
Cost of Deposits(%)	0.107	0.082	0.064	0.185	0.045
	(0.076)	(0.072)	(0.060)	(0.136)	(0.067)
Market Share	1.499	1.556	-0.201	2.309	-1.012
	(0.954)	(0.965)	(0.986)	(1.742)	(1.133)
Borrower Characteristics					
Rating 2		0.500*	0.511**	0.138	0.623**
		(0.264)	(0.244)	(0.487)	(0.263)
Ratings 3 & 4		0.824	0.668	-0.411	1.118*
		(0.638)	(0.556)	(1.291)	(0.568)
Relationship Characteristics					
Rel Duration		0.365	0.112	1.253**	-0.351
		(0.291)	(0.246)	(0.583)	(0.256)
Rel Duration-Square		-0.089	-0.041	-0.299*	0.058
		(0.071)	(0.062)	(0.154)	(0.063)
Rel Scope		0.139	0.138	0.140	0.163
		(0.191)	(0.158)	(0.335)	(0.176)
Primary Bank		-0.484***	-0.309**	-0.579**	-0.127
		(0.153)	(0.137)	(0.242)	(0.164)
Other Contract Terms					
Installment			0.519***	0.369	0.547***
			(0.151)	(0.367)	(0.162)
Loan Amount			0.021	0.078	0.012
			(0.101)	(0.116)	(0.111)
Collateral			-0.393**	-0.110	-0.467**
			(0.161)	(0.276)	(0.184)
Maturity			-1.188***	-1.172***	-1.170***
			(0.134)	(0.190)	(0.160)
Constant	8.852***	8.749***	11.432***	10.070***	11.833***
	(0.445)	(0.468)	(1.046)	(1.779)	(1.140)
Fixed Effects					
Borrower×Time Fixed Effect	Included	Included	Included	Included	Included
R-squared	0.673	0.680	0.731	0.737	0.719
Observations	5,131	5,131	5,131	1,126	4,005

Table 5: Determinants of Other Contract Terms

The table reports OLS regressions for a sample of 5,137 loans to 287 firms that received a new loan from at least one foreign and one domestic bank in the same month during the period March 1999 to December 2003. The dependent variables are *Maturity*, the natural logarithm of one plus the number of months between loan origination and maturity, and for *Collateral*, a dummy variable indicating whether the loan is secured. Columns I-III report regression results for Maturity as the dependent variable, with different control variables. Columns IV-VI report regression results for Collateral as the dependent variable, with different control variables. Standard errors are clustered at firm level and presented in parenthesis. ***, **, and * indicate significance at the 1%, 5%, and 10%, respectively.

	I	II	III	IV	V	VI
		Maturity			Collateral	
Bank Characteristics						
Foreign Bank	-0.188***	-0.191***	-0.329***	0.265***	0.272***	0.307***
	(0.046)	(0.043)	(0.040)	(0.041)	(0.038)	(0.040)
Borrower Characteristics						
Rating 2		-0.016	-0.055		0.154***	0.143**
		(0.134)	(0.094)		(0.059)	(0.060)
Ratings 3 & 4		0.008	-0.165		-0.167*	-0.158
		(0.246)	(0.183)		(0.090)	(0.096)
Relationship Characteristics						
Rel Duration		-0.231**	-0.159		-0.094***	-0.091***
		(0.113)	(0.118)		(0.027)	(0.026)
Rel Duration-Square		0.047*	0.039			
		(0.027)	(0.031)			
Rel Scope		-0.015	-0.104*		-0.059	-0.044
		(0.066)	(0.054)		(0.044)	(0.044)
Primary Bank		0.222***	0.149***		-0.118***	-0.137***
		(0.059)	(0.042)		(0.036)	(0.034)
Other Contract Terms						
Installment			0.857***			-0.145***
			(0.073)			(0.054)
Loan Amount			0.056**			0.020
			(0.025)			(0.014)
Collateral			0.229***			
			(0.059)			
Maturity						0.114***
						(0.030)
Constant	2.059***	2.243***	1.114***	0.192***	0.493***	0.081
	(0.024)	(0.118)	(0.309)	(0.021)	(0.078)	(0.160)
Fixed Effects						
Borrower×Time Fixed Effect	Included	Included	Included	Included	Included	Included
R-squared	0.447	0.459	0.641	0.508	0.537	0.552
Observations	5,137	5,137	5,137	5,137	5,137	5,137

Table 6: Lending Technologies

The table reports OLS regressions for a sample of 5,137 loans to 287 firms that received a new loan from at least one foreign and one domestic bank in the same month during the period March 1999 to December 2003. The dependent variable is *Loan Spread*, the loan interest rate minus the rate on US Treasury securities of comparable maturity at loan origination. Columns I-III report regression results with all control variables, where each variable is interacted with the *Foreign Bank* dummy. The Column *Domestic* reports the domestic bank coefficients, × *Foreign* reports the interaction coefficients, and *Cumulative* reports the foreign bank coefficients. Columns IV-VI and VII-IX report the same regression results, where the sample is divided between firms with outstanding bank debt below or above the sample median. Standard errors are presented in parenthesis. ***, **, and * indicate significance at the 1%, 5%, and 10%, respectively.

	I	II	III	IV	V	VI	VII	VIII	IX
	All Firms			Smaller Firms			Larger Firms		
	Domestic	× Foreign	Cumulative	Domestic	× Foreign	Cumulative	Domestic	× Foreign	Cumulative
Borrower Characteristics									
Rating 2	0.168	0.478	0.646***	0.334	-0.183	0.150	0.164	0.613	0.776***
	(0.480)	(0.534)	(0.240)	(0.913)	(1.095)	(0.599)	(0.483)	(0.550)	(0.270)
Ratings 3 & 4	-0.900	2.097**	1.197**	-2.518	3.440	0.922	-0.401	1.883*	1.482
	(0.896)	(1.052)	(0.583)	(1.875)	(2.190)	(1.200)	(0.870)	(1.103)	(0.638)
Relationship Characteristics									
Rel Duration	0.299	-0.146	0.152	1.570**	-0.618	0.952	-0.323	0.172	-0.151
	(0.350)	(0.516)	(0.380)	(0.717)	(0.789)	(0.745)	(0.369)	(0.572)	(0.428)
Rel Duration-Square	-0.091	0.052	-0.039	-0.381**	0.127	-0.254	0.042	-0.008	0.035
	(0.093)	(0.113)	(0.081)	(0.187)	(0.175)	(0.179)	(0.099)	(0.125)	(0.091)
Rel Scope	-0.249	0.800***	0.551**	-0.155	1.107	0.952*	-0.261	0.763**	0.502*
	(0.192)	(0.277)	(0.238)	(0.495)	(0.681)	(0.498)	(0.199)	(0.299)	(0.260)
Primary Bank	-0.758***	0.840**	0.082	-0.895**	0.631	-0.264	-0.548**	0.753*	0.205
	(0.229)	(0.374)	(0.234)	(0.396)	(0.749)	(0.484)	(0.269)	(0.405)	(0.262)
Other Contract Terms									
Installment	0.610**	-0.150	0.460**	0.206	0.176	0.382	0.698**	-0.263	0.435*
	(0.281)	(0.390)	(0.210)	(0.507)	(0.654)	(0.447)	(0.320)	(0.436)	(0.221)
Loan Amount	-0.046	0.112	0.066	0.175	-0.109	0.066	-0.129	0.236**	0.106
	(0.126)	(0.094)	(0.088)	(0.124)	(0.211)	(0.189)	(0.146)	(0.114)	(0.090)
Collateral	-0.127	-0.302	-0.429**	0.076	-0.310	-0.234	-0.121	-0.347	-0.468**
	(0.257)	(0.296)	(0.172)	(0.500)	(0.749)	(0.407)	(0.286)	(0.326)	(0.191)
Maturity	-1.170***	-0.018	-1.188***	-1.254***	0.132	-1.122***	-1.134***	-0.074	-1.209***
	(0.194)	(0.251)	(0.158)	(0.287)	(0.437)	(0.284)	(0.222)	(0.292)	(0.189)
Constant	12.531***	-2.713**	9.818***	10.584***	0.065	10.649***	13.657***	-4.452***	9.205***
	(1.195)	(1.159)	(1.023)	(1.416)	(2.390)	(2.286)	(1.419)	(1.351)	(1.025)
Fixed Effects									
Borrower×Time Fixed Effect	Included			Included			Included		
R-squared		0.738			0.744			0.727	
Observations		5,137			1,129			4,008	

Table 7: Determinants of Contract Terms for Domestic Banks, Foreign Branches and Subsidiaries

The table reports OLS regressions for a sample of 689 loans to 30 firms that received a new loan from at least one domestic bank, one foreign branch and one foreign subsidiary in the same month during the period March 1999 to December 2003. The dependent variables are *Loan Spread*, the loan interest rate minus the rate on US Treasury securities of comparable maturity at loan origination, *Maturity*, the natural logarithm of one plus the number of months between loan origination and maturity, and for *Collateral,* a dummy variable indicating whether the loan is secured. Columns I-III report regression results with all control variables for firms that, in a given month, received loans from domestic banks as well as foreign branches and subsidiaries. Standard errors are presented in parenthesis. ***, **, and * indicate significance at the 1%, 5%, and 10%, respectively.

	I	II	III
	Loan Spread	Maturity	Collateral
Bank Characteristics			
Foreign Branch	-1.633***	0.070	0.416***
	(0.392)	(0.106)	(0.079)
Foreign Subsidiary	-1.371***	-0.237***	0.165*
	(0.297)	(0.077)	(0.082)
Borrower Characteristics			
Rating 2	0.306	-0.163	0.179**
	(0.259)	(0.155)	(0.078)
Ratings 3 & 4	-0.085	0.066	-0.461*
	(0.590)	(0.242)	(0.261)
Relationship Characteristics			
Rel Duration	-0.181	-0.04	-0.171**
	(0.588)	(0.124)	(0.065)
Rel Duration-Square	-0.092	-0.005	
	(0.172)	(0.031)	
Rel Scope	-0.02	0.049	-0.07
	(0.328)	(0.073)	(0.062)
Primary Bank	-0.068	0.249*	-0.269***
	(0.313)	(0.142)	(0.055)
Other Contract Terms			
Installment	0.257	0.572***	-0.042
	(0.201)	(0.101)	(0.142)
Loan Amount	0.076	0.068**	0.006
	(0.171)	(0.026)	(0.028)
Collateral	-0.288	(0.077)	
	(0.405)	(0.075)	
Maturity	-1.281***		0.067
	(0.321)		(0.060)
Constant	12.049***	1.044***	0.558
	(1.698)	(0.351)	(0.345)
Fixed Effects			
Borrower×Time Fixed Effect	Included	Included	Included
R-squared	0.706	0.511	0.468
Observations	689	689	689
T-test Branches vs. Subsidiaries	0.457	0.034	0.025

Table 8: Contract Terms for Opposite Sample

The table reports OLS regressions for a sample of 27,142 loans to 2,671 firms that received a new loan from foreign or from domestic banks, but not from both, in the same month during the period March 1999 to December 2003. The dependent variables are *Loan Spread*, the loan interest rate minus the rate on US Treasury securities of comparable maturity at loan origination, *Maturity*, the natural logarithm of one plus the number of months between loan origination and maturity, and for *Collateral,* a dummy variable indicating whether the loan is secured. Columns I-III report regression results with all control variables for firms that, in a given month, received loans from domestic banks as well as foreign branches and subsidiaries. Standard errors are presented in parenthesis. ***, **, and * indicate significance at the 1%, 5%, and 10%, respectively.

	I	II	III
	Loan Spread	Maturity	Collateral
Bank Characteristics			
Foreign Branch	-1.044***	-0.382***	0.214***
	(0.112)	(0.034)	(0.028)
Borrower Characteristics			
Rating 2	0.348***	-0.061*	0.003
	(0.109)	(0.032)	(0.021)
Ratings 3 & 4	0.718***	-0.071	0.074*
	(0.219)	(0.080)	(0.039)
Relationship Characteristics			
Rel Duration	-0.262***	-0.047	-0.029***
	(0.091)	(0.028)	(0.008)
Rel Duration-Square	0.086***	0.004	
	(0.030)	(0.009)	
Rel Scope	0.043	-0.027	-0.018
	(0.065)	(0.017)	(0.012)
Primary Bank	-0.408***	0.078***	-0.045***
	(0.092)	(0.023)	(0.015)
Other Contract Terms			
Installment	0.640***	1.018***	-0.035**
	(0.080)	(0.026)	(0.016)
Loan Amount	0.003	0.114***	0.027***
	(0.044)	(0.012)	(0.006)
Collateral	-0.254***	0.242***	
	(0.075)	(0.025)	
Maturity	-1.194***		0.086***
	(0.024)		(0.009)
Constant	12.826***	0.596***	-0.288***
	(0.437)	(0.130)	(0.063)
Fixed Effects			
Borrower Fixed Effect	Included	Included	Included
Time Fixed Effect	Included	Included	Included
R-squared	0.718	0.695	0.517
Observations	27,142	27,142	27,142

Table 9: Default Regression

The table reports OLS regressions for a sample of 4,495 loans to 281 firms that received a new loan from at least one foreign and one domestic bank in the same month during the period March 1999 to December 2003. The dependent variable is *Default*, a dummy variable indicating that loans is in arrears for more than 30 days or is downgraded to default status (rating 5). Columns I-II report regression results with no and all control variables. Columns III-VI report regression results with all control variables, where the sample is divided between collateralized and uncollateralized loans and loans with a maturity below and above the median maturity in months. Standard errors are clustered at firm level and presented in parenthesis. ***, **, and * indicate significance at the 1%, 5%, and 10%, respectively.

	I	II	III	IV	V	VI
	Benchmarks		No Collateral	Collateral	Mat<p50	Mat>p50
Bank Characteristics						
Foreign Bank	0.037**	0.040**	0.038	0.031	0.021	0.074**
	(0.017)	(0.018)	(0.027)	(0.036)	(0.019)	(0.031)
Borrower Characteristics						
Rating 2		-0.045	-0.034	-0.076	-0.045	-0.074
		(0.037)	(0.057)	(0.093)	(0.046)	(0.075)
Ratings 3 & 4		0.020	0.037	-0.034	0.048	0.323
		(0.063)	(0.089)	(0.064)	(0.074)	(0.207)
Relationship Characteristics						
Rel Duration		-0.001	-0.002	0.015	0.003	-0.013
		(0.009)	(0.016)	(0.024)	(0.011)	(0.021)
Rel Scope		-0.019	-0.016	-0.044	-0.019	-0.002
		(0.022)	(0.034)	(0.085)	(0.041)	(0.037)
Primary Bank		0.027	0.031	-0.004	0.016	0.056
		(0.021)	(0.033)	(0.050)	(0.027)	(0.041)
Other Contract Terms						
Installment		-0.011	0.002	-0.013	-0.029	0.028
		(0.017)	(0.020)	(0.039)	(0.028)	(0.028)
Loan Amount		0.008	0.005	-0.001	0.006	0.006
		(0.006)	(0.010)	(0.009)	(0.010)	(0.011)
Collateral		-0.002			-0.010	0.034
		(0.018)			(0.017)	(0.035)
Maturity		0.046***	0.033*	0.048		
		(0.015)	(0.017)	(0.042)		
Interest Rate		-0.001	0.000	0.002	-0.007	0.008
		(0.006)	(0.009)	(0.006)	(0.006)	(0.011)
Constant	0.052***	-0.111	-0.062	-0.040	0.076	-0.121
	(0.009)	(0.114)	(0.143)	(0.181)	(0.139)	(0.214)
Fixed Effects						
Borrower×Time Fixed Effect	Included	Included	Included	Included	Included	Included
R-squared	0.568	0.578	0.650	0.787	0.670	0.732
Observations	4,495	4,495	3,073	1,422	2,484	2,011

Appendix

Table A1: Definitions of Variables

The table reports definitions of variables used in the summary statistics as well as the regressions such as **Loan Terms**, **Legal Structure**, **Bank Debt**, **Credit Quality**, **Relationship Characteristics, and Bank Characteristics.**

Variable Names	Definitions
Loan Terms	
Installment	= 1 if an installment loan, and = 0 if a single payment loan.
Amount	Loan amount at loan origination in US dollars.
Collateral	= 1 if collateral was pledged at loan origination, and = 0 otherwise.
Maturity	Number of months between loan origination and maturity.
Interest Rate	Annual contractual interest rate at loan origination.
Loan Spread	Loan interest rate minus rate on Treasury Bills of comparable maturity.
Legal Structure	
Sole Proprietorship	= 1 if the firms is a sole proprietorship, and = 0 otherwise.
General Partnership	= 1 if the firm is a general partnership (i.e., all partners have unlimited liability and ownership is not transferable), and = 0 otherwise.
Limited Partnership	= 1 if the firm is a limited partnership (i.e., some partners have limited liability and their ownership rights are transferable), and = 0 otherwise.
Joint Stock Company	= 1 if the firm is a joint-stock company (i.e., all partners have unlimited liability and their ownership rights are transferable) and = 0 otherwise.
Limited Liability Company	= 1 if the firm is a limited liability company (i.e., all partners have limited liability and transferable ownership rights) and = 0 otherwise.
Other	= 1 if the firm is a public company, a municipality, or a cultural, sport, religious associations and = 0 otherwise.
Bank Debt	
Outstanding Debt	Total outstandind bank debt.
Credit Quality	
Past Non-Performance	= 1 if the firm had any repayment problems (default or delinquency) in the past 12 months.
Non-Performance	= 1 if a loan is in arrears for more than 30 days or is downgraded to default status (rating 5).
Rating 1	= 1 if the firm's rating is 1 (best), and =0 otherwise.
Rating 2	= 1 if the firm's rating is 2, and =0 otherwise.
Rating 3	= 1 if the firm's rating is 3, and =0 otherwise.
Rating 4	= 1 if the firm's rating is 4 (worst), and =0 otherwise.
Relationship Characteristics	
Multiple Relationships	= 1 if the firm has outstanding loans from multiple banks.
Rel. Duration	Duration of bank-firm relationship in months.
Scope	= 1 if the firm has additional products (e.g, credit cards, lines of credit, discount documents, mortgages) with the bank and = 0 otherwise.
Primary	= 1 if more than 50% of the firm's oustanding bank debt is originated by the bank, and = 0 otherwise.
Bank Characteristics	
Foreign Bank	= 1 if more than 50% of bank's ownership is foreign owned, = 0 otherwise.
Cost of Deposits	average interest rate on dollar denominated saving deposits in a given month.
Market Share	a bank's total loans in the country to the total loans in the country per month.