Distance Constraints:

The Limits of Foreign Lending In Poor Economies

Atif Mian*

Abstract

How far can institutional mobility of multi-national banks address the financial development concerns of poor economies? Using a new quarterly panel data set of 80,000 loans over 7 years, I show that greater cultural and geographical *distance* between a foreign bank's head quarter and the local branches, leads it to further avoid lending to "informationally difficult" yet fundamentally sound firms requiring relational contracting. Greater *distance* also makes them less likely to bilaterally renegotiate, and less successful at recovering defaults. Differences in bank size, legal institutions, risk preferences, or unobserved borrower heterogeneity cannot explain these results. The *distance constraints* identified in this paper can be economically large enough to permanently exclude certain sectors of the economy from financing by foreign banks.

*Graduate School of Business, University of Chicago. Email: atif@gsb.uchicago.edu. I am extremely grateful to the State Bank of Pakistan (SBP) for providing the data used in this paper. My heartfelt thanks to Abid Qamar at SBP for clarifying many data related questions. The results in this paper do not necessarily represent the views of the SBP. I also thank Marriane Bertrand, Doug Diamond, Steve Kaplan, Asim Ijaz Khwaja, Raghu Rajan, Jose Liberti, Tobias Moskowitz, Sendhil Mullainathan, Paola Sapienza, Antoinette Schoar, Jeremy Stein, Philip Strahan, Per Stromberg, Luigi Zingales and seminar participants at Chicago, Yale, Columbia and NBER corporate finance meeting for helpful comments and suggestions. All errors are my own.

"while the *[foreign]* banks easily provide funds to multinationals, and even large domestic firms, small and medium-size firms complained of a lack of access to capital. International banks' expertise - and information base - lies in lending to their traditional clients"

_____ Stiglitz (2003, pg. 69)

Even though the role of financial development in growth is well-recognized[1], enhancing the level of financial development in poor economies remains difficult. There is the hope however that globalization and integration of world financial markets in recent years provide a quick way for emerging markets to develop their financial systems. The idea is based on a couple of related arguments. First, as financial and other protective barriers drop, *capital mobility* can allow financial institutions from developed countries to lend directly to entrepreneurs in emerging markets. Second, if lending from such long distances is problematic, *institutional mobility* can allow foreign financial institutions to set up subsidiaries and lend locally in emerging markets. While both arguments are theoretically appealing, understanding their practical relevance and scope remains an empirical question.

Regarding the first argument, recent literature has suggested that *capital mobility,* while useful, may not completely compensate for the importance of domestic financial development. For example, Petersen and Rajan (1994 and 2002) highlight the importance of physical proximity of a firm with its lender, Black and Strahan (2002) show the benefits of competition among local intermediaries for entrepreneurship, and Guiso, Sapienza, and Zingales (2004) stress the importance of local financial development for economic growth. This suggests that there are important limitations to how far *capital mobility* alone can solve the financial under-development problem.

This brings us to the second argument that where *capital mobility* falls short, *institutional mobility* can step in. For example, if it is the local financial development that matters more, why can foreign banks not open up local branches in emerging markets and solve the financial under-development problem? To put it differently, is it the case that even if foreign banks open up local branches in emerging markets they will still be constrained in who they can finance and how? This paper explores this issue in detail by addressing three related questions: (i) Do foreign banks participate in all sectors of financial development or are they limited in the type of entrepreneurs they finance? (ii) If they are limited, what is the rationale for that? (iii) Are such limitations of foreign banks economically important?

[1] See for example, King and Levine (1993), Rajan and Zingales (1998), and Levine and Zervos (1998).

In order to answer the above questions, we need to study a traditionally under-developed market that has recently experienced a substantial expansion in foreign banking operations. Moreover, we need a fairly micro-level data set to answer questions concerning the level and success of financial intermediation in different areas of financial development.

The banking sector of Pakistan offers such an opportunity. First, historically Pakistan has had low level of financial development due to a virtual monopoly of poorly performing state owned banks in the country. However, the country liberalized its banking sector in 1990, which led to a rapid expansion and entry of foreign and private domestic banks. What is econometrically useful about this expansion is that both foreign and private domestic banking sectors were liberalized at the same time in Pakistan, which makes the private domestic banks a useful benchmark to compare foreign banks against. Second, I have a new data set with detailed quarterly loan level information on each of the 80,000 business loans given out by the private (both foreign and domestic) banking sector of Pakistan from 1996 to 2002. The data offers many advantages in measuring the nature of banks' activities and their outcomes at a micro level. For example, I know the type and identity of each loan borrower, the amount of the loan, its default rate, whether the loan went into litigation or renegotiation in case of default, and the amount recovered from default. Third, there is significant variation in the origin and organizational type of foreign banks. Such variation will be useful in understanding what bank-level factors limit foreign banks' activities in Pakistan.

Using the loan-level data, I start by addressing the first question i.e., are foreign banks limited in the type of entrepreneurs they finance? I find that consistent with Stiglitz's comment, lending by foreign banks is fairly limited in scope. Foreign banks systematically shy away from lending to "soft information" firms requiring relational contracting. These are small firms, firms in smaller cities, firms not affiliated with a major business group, firms seeking first time loans, and firms seeking long term relational financing.

Moreover, consistent with the notion that foreign banks avoid relational lending, I find that they are less than half as likely to bilaterally renegotiate (they litigate more) in case of default compared to domestic banks. Foreign banks are also less than half as successful as domestic banks at recovering defaults. These results are not driven by unobserved borrower characteristics as they are robust to the inclusion of borrower fixed effects. In other words even when the *same* borrower defaults to both foreign and domestic banks, domestic banks are *more* likely to successfully renegotiate with him and have higher recovery rates.

The results above indicate that while foreign banks are quite willing to give out arm's length

or "transaction loans" based on hard information, they are at a comparative *dis*advantage when it comes to soft information based relational loans. One hypothesis to explain the above results is that when foreign banks open a branch or subsidiary in a "distant" economy, they face extra informational and agency costs in making relationship loans. Broadly speaking, "distance" here could reflect a number of factors. For example it may reflect physical distance between the foreign bank's head quarter (CEO) and the subsidiary, or it could also reflect cultural distance, intra-bank hierarchical distance due to bank size, or institutional (legal) distance between the foreign bank's country of origin and its subsidiary. Results indicating the reluctance of foreign banks to lend to "soft" firms requiring relational contracting could thus reflect the additional costs of such distance or *distance constraints*.

To test if the above theory is credible and if so which particular definition of distance is most relevant, I exploit the variation among foreign banks in their "distance travelled". I find that geographical or cultural *distance* is an important attribute in explaining the lending, recovery, and renegotiation differences between domestic and foreign banks. In particular, these *distance constraints* are stronger, the more *geographically or culturally distant* a foreign bank is. Moreover, by exploiting variation among firms in their political-connectedness, I show that the *distance constraints* are more likely to be driven by informational and agency costs rather than higher enforcement problems for foreign banks. Other potential measures of distance such as bank size and institutional distance are not correlated with *distance constraints*.

A concern with the above findings may be that perhaps foreign banks avoid "soft information" loans not because of any limitations, but because of the "poor quality" of these loans. Domestic banks on the other hand may not be as scrupulous because of poor banking supervision and the ensuing preference for risky behavior. However, various firm and loan level outcomes show that such concerns are not valid. For example, despite making more soft information loans, domestic banks do *not* have significantly higher default rates than foreign banks. In fact taking the interest and recovery rates into account, lending by domestic banks is *as profitable* as lending by foreign banks. Similarly, firms financed by domestic banks are as productive as firms financed by foreign banks in terms of exports. There is also no evidence of "related lending" by domestic banks. This further diminishes concerns of moral-hazard-driven "risky" lending by domestic banks.

Finally, the last question I address in this paper relates to the broader macroeconomic picture. Even if *distance constraints* are important in shaping the way foreign banks lend to firms, one could ask how economically important these constraints are? For example, are the constraints

large enough so that in the absence of domestic banks, many soft information firms would not be given credit? Or are the costs small enough so that in the absence of domestic banks, foreign banks would be willing to lend to such soft information firms at only slightly higher costs? Although it is a difficult question to answer, I exploit the late entry of domestic banks due to earlier regulatory restrictions to show that in the absence of domestic banks, a large number of the "soft information" firms would *not* be given credit. Therefore *distance constraints* not only exist but their magnitude can be large enough to permanently exclude certain sectors of the economy from financing by foreign banks.

This paper connects the literature on financial development with the theory of the firm. Since the work of Coase (1937), an important question in this literature has been to understand how informational and agency *distance* between the CEO and her employees in distant areas (loan officers in the case of banking), shapes the nature of information acquisition and the types of activities performed within the firm. Existing theoretical work such as Stein (2002), and Aghion and Tirole (1997) suggests that greater *distance* between the CEO and her employees could lead to less reliance on soft information by the firm. In a first direct test of such theories, Liberti (2003) shows that decentralization of decision making enhances transmission and reliance on soft information within a bank.

The results of this paper suggest that not only does greater distance decrease the incentives of a bank manager to collect soft information as in Stein (2002), but that greater cultural distance may make it more costly for certain institutions to collect and communicate soft information. It thus connects the literature on organizations with the literature on culture. The importance of culture in shaping economic outcomes and institutions has already been highlighted in papers such as Greif (1994), Stulz and Williamson (2003), and Grinblatt and Keloharju (2001).

Our results thus suggest that there is a limit to how much a poor country can rely on foreign lending when it comes to informationally difficult borrowers, and highlights the need for strong domestic financial institutions in these countries. This may also explain the reliance of early "miracle" successes of Japan and then East Asian economies on domestic banks.

The rest of the paper proceeds as follows. The next section formally defines *distance* and its corresponding *constraints*. Section II describes the data and its institutional background. Section III outlines the empirical methodology used in this paper. Section IV then tests for *distance constraints* and Sections V and VI test for alternative explanations. Section VII evaluates the economic importance of *distance constraints*, and Section VIII concludes.

I Why Should Foreign Banks Differ from Domestic In Poor Economies?

In an emerging economy like Pakistan with no separate legal or regulatory restrictions for foreign banks, why might foreign banks lend differently than domestic banks? Anecdotal evidence such as the quote by Stiglitz in the introduction suggests that there are some inherent attributes of foreign banks that limit their scope in emerging economies. This section provides two broad classes of theories in this regard. I separate the two classes as they differ in their evaluation of the usefulness of domestic banks.

A. Theories Based On Distance Constraints

An obvious candidate for explaining foreign bank lending pattern is the "distance" travelled by them before entering an emerging economy. Figure I outlines the formal definition of *distance* in this theory: It is the distance between the controlling shareholder (the CEO or *principal*) of a foreign bank residing in her home country (say the U.S.) and the loan officer (the *agent*) operating in a developing country (Pakistan in our case). Notice that my definition of distance (labelled (1) in Figure I) is different from another possible definition of distance (labelled (2) in Figure I) that measures the distance between the loan officer and his borrower. Papers such as Petersen and Rajan (1994 and 2002) have looked at the impact of this second distance on lending behavior. However, when discussing the constraints faced by foreign banks in developing countries, as is the goal in this paper, it is natural to think that definition (1) of distance is the more important source of variation.

There are different metrics one can use to measure the *distance* shown in Figure I. In this paper, I consider three different metrics and test which is more relevant in practice.

(i) Geographical or Cultural Distance: It measures the geographical separation between the CEO and her loan officer. Since in my data, distance from Pakistan is also highly correlated with cultural differences, geographical distance can be thought of as synonymous with cultural differences.

(ii) *Hierarchical Distance (due to bank size)*: This measures the number of organizational layers or hierarchies between the CEO and her loan officer. The hierarchical distance can be proxied by the overall size of the bank, since larger banks (such as multi-national banks) will be more hierarchical on average.

(iii) *Institutional Distance*: This measures the difference between home and host country's legal and regulatory framework.

All three metrics of distance imply that foreign banks will have higher informational, agency, or enforcement costs when operating in emerging economies. For example, there are natural reasons to believe that greater physical distance between a principal and her agent would lead to higher informational and agency costs for foreign banks.[2] Similarly, working in an environment with a different corporate culture, legal environment, or regulatory framework might increase the asymmetry in information and make it more difficult for the CEO of a foreign bank to design policies that are specifically tailored for the developing country. With regards to bank size, papers such as Berger et al (2002) have already highlighted the reluctance of large banks to lend to soft information firms because of informational constraints.

In the face of higher info-agency or enforcement costs due to greater distance, there are some common predictions regarding foreign lending that I collectively refer to as *distance constraints*. The main prediction in this regard is that foreign banks will find it more difficult to lend to "soft information" firms that require high information and monitoring intensive relationship loans. Moreover, foreign banks will be weaker at *relational* functions such as renegotiation and recovery of bad loans that also require strong information and control mechanisms. To see which of the definitions of distance is more relevant, one can test how *distance constraints* covary with each of the three definitions respectively.

The discussion above of the different definitions of distance and the ensuing *distance constraints* mostly focused on theoretical arguments. However, there is anecdotal and qualitative evidence that suggests foreign banks face these types of constraints in developing economies. For example, it is widely believed that large multi-national banks use very strict "credit scoring" methods that force the local bank managers to rely on hard information and do not leave much discretion in their hands to use soft information (Cole, Goldberg, and White (1999)). On the enforcement side a number of articles in the Indian business process talk about banks outsourcing the credit card default recoveries to local thugs and mafias[3]. What is less known however is whether foreign banks will also be willing to outsource to such mafia. On the cultural and institutional front, Berger, Klapper, and Udell (2001) find that foreign banks headquartered in other South American nations are more likely to lend to small Argentine businesses than foreign banks headquartered in other countries.

[2] Papers such as Coval and Moskowitz (2001) have shown that physical distance matters even in the mutual funds sector where the nature of information is a lot less opaque, and the agency issues less severe than banking.

[3] See "Credit Constraints" by Ajay Shah in Business Standard (22 March 2000), or "A parallel agenda for the RBI" by R Jagannathan in Rediff.com (Nov 5, 2002)

B. Theories Based On Risk Preferences

The second class of theories that I consider to explain differences between foreign and domestic banks argues that foreign banks behave differently from domestic not because of any additional cost due to distance but because they have higher standards and more prudent preferences when evaluating risk. It would be important to distinguish between the two classes of theories because while the first points to limitations of foreign banks due to *distance constraints* the latter suggests the superiority of foreign over domestic banks in evaluating risk.

So why might domestic and foreign banks differ in their attitude towards risk or *risk preferences*? The idea is based on the belief that domestic banks may be more willing to take on higher levels of risk because of the moral hazard or option value associated with limited liability of banks. Foreign banks on the other hand may not be willing to take such high levels of risk because of their "franchise value" at risk, and the added supervision by their home regulatory authority. For example, if a foreign bank takes too much risk in a developing country, leading to a fear of bank failure, it will have large negative consequences through reputation on its operations worldwide. Hence, anticipating such loss of franchise value through risky behavior, foreign banks will end up devising internal monitoring mechanisms to curb their level of risk (see e.g. Demsetz, Saidenberg, and Strahan (1996)). Similarly as foreign banks are also subject to their home country regulatory authority, they may have stricter external monitoring and supervision than private domestic banks.[4]

In the empirical sections that follow I will describe and conduct a number of tests that will distinguish between the different theories highlighted here.

II Data

A. Institutional Environment

Since the data used in this paper comes from Pakistan, it will be instructive to give a brief institutional background of the banking sector in Pakistan. Pakistan in the 1950s and 1960s had a liberalized banking structure open to both foreign and domestic banks. However, this changed in the early 1970s when the government decided to nationalize all private domestic banks in the country. The nationalization was interesting in the sense that only the domestic banks were na-

[4]The *risk preferences* explanation can go in the other direction as well. For example, one could argue that foreign banks should actually have a *higher* preference for risk locally as they can more easily diversify themselves internationally. I ignore this explanation as none of the empirical results are consistent with it.

tionalized. The foreign banks were left to operate as before, although limits were placed on the size of their operation. As a result of this institutional history, all foreign banks operating in Pakistan were set up as new banks, i.e. none of them were buyouts of existing private domestic banks. By 1990 government banks dominated the banking sector as they held 92.2% of total assets, while the rest belonged to foreign banks.

However, weaknesses and inefficiencies in the financial structure that emerged after nationalization, finally forced the government to initiate a broad based program of reforms in the financial sector in the beginning of 1991. These reforms included: (i) privatization of one of the government banks[5], (ii) allowing entry of new private domestic and foreign banks, (iii) setting up of a centralized credit information bureau (CIB) to track loan-level default and other information[6], (iv) issuance of new prudential regulations to bring supervision guidelines in-line with international banking practices (Basel accord), and (v) granting autonomy to the State Bank of Pakistan that regulates all banks.

As a result of these reforms, the country saw a spurt of growth in the private (particularly domestic) banking sector. As discussed, before 1990 banking was dominated by the government with a complete absence of any local private banks. The fact that foreign banks still operated is an important observation as it highlights that foreign banks have had a longer stay in the banking history of Pakistan than domestic private banks. Thus any limitations of foreign banks found in this paper cannot be attributed to a shorter time to adjust to the local climate compared to private domestic banks. Once the banking sector was liberalized in 1990, it lead to a sharp rise in the private domestic banking industry, which soon rivaled both the traditional government banking sector as well as the older foreign banking sector. By the end of 1996, which is the start of the data period in this paper, government, private domestic, and foreign banks provided 54%, 23%, and 23% of the overall bank lending respectively.

A note on the application of "Islamic banking" in Pakistan is also warranted here. The government of General Zia in the early 1980s in the hope of gathering political support issued an injunction that all banking in the country should be done according to Islamic law. However, the new law was only a cosmetic change. It did not change any of the real functions of banks other than re-labeling "interest" as "profit" on deposits, and as "mark up" on loans. For all practical purposes, banking in Pakistan is done the same way as in the rest of the world.

[5] Another government bank was also privatized in theory, but it was simply "sold" to existing employees of the bank and hence does not count as a proper privatization.

[6] The data set given to me by the State Bank of Pakistan is part of this CIB database.

In terms of post-1990 regulation environment, both domestic and foreign banks are allowed to enter and operate in the banking sector. The important fact for this paper is that both domestic and foreign banks are subject to the *same* prudential regulations and banking rules. As such differences between foreign and private domestic banks cannot be attributed to differential treatment by the regulatory authorities.

B. Basic Data Description

The data set used in this paper has quarterly loan level data on *all* corporate bank loans outstanding in Pakistan during the 7 year period from 1996-2002. This translates into a panel data set of 165,004 loans given out during this time period. A loan is defined by a unique bank-firm pair. So if the same firm gets 4 different loans from the same banks over the 7 year period, I define them as a single "loan". Given the scope of this paper, I restrict the data to 79,323 private loans given out by the foreign and private domestic banks during the sample period. In other words, I drop the 85,185 loans given out by government banks, and the 496 loans given out by private banks *to* government firms[7]. As is well known, lending by government banks raises all sorts of different issues such as lending for "social reasons" which are beyond the scope of this paper, and hence I remove these loans from the current study[8]. The data was provided by the State Bank of Pakistan which supervises and regulates all banking activity in the country.

After taking out government loans, there are a total of 588,546 loan-quarter observations. These observations are spread over 25 quarters (April 1996 to April 2002), 90 private banks, and 62,253 unique borrowers. Although I will use the time dimension of the panel data whenever needed, for most of the analyses it will be convenient to "cross-sectionalize" the panel data before analysis. This involves converting all values into real 1995 rupees (Rs.), and then taking the time average of each loan, thus making a "loan" (i.e. a bank-firm pair) the unit of observation. A loan is identified by a borrower and his corresponding bank. The cross-sectionalized version of our data then has 79,323 observations or loans. Notice that this number is greater than the number of unique borrower (62,253) because a single borrower may be borrowing from more than one bank. Another point to keep in mind is that the initial panel data set is not a complete panel. The number of loans in any given quarter ranges goes from 15,952 in the beginning of sample to 31,727 towards the end, as new loans are given out and old loans retired. Panel A of Table I summarizes these basic characteristics

[7] Keeping these government firms in the sample does not change any of the results in a significant way.
[8] The role of government lending will be looked at in future work.

of the data set.

To carry out the empirical tests in this paper, banks were characterized into "foreign" and "domestic". The categories were defined based on the location of the controlling shareholders of the bank. Given this classification, 22 banks were classified as "foreign", and 68 as "domestic". The 22 foreign banks comprise of countries in Europe, Middle East, US, and Japan. The two types of banks segment the private banking sector quite evenly. As Panel B of Table I shows, the market share of private banking sector is 49% and 51% each for foreign and domestic banks. As there are many more private domestic banks, they are smaller than foreign banks on average.

Table I gives the broad coverage of the data set. In terms of details, the data set has loan-level information on the identity of the borrower and its bank, the amount of the loan, the amount overdue, duration of overdue, breakup by principal and interest, break up by type of loan (fixed, working capital, etc.), group affiliation of the borrower, bank branch where the loan was issued, new loans given out in the past quarter, and in case of default loan recovered and loan under litigation. I will next describe each of these variables in detail.

C. Measuring Hard Information

An important variable of interest in this paper is going to be some measure of the "type" of firm, where type refers to the nature of information required to lend to the firm. As was pointed out earlier, the literature on relationship banking points out that "soft information" firms are more likely to require close relationship lending. The differentiating feature between hard and soft information is that unlike hard information, soft information pertains to intangible factors such as "potential" and "ability" that cannot be verifiably conveyed. For example, consider the case of a local bank manager (the agent) trying to convey information about a potential borrower to his ultimate boss (the principal). If the information is "soft" such as the information acquired through repeated personal interviews about the borrower's ability and honesty, then the branch manager will have difficulty in credibly conveying the information. Consequently, if the principal wants the branch manager to use such information in lending decisions, then she must "trust" the manager by giving him "discretion". On the other hand if the information were "hard" such as a borrower's audited earnings or exports, then it can be credibly shown to the principal.

Using the loan level details, I first construct different variables measuring the "hardness" of information. (summary statistics are given in Panel A of Table II):

(i) *Size.* The total borrowing by a firm from all the banks in the country (including foreign,

domestic, and government banks) is used as a proxy for borrower size. I then divide up the firms into five size categories using 99, 95-99, 75-99, 50-75, and 0-50 percentiles as the cutoff criteria. The cutoff criteria were used given the skewed distribution of lending, with 65% of total lending going to the top 1% of firms by size. The percentage of total lending, and the number of loans in each category are given in Panel A of Table II. *Size* proxies for "hard information" under the assumption that the bigger a borrower is, the more credible would be its information because of audited reports and reputation. Conversely the smaller a borrower is, the softer would be its informational content (e.g. Berger et al (2002) also use small size to proxy for soft information).

(ii) *Location.* This variable captures the size of the city the borrower is located in. It takes on three values big, medium and small. Borrowers located in the three largest cities (city population greater than 2 million) are coded big, while those in cities with population between 0.5-2 and 0-0.5 million are coded as medium and small respectively[9]. The distribution of lending across location is also highly skewed with the large cities getting 89% of the lending. As with size, location proxies for "hard information" under the assumption that borrowers in large cities would have better auditing and credit reputation, and those in small cities softer information.

(iii) *Foreign.* This variable captures whether the firm (borrower) is a foreign firm or not. There are only 493 loans given out to foreign firms in the data, but they represent about 18% of the overall private lending. Being a foreign firm proxies for hard information because foreign firms are likely to have better credit reputation, and harder informational content.

(iv) *Group Size.* It is well known that the group or network that a firm belongs to is an important determinant of the firm's credit worthiness in developing countries (Khanna and Palepu (2000)). An important feature of my data set is that I have information including names and tax identification numbers of all directors of a firm. This allows me to classify firms into "groups" based on their ownership information. In particular, I classify two firms into the same group if they have a director in common. Forming groups in this way creates three distinct category of firms: (a) Stand-Alone Firms - these are firms whose directors do not sit on the board of any other firm (comprising 12% of private lending); (b) Intermediate Group Firms - these are firms that belong to intermediate size groups, defined as groups consisting of 2 to 50 firms (19% of private lending), and (c) Large Conglomerate Firms - these are firms which belong to the large conglomerates, defined as groups consisting of more than 50 firms each (67% of private lending). Of the 79,323 total loans in the data

[9]Karachi, Lahore, and Rawalpindi/Islamabad are coded as "big", Faisalabad, Gujranwala, Multan, Sialkot, Sargodha, Peshawar, Quetta, and Hyderabad are coded as "medium", and the remaining cities and towns are coded as "small".

set, I do not have ownership (and hence group) information for 16,508 loans comprising 2% of the overall private lending. As the literature on groups also highlights, firms belonging to larger groups are more likely to have better credit reputation, and harder information. Group size therefore serves as the fourth proxy for hard information.

(v) *No. of Creditors.* This variable captures the number of creditors (banks) that a firm borrows from. Note that when constructing this variable, loans from government banks were also taken into account. Since it is easier for credit worthy borrowers, and borrowers with less soft information to borrow, one would expect number of creditors to be positively correlated with hard information. Moreover if a firm has other creditors, a bank can get additional credible (hard) information through the actions of the other banks. For example, if other banks are renewing or enhancing their credit facilities, that would be hard information in favor of the borrowing firm. Papers such as Bolton and Scharfstein (1996) offer similar arguments to conclude that having high number of creditors will reduce the incentive of a firm to opt for strategic default.

(vi) *Loan Type.* This variable represents the type of loan taken by the borrower. A loan can be classified into one of four different types: fixed (long term), working capital (short term), letter of credit, and guarantees. The first two types of loans are funded, whereas the last two are non-funded. The non-funded loans are also of short term nature generally. I use loan type as a proxy for hard information because relationship loans are likely to be of longer duration than transaction loans. In other words if a bank has difficulty monitoring a borrower in the long run, it would like to keep its maturity of loans shorter.

Panel B of Table II reports the correlation matrix for the six proxies for hard information. Since the six proxies are measuring the same firm attributes, it is not surprising that most of them are positively correlated to each other. However they are not perfectly correlated and some correlations are not even statistically significant. As such each measure will provide some independent information for testing the various hypotheses.

D. Other Variables:

Panel C of Table II represents the summary statistics for other loan level variables. These include loan amount, amount under default (also separated by duration of default), whether a defaulted loan is under litigation, and the fraction of loan recovered in case of default. I present the summary statistics of these variables both un-weighted and loan-size weighted. Given the skewed size distribution of the data set seen in Panel A, there might be a concern that the summary statistics

are driven by "economically insignificant" small loans which are high in numbers. For this reason, I also report the weighted statistics. As Panel C shows, it turns out that the results do not change much by weighting. The mean loan size is about 6.7 million Rs. (median is 0.97 million Rs.), while the mean default rate is about 4.5% overall. Similarly, banks litigate about a third of the time the borrower defaults, and recover at least part of their defaulted loan about 40% of the time. Although I do not have interest rate information at the loan level, I do have this information at the bank-branch level, which I will use later in the empirical analysis.

III Empirical Methodology

This section describes the empirical methodology used in the remainder of this paper and discusses how I address various econometric issues while answering questions posed at the outset of this paper. Given the data described above, my unit of analysis is going to be a loan identified by a unique bank-borrower pair.

I start the analysis with a description of the main differences between foreign and domestic banks in terms of their lending compositions. This will enable us to know if foreign and domestic banks differ in the types of entrepreneurs they finance. Since this part of the analysis is purely descriptive in nature, there are no serious econometric issues at this point. The descriptive analysis tells us what types of businesses foreign and domestic banks will finance in a poor emerging market like Pakistan. However, it does not tell us *why* these banks finance the way they do.

To answer the "why" question I move to the next part of the empirical analysis that tries to discriminate between the different theories of why foreign banks may differ from domestic (as outlined in section I). Before any formal empirical analysis, it is important to emphasize that differences between the domestic and foreign banks cannot be attributed to legal, historical or institutional restrictions on foreign banks peculiar to Pakistan. Similarly, there is no compulsion on domestic banks to lend a minimum percentage to particular sectors of the economy. In other words the banking environment in Pakistan offers the same opportunities and challenges to both foreign and domestic banks. We can thus hope that our findings in the Pakistani context have some general implications as well.

A. Basic Specification

In order to discriminate between the two sets of theories outlined in Section I, I test for those loan level outcomes where the two theories differ in their predictions. Let Y_{ij} be an outcome of interest for a loan from bank j to borrower i such as the default rate, or a relational attribute of interest such as the renegotiation rate. We can then test if such loan level attributes differ across foreign and domestic banks by running the following regression.

$$Y_{ij} = \alpha + \beta F_j + \sigma_i + \eta_j + \epsilon_{ij} \tag{1}$$

F_j in the above regression represents a dummy for foreign banks, while σ_i, η_j and ϵ_{ij} are borrower-specific, bank-specific and other idiosyncratic components of the error term respectively. The coefficient β in (1) above captures the difference between foreign and domestic banks in the loan attribute Y.

However before running (1) there are a few econometric concerns that need to be addressed. First standard errors in the simple OLS version of (1) will be misleading as OLS assumes that all loan level observations are independently distributed while loans from the same bank are likely to be correlated. I correct for such correlation by clustering the standard errors at the bank level and thus using only variation across the 90 banks in computing these errors. This method of standard error computation will be used throughout this paper. Consequently my estimates of standard errors are likely to be quite conservative.

A second empirical issue that deserves attention is the skewed distribution of loan size. As we will see, the distribution of loan size is heavily skewed with the top 10 percent of loans by size representing 76 percent of total lending in the data. Since our unit of analysis is a loan, there may be a concern that the results are driven by the majority of loans which are small in size. To address this issue I shall always report both the unweighted and size weighted versions of (1) above.

B. Identification Concerns: Borrower Level

With the above corrections there are no major econometric issues left under the crucial identification assumption that all the error terms are uncorrelated with foreign banks (F). However this assumption may not always hold and therefore it is important to ensure that our results are robust to the relaxation of this assumption. For example, suppose we find from (1) that when a borrower defaults foreign banks are less likely to bilaterally renegotiate compared to domestic banks. If the

identification assumption holds then we can interpret this to mean that foreign banks are hesitant to bilaterally renegotiate a loan compared to domestic banks. However, an alternative explanation could be that for any given borrower both foreign and domestic bank have the same propensity to renegotiate a bad loan. But it just happens to be the case that the types of borrowers that domestic banks lend to are more "renegotiable". In econometric terms this would mean that our estimated coefficient $\hat{\beta}$ from (1) is capturing a spurious correlation of unobserved borrower level attributes (σ_i) with F_j.

To address this important concern, I adopt two different techniques. First, I augment (1) by putting in a number of extensive controls, X_i, at the borrower level. These include all available borrower level characteristics including location, industry, loan type such as fixed or working capital, borrower size, borrower's group size, borrower's number of creditors, and whether borrower is a multinational firm. I avoid any functional form assumptions by introducing the controls in a very non-parametric manner. The controls consist of 134 dummies representing each of the city/town location, 21 dummies representing each industry, 5 loan type dummies, 5 borrower size dummies reflecting various percentile cutoffs, 3 group size dummies, 8 dummies for number of creditors classification and a dummy for whether the borrower is a foreign firm. There are thus a total of 176 dummies as controls. It is important to highlight here that the extensive list of controls are likely to "overcontrol" for borrower differences because some of them may in turn be a result of differences in the domestic and foreign banks' ability of interest.

Second, although the above set of controls is quite extensive, a sceptic could still argue that the residual borrower level variation is spuriously correlated with foreign banks. To address even this concern, I put in borrower level fixed effects in (1) above, thus absorbing *all* possible borrower specific variation. The new specification thus only uses data for borrowers that borrow from both domestic and foreign banks. I then run the new regression to test if loans from literally the same borrower have different attributes when given by foreign versus domestic banks. This last specification takes care of all possible borrower level identification concerns.

C. Identification Concerns: Bank Level

So far the empirical discussion has focussed on differences between domestic and foreign banks only. As later sections would show, running the above specifications for various outcomes of interest will allow us to differentiate between the two broad classes of theories mentioned earlier (i.e. *distance constraints* and *risk preferences*). Given that we will be able to reject theories based on risk

preferences, our next empirical problem will be to discriminate between the various sub-classes of *distance constraints* and check for their robustness.

To test between the different theories of *distance constraints* I exploit variation in the attributes of foreign banks under the following natural identifying assumption: If differences between domestic and foreign banks are driven by a particular distance attribute of foreign banks, then these differences should be further exaggerated for foreign banks with stronger such attributes. Formally, let Z_j be a distance attribute of interest, then one can test for its version of *distance constraint* by running the regression below and testing if β_2 is bigger than zero[10].

$$Y_{ij} = \alpha + \beta_1 F_j + \beta_2 (F_j * Z_j) + \beta_3 X_i + \sigma_i + \eta_j + \epsilon_{ij} \tag{2}$$

To test for the robustness of a given *distance constraint* hypothesis in the specification above I will also include some bank level observable characteristics of interest. However, since the total number of banks (90) is small compared to number of borrowers, I will be limited in the number and functional form of bank level controls to be put in. For example clearly I cannot put in bank-level fixed effects like I was able to do at the borrower-level. I will discuss these empirical caveats in more detail in the appropriate sections.

IV Testing For Distance Constraints

Section I outlined some of the predictions of theories based on the idea of *distance constraints*. The central predictions were that additional informational and agency costs would hinder foreign banks from making relationship loans and soft information loans, and that these constraints would bind harder the more distant a foreign bank is. I now test these predictions using the data outlined in Section II.

A. Do foreign banks finance different types of borrowers?

First of all if foreign banks face higher costs in relational lending due to *distance constraints*, they would avoid lending to soft information firms. Table I showed that foreign and domestic banks have roughly equal market shares. I therefore test if the two types of banks differ in the composition of their loans with respect to soft information. Figure II gives an overview of this test. For each of the six measures of hard information discussed in the preceding section, it plots the distribution of

[10] Z_j does not enter the equation by itself because it only varies across foreign banks.

aggregate lending for both foreign and domestic banks. The plots consistently show that regardless of the definition of hard information used, foreign banks lend significantly more to hard information firms compared to domestic banks.

Domestic banks make less than 40% of their loans (by value) to the top 1% of firms by size, whereas foreign banks make more than 80% of their lending to these firms (Fig II-a). Almost a 100% of the foreign bank financing is concentrated in the big three cities, whereas domestic banks lend a little over 20% of their loans to small and medium sized cities as well (Fig II-b). More than 20% of foreign lending goes to foreign firms operating in Pakistan, while only 3% of domestic lending goes to such firms (Fig II-c). Foreign banks are also significantly more likely to lend to firms that are part of large groups (conglomerates). A little over 80% of the foreign banks' lending goes to firms in the large conglomerate, whereas only 40% of the domestic banks' lending goes to such firms (Fig II-d). Foreign banks are also more likely to lend to firms which already have multiple sources of credit available to them. Almost 90% of their lending goes to firms which have four or more banks as their creditors. Comparatively only 50% of domestic banks' lending goes to such firms (Fig II-e). Finally, a look at the maturity structure of loans reveals that foreign banks are more likely to lend out short-term loans such as working capital, guarantees, and letters of credit compared to domestic banks which lend out more long-term fixed capital loans (Fig II-f). As pointed out earlier, these longer term loans are more likely to involve relationship lending.

There are two econometric limitations of the graphical analysis in Figure II that need to be addressed. First it does not tell us whether the differences between foreign and domestic banks are significant in a statistical sense. Second it does not tell us whether the different measures of hard information have an *independent* effect on the lending distribution, i.e. whether differences in lending with respect to a given variable would remain once I control for the remaining measures of hard information. The second point is important only insofar as we want to make sure that the result in Figure II are not manifestations of the same effect (e.g. "the size effect"). This can be a concern given that most of the proxies for hard information are positively correlated with each other. To address these limitations of the graphical analysis, Table III repeats the exercise of Figure II in a statistical framework.

Recall that in the cross-sectionalized version of the data set, the unit of observation is a loan, identified by a bank-firm pair. For any given variable measuring hard information such as "firm size", I can test whether the value-weighted mean of that variable for domestic banks is different from that for foreign banks. For each hard information variable, Table III computes these means

and also their differences[11]. The results confirm Figure II. The differences in value-weighted means are positive and statistically significant for all variables except loan-type.

Table III also reports the difference in the mean of hard information proxies after controlling for the remaining measures. Given positive correlations between the different measures in Table II, this is done to check whether each measure has an independent effect . The results show that even after putting in all of the remaining five measures of hard information as controls, most of the differences between foreign and domestic banks remain significant[12].

A different approach to check for differences in lending composition involves testing for first order stochastic dominance. In particular, if foreign banks favor lending to hard information firms then their distribution of lending with respect to hard information variables should first order stochastic dominate the distribution of domestic banks. Davidson and Duclo (2000) devise a statistical test for stochastic dominance that I implement. The methodology also shows that for all measures of hard information, lending distribution of foreign banks first order stochastic dominates that of domestic banks. Results of these tests are available from the author upon request.

The results therefore support the observation made by Stiglitz in the beginning of this paper. Foreign banks appear to shy away from information and monitoring intensive "soft information" firms. To see if these results can be conclusively attributed to distance constraints, I perform some additional tests below.

B. Are Foreign Banks Less Successful at Relational Lending?

If the preceding lending composition results were truly driven by a reluctance of foreign banks to enter into relational contracts as predicted by *distance constraints*, then foreign banks should be less likely to engage in relationship intensive activities such as bilateral renegotiation in case of default. Moreover, in a country like Pakistan where legal systems are weak a lack of relational information and control over the borrower can lead foreign banks to be less successful in recovery of bad loans.

Before giving new results concerning the renegotiation and recovery predictions of *distance constraints*, it is useful to highlight that some of the evidence in section III already hints at the

[11] Let Y be a hard information variable such as "firm size". Then means for this variable are computed seperately for domestic and foreign banks by running a value-weighted regression of Y on a constant. For differences in means of the two types of banks the whole data is used in this regression and a dummy for foreign banks is added. For differences with controls, the controls are also added to RHS.

[12] An F-test of whether all coefficients in the control regression are jointly significant is also always significant at the 5% level.

possibility of domestic banks being involved in more relationship specific lending. For example, domestic banks are much more likely to be the sole creditor of its borrower than foreign banks. Similarly domestic banks are more likely to lend to borrowers who need banks with relational skills. Such borrowers include small firms, local firms, and firm without prior access to credit.

I now explicitly test for the renegotiation and recovery predictions of *distance constraints*. Since these tests look at loans in default or financial distress, lets first look at the propensity of default for both foreign and domestic bank borrowers. Figure III plots the cumulative density function of lending with respect to default rates for domestic and foreign banks. Although the default rate for domestic banks is slightly higher than that of foreign banks on average (6.0% vs. 3.5% for foreign), as columns (1) and (2) of Table IV show, the difference is not statistically significant[13].

Data on recovery and renegotiation exists for the last five quarters of the sample period (i.e. April 2001 to April 2002). The central bank did not collect this information prior to that. During these last five quarters, for each loan that goes into default[14] we know the amount recovered from the loan and whether the bank took its borrower to courts for litigation. If a bank decides not to go for litigation, it means that it is engaged in bilateral negotiations with the borrower. To see how domestic and foreign banks compare in terms of recovery and renegotiation, I restrict the sample to only those set of loans that were in default during the last five quarters. There are 5,762 such loans.

Columns (3) through (6) in Table IV then compare the behavior of domestic and foreign banks conditional on default. I construct a 0/1 variable indicating whether there was *any* recovery on the defaulted loan or not. Both weighted and un-weighted results (columns (3) and (4)) show that foreign banks recover something from only around 19% of their defaulted loans, whereas domestic banks recover from around 45% of their defaulted loans. The difference of about 26% is both large economically, and significant statistically. Moreover, this difference is robust to putting in all the possible controls in a very non-parametric way, such as dummies for city location, foreign firm, loan type, borrower size, group size, number of creditors, and industry affiliation. As Section III discussed, robustness to different types of controls shows that our results are unlikely to be driven by differences in borrower's type across foreign and domestic banks. For example, one interpretation of controls is that domestic banks have higher recovery rates even when we compare borrowers in the same city, of the same size, belonging to the same industry, with similar loan type, and similar

[13] In fact we will later see that in terms of *net* default *amount* per Rupee lent, the difference between the two types of banks completely goes away.

[14] Default is defined as the non-payment of promised amount for over ninety days.

credit background.

Comparing the propensity to litigate, the un-weighted results (column (6)) show that foreign banks are significantly more likely to take a defaulter to court rather than renegotiate with it. Foreign banks take a defaulter to court 63% of the time compared to only 24% for domestic banks. The result is robust to putting in the complete set of controls as before. The difference however disappears once the averages are taken after weighing each observation by the size of the loan (column (5)). In the weighted results, domestic banks litigate about 33% while foreign banks only litigate marginally higher at about 39%. This suggests that foreign banks are less likely to litigate on their larger defaults. However, the un-weighted results shed some interesting light on the type of average default faced by foreign and domestic banks. The results are consistent with a story that domestic banks make more relationship loans, which allows them to renegotiate more, and successfully so as their recovery rates suggest.

Although the recovery and unweighted renegotiation results were robust to all types of controls, one may still argue that unobserved borrower characteristics are responsible for these results. This however is unlikely to be the case given that all observable characteristics showed that domestic bank borrowers have "softer" characteristics. A priori these are likely to be firms with lower probability of successful renegotiation and recovery.

Nevertheless, the details of the data set allow me to directly address the unobserved heterogeneity criticism by completely controlling for any potential borrower level heterogeneity. Table V does so by repeating Table IV after putting in borrower fixed effects. Thus Table V only looks at firms that borrow from *both* types of banks. Comparing the default rates of such borrowers, columns (1) and (2) in Table V show that there is no significant difference in the default rate across the two banks. It is important to point out here that there are no automatic "cross-default" clauses in the banking laws of Pakistan. Thus theoretically it *is* possible for a firm to default to one bank but not another. It would be the loan covenants that would determine whether this is legal. Thus results of column (1) and (2) can also be interpreted as suggesting that both domestic and foreign banks are equally tough at monitoring the seniority of their loans and enforcing their loan covenants.[15]

Columns (3) through (6) restrict the data to only those borrowers who default to both domestic and foreign banks. I can thus compare the recovery and renegotiation rates across domestic and foreign banks for the *same* firm. The results show that even for the same firm, foreign banks have

[15] In a related work, a similar exercise shows that government banks are excessively lax at monitoring their loan covenants.

significantly lower recovery rates (about 13 percentage points lower), and tend to litigate more at the expense of renegotiation. This is strong evidence that foreign banks are weaker at relational contracting than domestic banks as it completely controls for any possible borrower selection effects.

C. Is "Distance" Culture / Geography?

The results so far support the *distance constraints* hypothesis. Not only are foreign banks less likely to lend to softer information firms and firms that require relational contracting, but they also fall behind domestic banks in relational attributes such as recovery and renegotiation. If "distance" is truly the driving force behind these results, then one would expect these results to be stronger for more distant foreign banks.

Section I highlighted three possible theoretical definitions of distance. In this section I test if the geographical or cultural definition of distance can explain the results thus far. Recall that this definition of distance is based on the idea that as physical distance between the top management (CEO) of a foreign bank and its local loan officers in an emerging market increases, so do information and agency costs between the two parties. There could be a number of reasons for these higher costs. In most cases and certainly for the foreign banks in my data set, physical distance is highly correlated with culture, language, and social customs. This would make the top management less familiar with the local economic, political, and social environment. The lack of such "soft knowledge" can make it difficult for top management to understand and verify "soft information" conveyed by the local loan officers.

Similarly when two countries are further apart geographically and culturally, there is less people to people interaction between the two societies. In other words, social networks between the two countries are not very deep or broad. This too has implications for the ease of communication, particularly when it comes to soft information. For example, if the top management hears great things about an entrepreneur or new industry from the local loan officer, it is easier for them to verify this piece of soft information if they have some independent personal contacts in the local country. Greater social interaction would also make it easier to gather information and hence monitor the local loan officers of the bank.

Another factor which can play a crucial role in the successful communication of "soft information" is common training or education. It may be easier for U.S. banks to "trust" the local loan officers if they went through the U.S. universities for training. Common traditions like this make it easier for employees to communicate with each other. For example, an academic can judge

an applicant's recommendation better if he knows something about the background of the person writing the recommendation.

As geographical distance inside a bank reduces, so will all these factors related to culture, communication, and trust. The consequence would be a greater ability of the CEO and top management to rely on soft information from the local loan officers, and hence the loan officer can successfully give more soft information based, relationship loans. It is partly for this reason that companies often prefer to expand to geographically proximate regions first. For example, Korean conglomerates expanded into Asian countries first before expanding to Europe and the U.S. Similarly, the recent growth in IT and call center outsourcing to India has been led by U.S. companies that had Indian expatriates in top management who could then communicate successfully with the outsourced Indian firms.

To see if informational and agency costs related to cultural and geographical distance are responsible for *distance constraints,* I test if *distance constraints* bind harder the more geographically and culturally distant a foreign bank is. I first classify foreign banks into two categories based on geographical and cultural distance from Pakistan: (i) Asian, and (ii) Non-Asian. Asian foreign banks belong to countries in Asia (Japan and the Middle-East), whereas Non-Asian foreign banks belong to US and Europe. Of the 22 foreign banks, 11 are Asian and 11 are Non-Asian. I then test if the main *distance constraints* results so far are stronger for Non-Asian foreign banks, and weaker (but still present) for Asian foreign banks.

Panel A of Table VI tests if lending composition is more skewed towards hard information firms for Non-Asian foreign banks than Asian foreign banks. It repeats the tests of Table III, but this time compares the value-weighted means of hard information proxies for Non-Asian and private domestic banks to the Asian foreign banks. The results show that for almost all the different proxies, the mean is higher for Asian foreign banks than private domestic banks. But more importantly the mean for Non-Asian foreign banks is even higher than that of Asian foreign banks, and the differences are significant.

Similarly, results on recovery and litigation in Panel B of Table VI show that *distance constraints* bind harder for more geographically distant banks. For example, recovery rates are low for Asian banks compared to domestic banks, but they are even lower for Non-Asian banks compared to the Asian banks. Similarly, Asian banks litigate significantly more than domestic banks, but Non-Asian banks litigate even more than Asian banks. All differences are both economically and statistically significant and robust to the extensive set of controls (except for the weighted litigation results

as usual). The results of Table VI therefore support the view that cultural, communication and agency costs related to geographical and cultural distance amplify *distance constraints*.

D. Are The Constraints Driven by Political Enforcement?

I have interpreted the preceding results as reflecting higher informational and agency costs related to greater geographical and cultural distances. However, an alternative interpretation could be that greater geographical distance decreases the enforcement capacity of foreign banks.

To illustrate this point, consider the following example. Suppose domestic and foreign banks have all the information (soft or hard) they need about a potential client. However, *information* may not be sufficient to lend to the client because given some information the bank may also need to *enforce* its loan covenants in the future. As such even if both domestic and foreign banks have the same level of information about a client, domestic banks may be better able to lend to that client because they have an edge over foreign banks in *enforcement*. In particular, this comparative advantage in enforcement may be bigger for soft information clients.

Why might domestic banks have this additional capacity to enforce? It is widely believed that access to informal and perhaps illegal social and political networks is important for contractual enforcement in developing countries. A borrower may be threatened with social, political, or even physical consequences in case he tries to abscond and default on his loans. To the extent such informal mechanisms are used in banking, one could argue that domestic banks have better access to these mechanisms. Domestic banks may be better at informal enforcement through the use of "political connections". For example, domestic banks may have better access to politicians and government officials, which in turn may help them to threaten and discipline their borrowers.

To test whether domestic banks use political pressure to enforce their contracts, I adopt the following strategy. If political pressure is important for enforcement then domestic banks will be more successful at enforcement against "politically unconnected" firms. A firm's default rate and recovery rate are natural candidates to measure "enforcement". Thus a simple test could be to compare enforcement by domestic banks against politically connected and unconnected firms respectively. However, differences in default and recovery can also be driven by unobserved differences between politically connected and unconnected firms. Therefore to take out the effects of any unobserved heterogeneity, one could do a difference-in-differences estimation by taking out the difference in enforcement between politically connected and unconnected firms borrowing from foreign banks. Since under the hypothesis in question foreign banks have no informal political connections, this

second difference will only capture the unobserved differences between connected and unconnected firms. Econometrically the test can be written as:

$$Y_{ij} = \alpha + \beta_1(DOM_j) + \beta_2(UNCON_i) + \beta_3(DOM_j * UNCON_i) + \varepsilon_{ij}$$

where Y_{ij} is an enforcement measure such as default or recovery rate for borrower i and bank j, DOM is a dummy for domestic banks, and $UNCON$ is a dummy for "politically unconnected" firms. If political enforcement is an important comparative advantage for domestic banks, then β_3 should be *negative* when Y is the default rate, and *positive* when Y is the recovery rate. In other words domestic banks should be *better* at enforcement against politically unconnected firms.

I will now define how "political connectedness" of a borrower is measured. Since I have ownership information for the borrowing firms, I classify a firm as "politically connected" if any of its directors is a politician who ran in one or both of the two elections held during the 90s (1993 and 1997). Using this approach, 19% of the loans are classified as politically connected. In a related work, I show that this measure of political connections is very useful in explaining corruption and high default rates on government banks. There are thus strong reasons to believe that the political connectedness variable measures "access" to government.

Table VII shows the results of running the regression above on default rate and recovery rates. As the results show, there is no evidence of domestic banks having stronger enforcement capacity relative to foreign banks. Therefore *distance constraints* are more likely to be driven by the informational advantages rather than an informal enforcement advantage.

V Testing For Other Definitions of "Distance" And Bank Selection

We have just seen that the *distance constraints* faced by foreign banks bind stronger the more geographically distant a foreign bank is. There are a couple of robustness checks that need to be performed on this test. First, as Section I explained there are other possible definitions of distance as well that could lead to *distance constraints*. Second, as Section III discussed there may be other bank level attributes spuriously correlated with geographical distance responsible for our main results. I test for these concerns in this section.

A. Are The Results Driven By Bank Size?

As Section I pointed out papers such as Berger et al (2002) suggest that larger bank size by increasing the intra-bank hierarchical distance can lead to informational and agency constraints. Since foreign banks are on average larger than domestic banks (Table I) it is important to check if the *distance constraint* results were driven by their larger size. Moreover, there are two ways one can think of foreign bank's size. One is their local size in Pakistan as reported in Table I and the other is their global size that includes their world-wide operations. It may be argued that the global definition of size better proxies for the intra-bank hierarchical distance. Since I have both size measures, I will check for the robustness for Section IV results to both these definitions.

I construct the global definition of bank size by summing the world-wide assets of a bank as reported in the BankScope data set. To test if size can explain *distance constraints*, I repeat the regressions of Table VI, but this time include the log of bank size as control. Moreover, for any definition of size, I include an indicator variable for whether the bank belongs to the top half of the size distribution, and also include the interaction of this variable with log size. I do this for greater functional form flexibility by allowing banks in the top half of the distribution to have a different intercept and slope than those below. If bank size is an important determinant of *distance constraints*, then (i) *distance constraints* should be stronger for bigger banks, and (ii) the effect of geographical and cultural distance will diminish with the inclusion of bank size variable. However using the global definition of size Table VIII shows that none of this is true. This casts doubt on the plausibility of a size based explanation. Moreover, replacing global definition of size with the local definition gives similar results (not reported in the table).

Figures IV A and IV B show the distribution of the two definitions of distance for foreign and domestic banks. While there is significant overlap in the distributions of local bank size for foreign and domestic banks (Figure IV A), the overlap is more limited when using the global definition of bank size (Figure IV B). The limited overlap in Figure IV B can be a concern if one thinks that the functional form linking bank size to the outcome of interest is different for small and large bank sizes. While I cannot completely rule out this caveat, it is unlikely to be a major concern for a couple of reasons.

First, the regression in Table VIII had a dummy for whether the bank is above median in size, and then it interacted this dummy with log of size. Since all the 45 banks below median in the global size definition are domestic, Table VIII *separately* compared the 22 foreign banks with the

23 biggest domestic banks. Many of these large domestic banks overlap with the foreign bank size distribution. Second, if size were an important determinant of the outcomes of interest such as loan composition and recovery, then the coefficient on log of size should have come out as significant and of the right sign consistently. However as seen in Table VIII, this is not true in *either* the top *or* the bottom half of size distribution.

B. Are the Results Driven By Institutional Differences?

The third possible explanation for *distance constraints* presented in section I dealt with differences in legal and regulatory framework, or "institutional distance", between Pakistan and foreign banks' country of origin. Such differences could make it difficult for the foreign bank to adapt to local banking practices. Consequently foreign banks may only rely on simple arm's length transaction loans that do not require any special knowledge or adaptation to the local legal environment. Under this "institutional distance" explanation, geographical and cultural distance may just be a proxy for institutional distance.

To test for the plausibility of an institution based explanation of *distance constraints*, I construct three measures of institutional distance. (i) Legal Distance: This variable is 0 if the foreign bank's legal origin is the same as Pakistan (i.e. British) and 1 otherwise. (ii) Regulatory Distance: This variable is the difference in regulatory requirements between Pakistan and the foreign bank's country of origin according to the cross-country database of bank regulation and supervision compiled by Barth, Caprio, and Levine (2001). (iii) Income Distance: This variable measures the log of difference in income per capita between the foreign bank's country of origin and Pakistan. I then repeat the regressions of Table VI, but this time also include the three measures of institutional distance interacted with foreign dummy. If institutional distance is important then, (i) *distance constraints* should be stronger for more institutionally distant banks, and (ii) the effect of geographical distance will diminish with the inclusion of institutional distance variables. However none of this is true, thus casting doubt on the plausibility of an institution based explanation.[16]

C. Are the Results Driven By Other Bank Variables?

Could there be other bank variables that can explain why more geographically or culturally distant foreign banks lend less to soft information firms and are less successful at relational lending? Since

[16] Results not reported but available on request.

foreign banks were allowed to operate before private domestic banks, I evaluate the plausibility of "age" as an explanation for the results in this section.

Papers such as Broecker (1990) and Dell'Ariccia, Friedman, and Marquez (1999) suggest that firms with previous (but not current) relationships with older banks are likely to be "lemons" and hence will be left out by the younger banks. Accordingly as domestic banks are younger on average, they may target younger and hence "softer" firms more aggressively than foreign firms. However this theory can be rejected in the context of Pakistan.

First, given Pakistan's institutional background, an equally likely theoretical hypothesis goes in the other direction. Since foreign banks have been operating for longer on average, they should have had more time to learn the environment, build relationships, and hence make more soft information relationship loans. Second, the adverse selection story cannot explain why foreign banks perform poorly in terms of renegotiation and recovery even when *all* borrower selection effects are taken out through borrower fixed effects. Third, even when I formally condition on age, and compare domestic banks with only new foreign banks (post 1990), the *distance constraints* results hold (results not reported). Consequently bank age cannot explain the results of this paper.

Since banks were not randomly assigned to be "foreign", the potential concern of unobserved bank heterogeneity can always be brought in. However, beyond the bank-level variables already considered, a priori it is difficult to think of other variables that would be correlated with geographical or cultural distance of foreign banks *as well as* the outcomes of interest such as lending composition, renegotiation, and recovery. This should give us a reasonable level of confidence in the robustness of our results.

VI Testing for Alternative Theories Based on Risk Preferences

So far the paper has only considered theories based on *distant constraints* to explain differences between foreign and domestic banks. However as Section I explained, *risk preferences* or differences in evaluating risk between foreign and domestic banks can also lead to differences in lending practices of the two types of banks. It is important to point out though that some of the existing results such as those of recovery and renegotiations with borrower fixed effects can not be explained by theories based on *risk preferences*. In any event, I shall now present some additional tests of the *risk preference* hypotheses.

A. Are Domestic Bank Loans of Poorer Quality?

Under the *risk preferences* view, domestic banks would be willing to make high risk and low NPV loans because they do not fully internalize the downside of loans. To test if loans by domestic banks are indeed given to poorer quality firms, I compute and compare the return on loans for domestic and foreign banks. The return on a loan depends on the interest rate, default rate, as well as recovery rate in case of default. In particular, the return (R_j) from a typical loan of bank j is given by:

$$(1 + R_j) = (1 - \delta_j)(1 + \rho_j) + \delta_j q_j$$

where δ is the default rate, ρ the loan interest rate, and q the percentage of loan recovered in case of default.

While the data set does not have interest rate information at the loan-level, I do have the average weighted interest rate for each bank branch. I can therefore compute for both domestic and foreign banks, the average interest rate charged on their loans (weighted by the size of the loan). The result shows that the interest rate charged by domestic banks is higher than that of foreign banks. For example, the rupee-weighted lending rates in June 2002 were 10.75% and 12.75% for foreign and domestic banks respectively. The higher interest rate for domestic banks is not surprising given that their loans had slightly higher default rates.

I can now compute the gross return from a typical loan given out by foreign and domestic banks. From the analysis so far, we know that foreign and domestic banks have default rates of 3.5% and 6.0%, recovery percentage of 10.2% and 20.4%, and interest rates of 10.75% and 12.75% respectively. Plugging in all these numbers into the formula above, shows that the loan return for *both* banks is the same 7.2%!

Loan level results show that the return from loans for foreign and domestic banks is the same. However, the tests do not tell us anything about the costs incurred by foreign and domestic banks in making these loans. Therefore, to test for overall efficiency of banks, I compare their overall profitability. Unfortunately the overall profitability numbers are only available for 33 of the banks (21 foreign and 12 domestic). Using this data, the difference in return on assets between domestic and foreign (domestic-foreign) is only 0.27%, which is both economically and statistically insignificant.

The loan level financial data provided by banks rejects theories such as the *risk preferences* theory that suggest that domestic banks lend to soft information firms not because of any infor-

mational advantage but because of the "poor quality" of these loans. We saw that domestic bank loans are as profitable as loans made by foreign banks. However, sceptics could still argue that the financial data suffers from reporting bias and does not reflect reality. For example suppose domestic banks are actually involved in "related lending" and "evergreening" [17] then they would lend to themselves and their friends to "loot" the bank a la Akerlof and Romer (1993). However our data may not pick up such disastrous lending because of rolling over of these loans or evergreening. Thus on books these loans may appear to be performing where in actuality they are being used for looting and related lending. To test for such concerns, I will directly test for *real* productivity of borrowers that domestic banks lend to, as well as the presence of "relatedness" among domestic bank loans.

B. Are Domestic Banks' Borrowers Less productive?

If financial information such as loan return and default rate did not give an accurate picture of firm performance due to concerns such as evergreening by domestic banks, then one would expect firms borrowing from domestic banks to have poor real output and productivity. Fortunately I can test if this is the case from a separate data set maintained by the central bank of Pakistan. The data set contains total exports for all the exporting firms in the textile sector. I can thus measure the export output and productivity for all of the 4,573 textile firms in my original data set. Since textiles is the largest exporting sector of Pakistan, total exports of a firm provide an excellent measure for the firms *real* quality and productivity. Moreover unlike the firm level balance sheet information that is highly suspect in emerging markets, the export numbers are quite reliable as all exports have to go through the formal banking channel where our data comes from[18].

Using the export data I construct three different measures of real firm performance: whether the firm is an exporter or not, log of total exports, and log of "export productivity" where export productivity is measured by total exports divided by total bank financing used by the firm.

For each of the outcome variables, I test if firms borrowing only from domestic banks are of lower quality or less productive than firms borrowing only from foreign banks. Table IX shows that for each outcome there is no significant difference between the two classes of borrowers. Only firms that borrow from *both* domestic and foreign banks have higher output and quality, which is what one would expect as outlined by Bolton and Scharfstein (1996) and discussed in Section II.

[17] See for example La Porta et al (2003) for evidence regarding related lending in Mexican banks.

[18] In a related paper, I show that firm level exports and default rates are very strongly and negatively correlated.

C. Are Domestic Banks Involved in Related Lending?

Since I have complete information on the identity of the borrower as well as major shareholders (directors) of individual banks, I can also construct the same measure of "relatedness" that La Porta et al (2003) construct, and test for the presence of related lending in my data.

A loan between a bank and its borrower is classified as "related" if the bank and the firm share a "related director" in common. The director of a firm is defined as "related" to the bank it borrows from if either the director itself, or its siblings/children/father/spouse is a director of the bank. Notice that since the owners of foreign banks are foreign, the "related" definition can only be applied to domestic banks. The results show that after classifying borrowers in this fashion only 4.2% of the lending by domestic banks is given to "related" firms, compared to 20% in Mexico. Moreover, there is no significant difference in the default rate of related vs. unrelated loans. The results therefore show that unlike Mexican domestic banks related lending is not a concern in my data set.[19]

The negative results regarding poorer quality of domestic banks loans, lower productivity of domestic banks' clients and related lending all reject theories based on *risk preferences* as a possible explanation of our results in Section IV.

VII How important are distance constraints?

This paper showed that communication and agency costs related to cultural and geographical distance make it difficult for foreign banks to lend to *profitable* soft information firms requiring close monitoring. Consequently foreign banks shy away from relationship contracts, leading to less successful bilateral renegotiations in case of default, and lower overall recovery of bad loans.

A legitimate question at this point concerns the overall economic importance of *distance constraints*. In particular, are *distance constraints* large enough so that if one got rid of the local private banks, a significant number of firms will lose access to credit? Or is it the case that *distance constraints* are small so that even if one got rid of local private banks, most of the soft information firms currently borrowing from these banks would switch to foreign banks at only marginally higher costs? The questions are difficult to answer in practice since one does not observe the counter-factual scenario of local private banks disappearing.

[19] As a related work on government lending in Pakistan shows, the lack of "related lending" by domestic banks could be because all such demand for "corrupt" loans is soaked up by the government banks in Pakistan.

However, a useful asymmetry in the historical regulation of foreign and private domestic banks can provide an answer to the above questions. As section II pointed out, prior to 1990 private domestic banking was not allowed in Pakistan, but foreign banks were still allowed to operate under some restrictions. In other words, when the banking sector was liberalized in 1990, foreign banks enjoyed a head start over private domestic banks as they already had operations in many parts of the country. After 1990 there was no longer any asymmetry in regulation as both private domestic and foreign banks were allowed to operate and expand.

The change in regulation in 1990 presents an opportunity to estimate the economic cost of *distance constraints* by measuring the impact of the entry of new private domestic banks in areas which already had a foreign bank. If *distance constraints* are economically small in magnitude, then one would expect a lot of "switching" to private domestic banks of soft information firms that were earlier borrowing from foreign banks. These firms would have had to borrow from foreign banks because of a lack of a more efficient alternative.[20] However, the same firms would switch to local private banks as soon as they became available because of the efficiency advantage. On the other hand if *distance constraints* are large in magnitude then in the absence of private domestic banks, soft information firms would find it difficult to borrow from foreign banks. Hence when private domestic banks enter the market, most of their soft information clients will be "new" first time borrowers who have never had a loan before.

Although the regulation changed in 1990, the period of my sample only begins towards the end of 1996. However despite the rapid expansion in branch network of private domestic banks in the early 90s, there is still sufficient new branch entry during my sample period to perform the tests above.

Table IX gives the characteristics of loans given out by new bank branches for each of the three types of banks, namely domestic, Asian foreign, and Non-Asian foreign.[21] The share of loans given out by new branches is much bigger for domestic banks compared to foreign banks. New bank branches of domestic banks gave out 7,104 loans compared to 1,611 loans by Asian foreign banks and only 338 loans by Non-Asian foreign banks. More importantly, Table IX shows no evidence of "switching" of soft information firms towards domestic banks.

First, Panel A shows that 78.2% of loans by new domestic bank branches were given to first

[20] Before 1990 the alternative was government banks, but related work on government banks shows that government banks were extremely inefficient when lending to these "soft informaion" firms. Instead of providing credit to such legitimate firms, government banks mostly favored the inefficient and politically powerful firms.

[21] Some of these branches may have existed prior to 1996 for deposit taking, but they start lending during our sample period.

time borrowers, i.e. these borrowers had no other access to credit prior to borrowing from domestic banks. Only 6.3% of new branch loans were given to borrowers with prior borrowing from foreign banks. Compared to domestic banks, only 63.4% and 38.5% of loans by new Asian and non-Asian foreign bank branches were given to first time borrowers. The differences in the percentages of first time borrowers between domestic and foreign banks are always statistically significant.

Second, Panel B shows that the loan given out by new domestic bank branches are "soft" in nature: both in comparison to overall domestic bank loans in Table III, and also in comparison to new branch loans by Asian and Non-Asian foreign banks. The evidence in Table IX thus shows that entry of new private domestic bank branches gives credit access to soft information firms that had never been able to get credit from existing foreign bank branches. Similarly less *distant* foreign banks are better able to provide first time credit to soft information borrowers. All this suggests that the cost of *distance constraints* can be sufficiently high for *distant* foreign banks to exclude certain soft information firms from getting access to credit.

VIII Concluding Remarks

The presence of foreign banks in developing countries is both large and pervasive. A look at over 1,600 banks in 101 developing countries reveals that foreign banks are present in 78 of these countries comprising at least 19% of the total banking assets, or 35% of the private banking assets. However despite the increasingly dominant role of foreign banks, not much is known empirically about their relative strengths and weaknesses.

This paper showed that the informational and agency costs related to cultural and geographical differences can lead foreign banks to shy away from lending to soft information firms. Such *distance constraints* also make it difficult for foreign banks to perform relational functions such as bilateral renegotiation and recovery of bad loans. However, it is important to mention that this paper should not be seen as a negative endorsement for foreign banks. As per popular perception, foreign banks are very prudent in their lending leading to low levels of default. Moreover, even though foreign banks avoid lending to soft information sectors of the economy, they can still have a positive general equilibrium effect for soft information firms by freeing up more domestic bank capital for these firms. As such introduction of foreign banks in a poor country can be a good step towards promoting banking stability and sound banking practices. However, the paper cautions against the sole reliance on foreign capital for alleviating a country's lack of financial development. A strong

local financial market is essential for lending to informationally difficult soft information borrowers such as small startup firms.

A side message to take away from this paper is that domestic private banking *can* work even under less than perfect legal and regulatory environment. As a number of tests showed, private domestic banks in Pakistan do not suffer from serious moral hazard problems such as related lending or excessive risk taking. Why do private banks not engage in risky behavior? A possible answer is that the absence of a government bail out policy or deposit insurance in Pakistan keeps the cost of deposits closely linked to the status of a bank's loan portfolio. To formally test this hypothesis, I regressed the publicly available bank credit ratings on the bank-level loan default rate. The results show that the correlation of ratings to default rate is much stronger for domestic banks than foreign banks, with an R^2 of 37% and 5% respectively. The low R^2 for foreign banks is not surprising since ratings for foreign banks are influenced more by their international reputation.

In the end, a legitimate question concerns the generalizability of my results for developing countries at large. While no two countries are alike, there is evidence to suggest that the *distance constraints* identified in this paper can apply more broadly. For example, as the quote by Stiglitz suggested, the bias of foreign bank lending in developing countries towards bigger and more "hard information" firms is well-known. However the mechanisms behind *distance constraints* identified in this paper are more likely to be seen in countries with similar historical, economic, and institutional background (e.g. Bangladesh, India, Sri Lanka etc.). For certain other emerging economies such as Latin America, *distance constraints* may operate differently for historical and institutional reasons. Determining the exact nature of these constraints under different regulatory and institutional environments should be a fruitful area for future research.

References

[1] Aghion, Phillipe, and Jean Tirole, 1997, Formal and real authority in organizations, *Journal of Political Economy* 105, 1-29

[2] Akerlof, G. and Romer, P. 1993. "Looting: The economic underworld of Bankruptcy for profit". Brookings Papers on Economic Activity, #2.

[3] Barth, James; G. Caprio, and R. Levine. 2001, The Regulation and Supervision of Banks Around the World: A New Database, Brookings-Wharton Papers on Financial Services, Eds: R.E. Litan and R. Herring.

[4] Berger, Allen N., Leora F. Klapper, and Gregory F. Uddell, 2001, The ability of banks to lend imformationally opaque small businesses, *Journal of Banking and Finance* 25, 2127-2167.

[5] Berger, Allen; Miller, Nathan; Petersen, Mitchell; Rajan, Raghuram; Stein, Jeremy, 2002, Does Function Follow Organizational Form? Evidence from the Lending Practices of Large and Small Banks. NBER Working Paper No. 8752.

[6] Black, Sandra E.; Philip Strahan. 2002, Entrepreneurship and Bank Credit Availability, *Journal of Finance*, Volume 57: Issue 6, 2807-2833.

[7] Bolton, Patrick; David S. Scharfstein. 1996, Optimal Debt Structure and the Number of Creditors, *The Journal of Political Economy*, Vol. 104, No. 1. Feb., pp. 1-25.

[8] Broecker, T. 1990. "Credit worthiness tests and interbank competition". Econometrica 58:429-52

[9] Coase, Ronald, H., 1937, The nature of the firm, *Economica* 4, 386-405.

[10] Cole, R.A., L.G. Goldberg, and L.J. White, 1999, Cookie-cutter versus character: The micro structure of small business lending by large and small banks, New York University, Salomon Center Working Paper: S/99/12.

[11] Coval, Joshua and Tobias Moskowitz, 2001, The geography of investment: informed trading and asset prices, *Journal of Political Economy* 4, 811-841.

[12] Clarke, G., R. Cull, L. D'Amato, and A. Molinari, 2000, On the Kindness of Strangers? The Impact of Foreign Entry on Domestic Banks in Argentina in Claessens, S. and Marion Jansen

(eds.) *The Internationalization of Financial Services: Issues and Lessons for Developing Countries,* Boston, Mass.: Kluwer Academic Press.

[13] Davidson, Russell and Jean-Yves Duclos, 2000, Statistical Inference for Stochastic Dominance and for the Measurement of Poverty and Inequality, *Econometrica*, 68, 1435-1464.

[14] Dell'Ariccia, Giovanni; Ezra Friedman and Robert Marquez. 1999, Adverse Selection as a Barrier to Entry in the Banking Industry, *Rand Journal of Economics*, Volume: Volume 30, No. 3, Issue: Autumn, 515-534.

[15] Demsetz, Rebecca S., Marc R. Saidenberg, and Philip E. Strahan. 1996, Banks with Something to Lose: The Disciplinary Role of Franchise Value, *Federal Reserve Bank of New York Economic Policy Review*, Vol. 2, No. 2: 1-14.

[16] Greif, Avner. 1994, Cultural Beliefs and the Organization of Society: A Historical and Theoretical Reflection on Collectivist and Individualist Societies, *The Journal of Political Economy*, Vol. 102, No. 5. Oct, 912-950.

[17] Grinblatt, Mark; Matti Keloharju. 2001, How Distance, Language, and Culture Influence Stockholdings and Trades, *Journal of Finance*, June.

[18] Guiso, Luigi; Paola Sapienza and Luigi Zingales, 2004. Does Local Financial Development Matter?, forthcoming *Quarterly Journal of Economics.*

[19] Khanna, Tarun, and Krishna Palepu, 2000, Is Group Affiliation Profitable in Emerging Markets? An Analysis of Diversified Indian Business Groups. *Journal of Finance* 55, no. 2 (April): 867-891

[20] King, Robert and Ross Levine, 1993. Finance and Growth; Schumpter Might be Right, *Quarterly Journal of Economics*, August 717-738.

[21] LaPorta, Rafael, Florencio Lopez -de Silanes and Guillermo Zamarripa, 2003, Related Lending, *Quarterly Journal of Economics.* Febuary.

[22] Levine, R. and S. Zervos, 1998. Stock Markets, Banks, and Economic Growth, *American Economic Review*, vol 88, no 3, 537-558.

[23] Liberti, Jose M., 2003, Initiative, Incentives and Soft Information: How does delegation impact the role of bank relationship managers?, Working Paper, London Business School.

[24] Petersen, Mitchell A., and Raghuram G Rajan, 1994, the benefits of firm-creditor relationships: Evidence from small-business data, *Journal of Finance* 49, 3-37

[25] Petersen, Mitchell A., and Raghuram G Rajan,2002, Does distance still matter? The information revolution in small business lending, *Journal of Finance*, Vol. 57, pp. 2533-2570.

[26] Rajan, Raghuram and Luigi Zingales, 1998. Financial Dependence and Growth, *American Economic Review*, 88: 559-586.

[27] Stein, Jeremyl., 2002, Information Production and Capital Allocation: Decentralized versus Hierarchical Firms, *Journal of Finance*, Vol. LVII, No.5 October.

[28] Stiglitz, Joseph, 2003, Globalization and Its Discontents. New York: W. W. Norton & Company.

[29] Stulz, René M.; Rohan Williamson. 2003, Culture, Openness, and Finance, *Journal of Financial Economics*, Volume 70, Issue 3 , December, Pages 313-349.

FIGURE I
Defining “Distance”

A Typical Foreign Bank

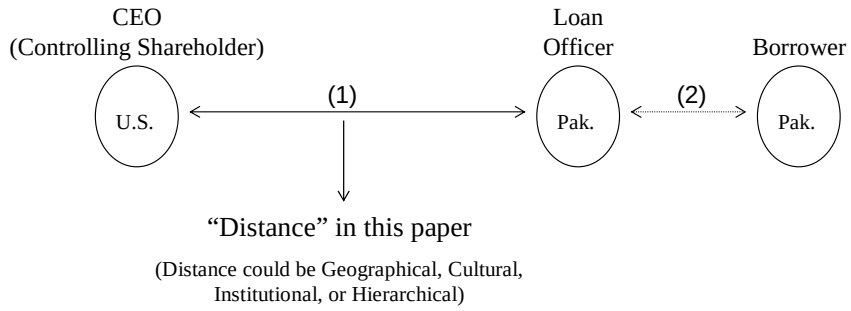


FIGURE II
Lending Composition of Domestic and Foreign Banks

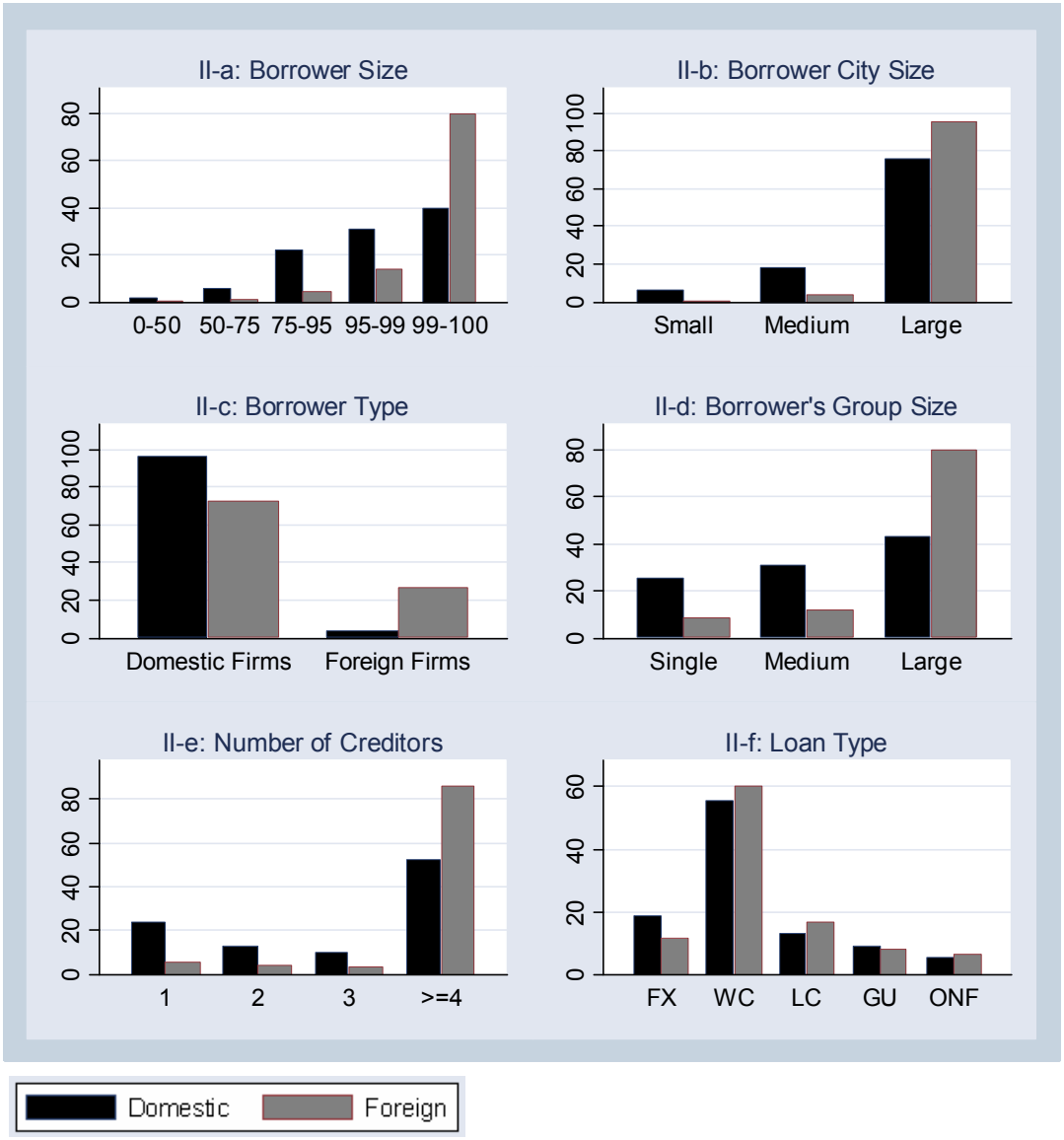
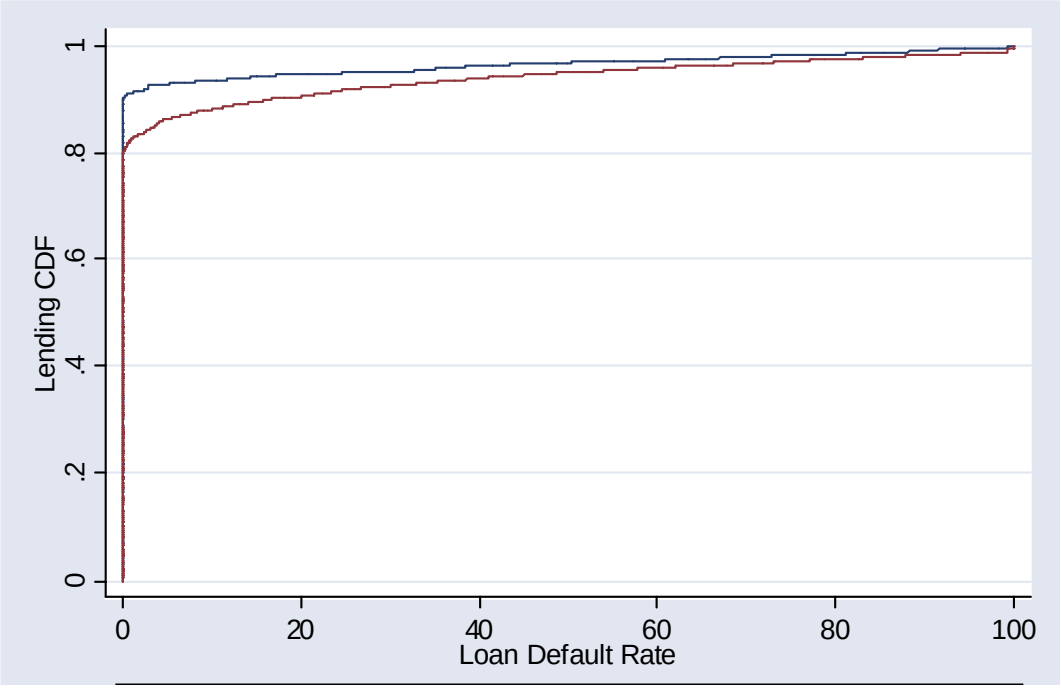


FIGURE III
CDF of Bank Lending by Default Rate



Y-axis represents the percentage of total bank lending which is at or below the default rate on the X-axis. The upper line represents foreign banks, and the lower line represents domestic banks.

FIGURE IV A
Distribution of Local Bank Size

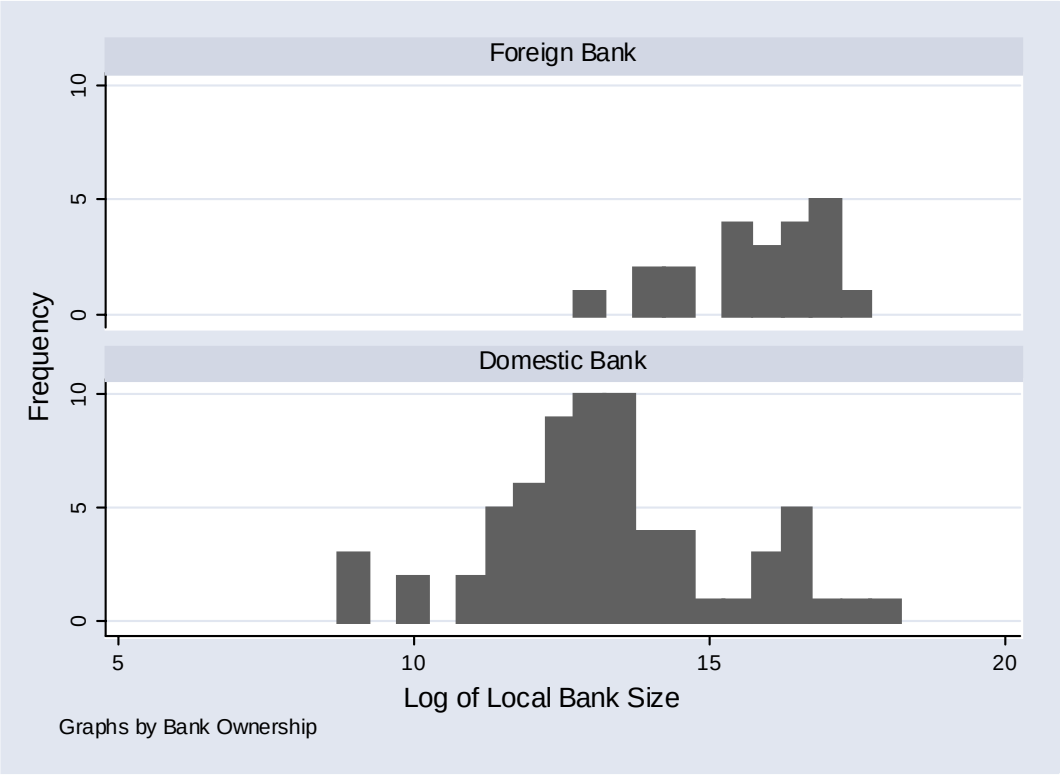


FIGURE IV B
Distribution of Global Bank Size

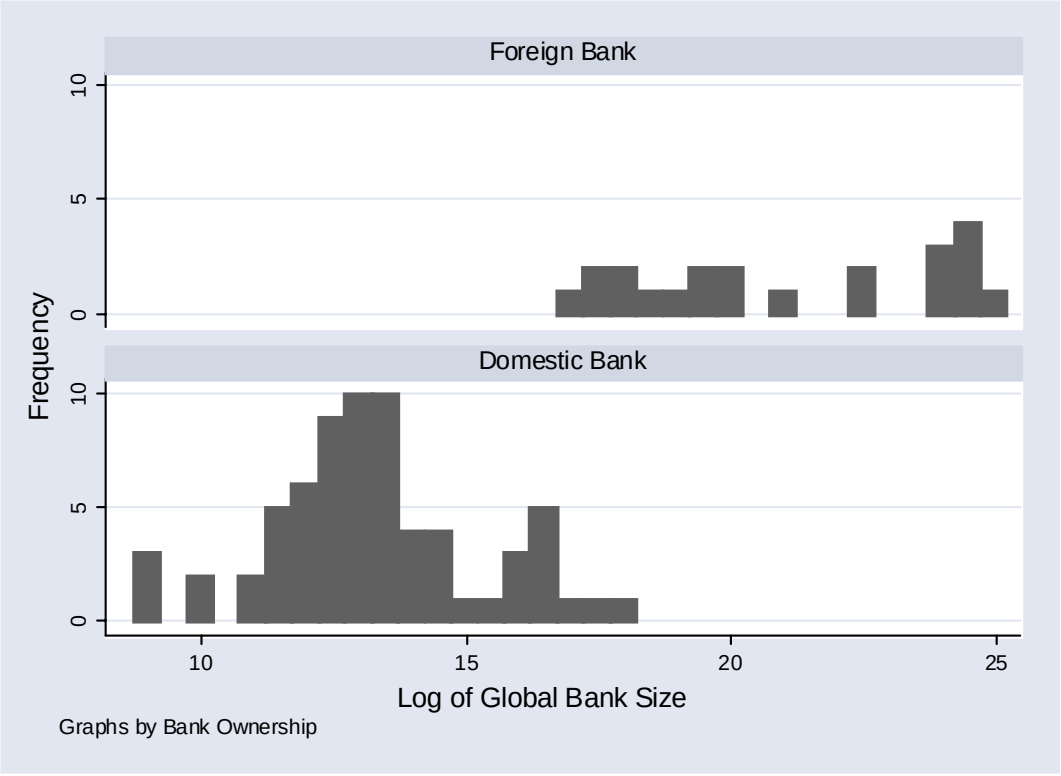


TABLE I
DATA DESCRIPTION

Panel A: Data Coverage			
No. of quarters	25 (April 1996 to April 2002)		
No. of banks	90		
No. of unique borrowers	62,253		
No. of unique loans	79,323		
No. of loan-quarter observations	588,546		
	Mean	*Min*	*Max*
No. of loans in a quarter	24,716	15,952	31,727
No. of banks in a quarter	85.2	78	88

Panel B: Bank Classification			
	No. of banks	Loans[1]	Market Share
Foreign	22	260	49%
Private Domestic	68	268	51%

[1] in billions of 1995 Pak Rs.

TABLE II
SUMMARY STATISTICS

Panel A: "Hard Information" Variables

Size (percentile)	*0-50*	*50-75*	*75-95*	*95-99*	*99-100*
% of total lending	1%	3%	11%	20%	65%
# of loans (79,323 total)	23,854	19,632	21,004	8,484	6,349

Location	*Small*	*Medium*	*Large*	*Unclassified*
% of total lending	2%	8%	89%	1%
# of loans (79,323 total)	5,876	10,918	58,952	3,577

Foreign Firm	*No*	*Yes*
% of total lending	82%	18%
# of loans (79,323 total)	78,830	493

Group Size	*Stand Alone*	*Intermediate*	*Conglomerate*	*Unclassified*
% of total lending	12%	18%	66%	3%
# of loans (79,323 total)	35,510	15,504	11,801	16,508

Number of Creditors	*1*	*2*	*3*	*4*	*5*	*>6*
% of total lending	13%	7%	6%	5%	3%	65%
# of loans (79,323 total)	47,319	12,152	5,388	3,022	1,783	9,659

Loan Type	*Fixed*	*Working Capital*	*Letter of Credit*	*Guarantees*	*Other*
% of total lending	10%	59%	13%	8%	10%
# of loans (79,323 total)	20,806	42,632	9,000	5,584	1,301

Panel B: Correlation Matrix

	Size	*Location*	*Foreign Firm*	*Group Size*	*Number of Creditors*	*Loan Type*
Size	1					
Location	0.03	1				
	(0.086)					
Foreign Firm	0.19	0.11	1			
	(0.004)	(0.008)				
Group Size	0.56	0.24	0.20	1		
	(0.041)	(0.063)	(0.082)			
Number of Creditors	0.66	0.19	0.20	0.58	1	
	(0.030)	(0.051)	(0.073)	(0.025)		
Loan Type	-0.02	-0.06	0.01	-0.08	-0.09	1
	(0.061)	(0.048)	(0.096)	(0.045)	(0.046)	

TABLE II (CONTINUED)
SUMMARY STATISTICS

Panel C: Other Variables					
Variable	Mean	S.D.	Min	Max	Obs.
Loan Size ('000s of 1995 Pak Rs.)	6,654	36,716	0.62	4,399,366	79,323
Default Percentage:					
Overall (un-weighted)	4.46	16.39	0	100	79,323
Less than a year (un-weighted)	1.36	6.88	0	100	79,323
Over a year (un-weighted)	3.65	15.96	0	100	79,323
Overall (weighted)	4.81	17.00	0	100	79,323
Less than a year (weighted)	1.25	5.84	0	100	79,323
Over a year (weighted)	4.01	16.54	0	100	79,323
Conditional On Default [1] *:*					
Litigation (un-weighted)	27.92	44.87	0	100	5,762
Recovery (un-weighted)	40.07	49.01	0	100	5,762
% Recovery (un-weighted)	26.60	41.23	0	100	5,762
Litigation (weighted)	31.84	46.59	0	100	5,762
Recovery (weighted)	36.75	48.22	0	100	5,762
% Recovery (weighted)	17.43	33.38	0	100	5,762

[1] The litigation and recovery information is only available from April 2001 to April 2002

TABLE III

LENDING COMPOSITION

DIFFERENCES BETWEEN DOMESTIC AND FOREIGN BANKS

	Value-weighted Means for "Hard Information" Proxies					
	(1)	(2)	(3)	(4)	(5)	(6)
	Size	Location	Foreign Firm	Group Size	No of Creditors	Loan Type
Foreign	4.70	2.95	0.26	2.72	3.68	0.93
	(0.05)	(0.02)	(0.03)	(0.04)	(0.08)	(0.03)
Domestic	4.01	2.72	0.035	2.23	2.92	0.81
	(0.05)	(0.05)	(0.005)	(0.05)	(0.08)	(0.11)
Difference	0.70	0.24	0.23	0.50	0.77	0.12
	(0.07)	(0.05)	(0.03)	(0.06)	(0.11)	(0.11)
Difference with controls [1]	0.13	0.18	0.11	0.11	0.08	0.16
	(0.03)	(0.03)	(0.03)	(0.04)	(0.05)	(0.12)
Observations	79,323	75,746	79,323	62,815	79,323	79,323

The results are based on the cross-sectional database of 79,323 loans covering a period of 1996 to 2002. Standard errors reported in parentheses are clustered at the bank-level (90 banks in all). Size is coded 1 through 5 representing the size of borrower, Location is coded 1 through 3 representing the city size of the borrower, Foreign Firm is a dummy for whether the borrower is a multi-national, Group Size is coded 1 through 3 representing the group size of the borrower, and Loan Type is a dummy for whether the loan is a short term loan.

[1] The controls include 5 loan-type dummies, 5 borrower size dummies, dummy for whether the borrower is a foreign firm, dummy for the number of creditors the borrower has, 3 group size dummies, 134 dummies for each of the city/town of borrower, and 21 dummies for the industry of the borrower.

TABLE IV
DEFAULT, RECOVERY, AND LITIGATION

			Conditional on Default			
	Mean Default Rate (%)		Mean Recovery Rate (%)		Mean Litigation Rate (%)	
	(1)	(2)	(3)	(4)	(5)	(6)
Foreign	3.53	4.32	18.11	18.96	38.87	63.18
	(0.81)	(0.77)	(3.86)	(2.93)	(8.50)	(5.08)
Domestic	6.04	4.54	44.39	46.05	33.39	24.2
	(1.98)	(1.00)	(7.33)	(10.62)	(2.28)	(5.35)
Difference	-2.52	-0.22	-26.28	-27.09	5.47	38.97
	(2.13)	(1.25)	(8.23)	(10.98)	(8.63)	(7.30)
Difference	-2.54	-0.67	-21.0	-18.08	5.81	34.06
with controls [1]	(2.08)	(1.23)	(6.92)	(5.99)	(7.66)	(7.70)
Weighted	Yes	No	Yes	No	Yes	No
Observations	79,323	79,323	5,762	5,762	5,762	5,762

The results are based on the cross-sectional database of 79,323 loans covering a period of 1996 to 2002. Standard errors in parentheses are clustered at the bank-level (90 banks in all). The recovery and litigation data covers the period April 2001 to April 2002.

[1] The controls include 5 loan-type dummies, 5 borrower size dummies, dummy for whether the borrower is a foreign firm, dummy for the number of creditors the borrower has, 3 group size dummies, 134 dummies for each of the city/town of borrower, and 21 dummies for the industry of the borrower.

TABLE V

DEFAULT, RECOVERY, AND LITIGATION, USING BORROWER FIXED EFFECTS

Data restricted to borrowers who borrow from both types of banks.

			Conditional on Default			
	Default Rate (%)		Recovery Rate (%)		Litigation Rate (%)	
	(1)	(2)	(3)	(4)	(5)	(6)
Foreign	0.47	0.16	-14	-13.24	5.2	13.39
	(0.72)	(0.59)	(7.30)	(4.33)	(9.40)	(5.96)
Loan-size Weighted	Yes	No	Yes	No	Yes	No
Borrower Fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Observations	15,453	15,453	390	390	390	390
R-sq	0.71	0.59	0.63	0.47	0.55	0.49

Columns (1) and (2) have 4,217 fixed effects (one for each borrower lending from both domestic and foreign banks), Columns (3) through (6) have 101 fixed effects (one for each borrower lending from both domestic and government banks, and defaulting on both). Standard errors in parentheses are clustered at the bank-level (90 banks in all).

TABLE VI

IS "DISTANCE" GEOGRAPHY / CULTURE?

Panel A: Lending Composition - Value-weighted Means for "Hard Information" Proxies

	Size	Location	Foreign Firm	Group Size	No. of Creditors	Loan-Type
	(1)	(2)	(3)	(4)	(5)	(6)
(Domestic - Asian Foreign)	-0.52	-0.16	-0.13	-0.36	-0.56	-0.12
	(0.07)	(0.06)	(0.04)	(0.08)	(0.11)	(0.12)
Asian Foreign	4.53	2.87	0.16	2.58	3.46	0.93
	(0.06)	(0.04)	(0.04)	(0.07)	(0.08)	(0.04)
(NonAsian Foreign	0.21	0.10	0.12	0.17	0.27	0.01
- Asian Foreign)	(0.08)	(0.04)	(0.05)	(0.08)	(0.11)	(0.05)
Observations	79,323	75,746	79,323	62,815	79,323	79,323

Panel B: Recovery and Litigation [1]

	Recovery		Litigation	
	(1)	(2)	(3)	(4)
NonAsian Foreign	-10.84	-14.99	0.26	0.14
	(8.56)	(6.30)	(0.07)	(0.11)
Domestic	11.52	17.13	-0.18	-0.02
	(8.13)	(7.55)	(0.08)	(0.08)
Loan-size Weighted	No	Yes	No	Yes
Other Controls	Yes	Yes	Yes	Yes
Observations	5,762	5,762	5,762	5,762
R-sq	0.19	0.22	0.21	0.13

In Panel A, the results are based on the cross-sectional database of 79,323 loans covering a period of 1996 to 2002. Both panels report standard errors in parentheses clustered at the bank-level (90 banks in all).

[1] The omitted category is Asian foreign banks. The weighted regressions use size of loans as weights. All regressions also include controls including the 5 loan-type dummies, 5 borrower size dummies, dummy for whether the borrower is a foreign firm, dummy for the number of creditors the borrower has, 3 group size dummies, 134 dummies for each of the city/town of borrower, and 21 dummies for the industry of the borrower. The recovery and litigation regression only use the loans in default and covering the period April 2001 to April 2002.

TABLE VII
ARE DISTANCE CONSTRAINTS DRIVEN BY POLITICAL ENFORCEMENT?

	Default Rate (%)		Conditional on Default Recovery Rate (%)	
	(1)	(2)	(3)	(4)
Domestic	1.09	-0.7	24.77	19.47
	(2.10)	(1.89)	(7.78)	(8.49)
Politically UnConnected	-2.16	-2.8	-1.77	-3.56
	(0.45)	(0.65)	(9.92)	(4.13)
Domestic*Politically UnConnected	2.18	0.92	3.06	10.43
	(0.53)	(0.84)	(11.81)	(6.56)
Loan-size Weighted	Yes	No	Yes	No
R-sq	0.01	0	0.04	0.04
Number of Obs.	79,323	79,323	5,762	5,762

The results are based on the cross-sectional database of 79,323 loans covering a period of 1996 to 2002. Standard errors in parentheses are clustered at the bank-level (90 banks in all). The recovery data covers the period April 2001 to April 2002. Regression includes a constant as well.

TABLE VIII

IS "DISTANCE" SIZE?

Panel A: Lending Composition - Value-weighted Means for "Hard Information" Proxies

	Size	Location	Foreign Firm	Group Size	No. of Creditors	Loan-Type
	(1)	(2)	(3)	(4)	(5)	(6)
Domestic Bank Dummy	-0.59	-0.20	-0.14	-0.41	-0.73	-0.01
	(0.08)	(0.06)	(0.05)	(0.08)	(0.09)	(0.07)
NonAsian Foreign Bank Dummy	0.52	0.25	0.19	0.38	0.93	-0.37
	(0.16)	(0.07)	(0.09)	(0.15)	(0.20)	(0.27)
Log of Bank Size	0.01	-0.01	0.00	0.20	-0.10	-0.05
	(0.24)	(0.02)	(0.00)	(0.11)	(0.19)	(0.15)
Log of Bank Size * Big	-0.09	-0.02	-0.02	-0.25	-0.06	0.14
	(0.25)	(0.03)	(0.02)	(0.11)	(0.19)	(0.16)
Big	1.87	0.25	0.31	3.26	1.40	-1.61
	(3.02)	(0.36)	(0.34)	(1.47)	(2.39)	(2.26)
Constant	4.03	3.31	0.14	0.23	5.02	0.86
	(2.97)	(0.29)	(0.05)	(1.37)	(2.26)	(1.90)
Observations	79,323	75,746	79,323	62,815	79,323	79,323

Panel B: Recovery and Litigation[1]

	Recovery		Litigation	
	(1)	(2)	(3)	(4)
Domestic Bank Dummy	17.25	25.06	-0.23	-0.04
	(6.70)	(4.95)	(0.07)	(0.08)
NonAsian Foreign Bank Dummy	-28.53	-54.28	0.45	0.22
	(17.67)	(11.65)	(0.10)	(0.13)
Log of Bank Size	4.17	(1.30)	0.01	0.02
	(3.82)	(6.50)	(0.04)	(0.10)
Log of Bank Size * Big	(1.30)	8.23	(0.04)	(0.03)
	(5.21)	(6.81)	(0.04)	(0.10)
Big	25.5	-110.31	0.49	0.41
	(72.65)	(87.39)	(0.58)	(1.21)
Loan-size Weighted	No	Yes	No	Yes
Other Controls	Yes	Yes	Yes	Yes
Observations	5,762	5,762	5,762	5,762
R-sq	0.20	0.25	0.22	0.13

In Panel A, the results are based on the cross-sectional database of 79,323 loans covering a period of 1996 to 2002. Both panels report standard errors in parentheses clustered at the bank-level (90 banks in all).

[1] The omitted category is Asian foreign banks. The weighted regressions use size of loans as weights. All regressions also include controls including the 5 loan-type dummies, 5 borrower size dummies, dummy for whether the borrower is a foreign firm, dummy for the number of creditors the borrower has, 3 group size dummies, 134 dummies for each of the city/town of borrower, and 21 dummies for the industry of the borrower. The recovery and litigation regression only use the loans in default and covering the period April 2001 to April 2002.

TABLE IX
ARE FOREIGN BANK BORROWERS BETTER QUALITY FIRMS?

	Export?		Log Export		Log Export Productivity	
	(1)	(2)	(3)	(4)	(5)	(6)
Borrowing from both Foreign and Domestic	0.12	0.08	1.74	1.12	0.02	0.15
	(0.04)	(0.03)	(0.54)	(0.43)	(0.17)	(0.12)
Borrowing from Foreign only	0.01	0.004	0.09	0.04	0.02	-0.004
	(0.04)	(0.02)	(0.46)	(0.30)	(0.17)	(0.12)
Constant	0.23	--	2.75	--	0.98	--
	(0.03)		(0.42)		(0.13)	
Controls		YES		YES		YES
R-squared	0.01	0.09	0.01	0.1	0.00	0.07
Observations	4,573	4,573	4,573	4,573	4,573	4,573

Data limited to textile firms for which export data is available. Standard errors are clustered at the bank level. "Export?" is an indicator variable for whether the firm is an exporter, "log export" is the log of total exports during 2001 to 2003 for the firm, and "Export Productivity" is total exports divided by total lending for the firm. The data was collapsed at the firm (borrower) level, and so each observation represents a unique firm. The controls include 5 borrower size dummies, dummy for whether the borrower is a foreign firm, 3 group size dummies, and 134 dummies for each of the city/town of borrower.

TABLE X

LENDING COMPOSITION OF NEW BANK BRANCHES OPENED AFTER 1996

Panel A: Previous Banking Experience of Borrowers

	Domestic Banks		Asian Foreign Banks		Non-Asian Foreign Banks	
	No of Loans	Percentage of Loans	No of Loans	Percentage of Loans	No of Loans	Percentage of Loans
None (First Time Bank Borrower)	5,555	78.2	1,022	63.4**	130	38.46**
Only Government Banks	471	6.6	115	7.1	4	1.2
Includes Domestic Banks	627	8.8	273	17.0	11	3.3
Includes Foreign Banks	222	3.1	72	4.5	144	42.6
Includes Domestic and Foreign Banks	229	3.2	129	8.0	49	14.5
Total	*7,104*		*1,611*		*338*	

Panel B: Value-weighted Means for "Hard Information" Proxies

	Size	Location	Foreign Firm	Group Size	No. of Creditors	Loan-Type
Domestic Banks	3.57	2.47	0.00	1.87	1.99	0.95
	(0.17)	(0.19)	(0.00)	(0.07)	(0.30)	(0.04)
Asian Foreign Banks	4.23	2.34	0.00	2.34	3.13	0.95
	(0.25)	(0.12)	0.00	(0.24)	(0.23)	(0.05)
NonAsian Foreign Banks	4.28	2.98	0.05	2.07	3.14	0.99
	(0.19)	(0.01)	(0.04)	(0.27)	(0.25)	(0.01)

** 63.4 and 38.5 are both statistically different from 78.2 (the percentage of first time borrowers from domestic banks) at 10% and 5% significance levels respectively, with standard errors clustered at the bank level.

Standard errors (in parenthesis) are clustered at the bank-level (90 banks in all).