THE JOURNAL OF FINANCE • VOL. LXI, NO. 3 • JUNE 2006

Distance Constraints: The Limits of Foreign Lending in Poor Economies

ATIF MIAN*

ABSTRACT

How far does mobility of multinational banks solve problems of financial development? Using a panel of 80,000 loans over 7 years, I show that greater cultural and geographical distance between a foreign bank's headquarters and 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. These distance constraints can be large enough to permanently exclude certain sectors of the economy from financing by foreign banks.

> [w]hile 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, p. 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 the accelerated globalization and integration of world financial markets in recent years will provide an opportunity for emerging markets to quickly 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 of developed countries to lend directly to entrepreneurs in emerging markets. Second, to the extent that lending across such long distances is problematic, *institutional mobility*

*Atif Mian is from the Graduate School of Business, University of Chicago; e-mail: 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.

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

can allow foreign financial institutions to set up subsidiaries and lend locally in emerging markets. While both arguments are theoretically appealing, their practical relevance and scope remain an empirical question.

Regarding the first argument, recent literature suggests that capital mobility, while useful, may not completely compensate for the importance of domestic financial development. For example, Petersen and Rajan (1994, 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 evidence suggests that there are important limitations to how far capital mobility alone can solve the financial underdevelopment problem.

This brings us to the second argument, which says that where capital mobility falls short, institutional mobility can step in. If it is the local financial development that matters more, in the absence of constraints foreign banks should be expected to open up local branches in emerging markets and solve the financial underdevelopment problem. However, is it the case that even if foreign banks open up local branches in emerging markets they will still be constrained with respect to 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 can finance? (ii) What is the rationale for any such limitation? and (iii) Are these limitations on foreign banks economically important?

In order to answer the above questions, we need to study a traditionally underdeveloped market that has recently experienced a substantial expansion in foreign banking operations. Moreover, we need to analyze a fairly microlevel 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 a 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 particular expansion is that both foreign and private domestic banking sectors were liberalized at the same time, which makes the private domestic banks a useful benchmark against which to compare foreign banks. Second, there exists 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 offer many advantages in measuring the nature of bank activities and their outcomes at a micro level. For example, the data contain the type and identity of each loan borrower, the amount of the loan, the loan's default rate, whether the loan went into litigation or renegotiation given default, and the amount recovered from each default. Third, there is significant variation in the origin and organizational type of foreign banks. Such variation is useful in understanding which bank-level factors limit foreign banking activities in Pakistan.

Using the loan-level data, I start by addressing the question of whether foreign banks are 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 that require relational contracting. Such firms include 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 the case of default than 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 the borrowers and therefore enjoy 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 disadvantage 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 relational loans. Broadly speaking, "distance" here could reflect a number of factors. For example, it may reflect physical distance between the foreign bank's headquarters (CEO) and the subsidiary, or it could also reflect cultural distance, intrabank 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 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 greater 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 rather because of the relative 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, how economically important are these constraints? For example, are the constraints sufficiently large that in the absence of domestic banks, many soft information firms would not be given credit? Or, are the costs small enough 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, this 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 sufficiently large 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 the transmission of 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. Thus, this paper 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 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 result may also explain the reliance of early "miracle" successes of Japan and later 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. Do Foreign and Domestic Banks Differ 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 from 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 patterns is the geographic distance travelled by them in entering an emerging economy. Figure 1 provides the formal definition of distance in this theory: 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). Note that this definition of distance (labeled (1) in Figure 1) is different from an alternative definition of distance (labeled (2) in Figure 1) that measures the distance between the loan officer and his borrower. Papers such as Petersen and Rajan (1994, 2002) look 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) is the more important source of variation.

There are different metrics that one can use to measure distance as shown in Figure 1. In this paper, I consider three different metrics and test which is more relevant in practice.

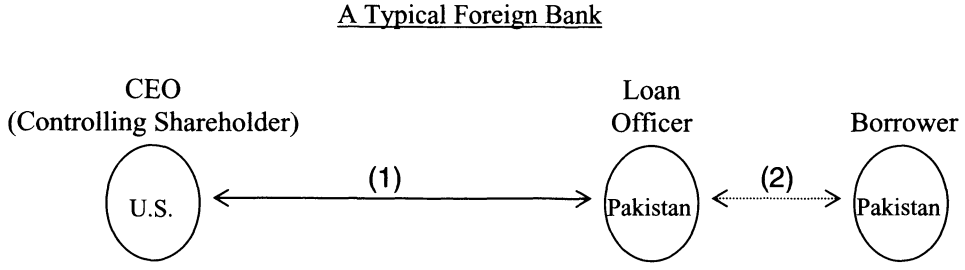

Figure 1. Defining distance. Here distance can refer to geographical, cultural, institutional, or hierarchical distance.

(i) *Geographical or Cultural Distance:* This metric measures the geographical distance 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 metric measures the number of organizational layers or hierarchies between the CEO and her loan officer. Hierarchical distance can be proxied by the overall size of the bank, since larger banks (such as multinational banks) are more hierarchical on average.

(iii) *Institutional Distance*: This metric measures the difference between the home and host countries' legal and regulatory frameworks.

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. (2004) highlight 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 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 focuses on theoretical arguments. However, there also exists anecdotal and qualitative evidence that suggests foreign banks face these types of constraints in developing economies. For example, it is widely believed that large multinational banks use very strict credit scoring methods that force local bank managers to rely on hard information and that 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 press talk about banks outsourcing credit card default recoveries

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

to local thugs and mafias.[3] What is less known, however, is whether foreign banks would 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.

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 the former 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.

Why might domestic and foreign banks differ in their attitudes toward 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 the 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 was to take too much risk in a developing country and causes a fear of bank failure, it would reap large negative consequences, through reputation, on its operations worldwide. Anticipating such loss of franchise value through risky behavior, foreign banks devise 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 requirements than private domestic banks.[4]

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

II. Data

A. Institutional Environment

Since the data used in this paper come from Pakistan, it is 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

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

[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.

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 nationalized. 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 that operated in Pakistan were set up as new banks, that is, none of them were buyouts of existing private domestic banks. By 1990 government banks dominated the banking sector, with 92.2% of total assets; the remaining assets 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) privatizating one of the government banks,[5] (ii) allowing entry of new private domestic and foreign banks, (iii) setting up a centralized credit information bureau (CIB) to track loan-level default and other information,[6] (iv) issuing 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, which regulates all banks.

As a result of these reforms, the country witnessed 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. The post-1990 liberalization of the banking sector led 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. In the hope of gathering political support, the government of General Zia in the early 1980s 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, not modifying any of the real functions of banks other than relabeling "interest" as "profit" on deposits, and as "mark up" on loans. For all practical purposes, banking in Pakistan is done in the same way as in the rest of the world.

In terms of the post-1990 regulatory environment, both domestic and foreign banks are allowed to enter and operate in the banking sector. The important fact

[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.

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 seven-year period from 1996 to 2002. This translates into a panel data set of 165,004 loans extended during this time period. A loan is defined by a unique bank-firm pair. So if the same firm obtaines four different loans from the same banks over the 7-year period, I define the four loans as a single "loan." Given the scope of this paper, I restrict the data to 79,323 private loans made by the foreign and private domestic banks during the sample period. In other words, I drop the 85,185 loans given 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 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 were 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–April 2002), 90 private banks, and 62,253 unique borrowers. Although I use the time dimension of the panel data whenever needed, for most of the analyses it is 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, thereby 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 has 79,323 observations or loans. Notice that this number is greater than the number of unique borrowers (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 from 15,952 in the beginning of the sample to 31,727 toward the end, as new loans are extended and old loans retired. Panel A of Table I summarizes these basic characteristics of the data set.

To carry out the empirical tests in this paper, banks are segmented into "foreign" and "domestic" categories. The categories are defined based on the location of the controlling shareholders of the bank. Given this classification, 22 banks are classified as "foreign," and 68 as "domestic." The 22 foreign banks comprise Europe, the Middle East, the United States, and Japan. The two types

[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.

Table I
Data Description

Our sample includes all private sector business loans given out by private banks between 1996 and 2002. Panel A reports the basic dimensions of our quarterly panel data. A "loan" is defined as a bank-borrower pair. In other words if a loan facility for a firm is renewed over time, it still counts as a single loan. The number of borrowers in Panel A is smaller than the number of loans as a single borrower may borrow from multiple banks. "Loans" in Panel B refer to the average of total outstanding loans from 1996 to 2002 in billions of 1995 Pak Rs.

Panel A: Data Coverage

No. of quarters	25 (April 1996–April 2002)
No. of banks	90
No. of unique borrowers	62,253
No. of unique loans	79,323
No. of loan-quarter observation	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	Market Share
Foreign	22	260	49%
Private domestic	68	268	51%

of banks are quite evenly distributed across the private banking sector. As Panel B of Table I shows, the market share of the private banking sector is 49% and 51% for the foreign and domestic banks, respectively. 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 provides loan-level information on the identity of the borrower and his bank, the amount of the loan, the amount and duration of overdue funds, breakup by principal and interest, breakup by type of loan (fixed, working capital, etc.), the group affiliation of the borrower, the bank branch in which the loan was issued, new loans given out in the past quarter, and in the case of default loan recovered and loan under litigation. I next describe each of these variables in detail.

C. Measuring Hard Information

An important variable of interest in this paper is of the "type" of firm, where type refers to the nature of information required to lend to the firm. As pointed out above, 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.

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 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 are 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. Note that *Size* proxies for hard information under the assumption that the bigger a borrower is, the more credible is its information because of audited reports and reputation. Conversely, the smaller a borrower is, the softer is its informational content (e.g., Berger et al. (2004) also use small size to proxy for soft information).

Location. This variable captures the size of the city in which the borrower is located. 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 a 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 large cities extending 89% of the lending. As with size, location proxies for hard information under the assumption that borrowers in large cities have better auditing and credit reputations, and those in small cities have softer information.

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

Group Size. It is well known that the group or network to which a firm belongs 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

[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.

Table II
Summary Statistics

The table presents summary statistics for the variables used in this paper. Panel A gives the distribution of the six "hard information" proxies used in this paper. The distribution is given both in terms of the percentage of lending falling into a given category, as well as the number of loans. "Size" is defined as the total borrowing of a firm from the financial sector. "Location" refers to the size of the city/town the borrower is located in: *small* refers to a town with less than 0.5 million people, *medium* with population between 0.5 and 2 million, and *large* with a population of over 2 million. "Foreign" captures whether a borrowing firm is foreign-owned or not. "Group Size" refers to the number of firms in the group that a firm belongs to: *stand alone* firms do not belong to any group, *intermediate* firms belong to groups of size 2–50, and *conglomerate* firms belong to groups of more than 50. Panel B reports the cross-correlations between the six variables in Panel A. In computing the cross-correlations, "Size" is coded as 1–5 for the five size categories, "Location" is coded as 1–3 for the three city/town sizes, "Foreign Firm" is a dummy variable, "Group Size" is coded 1–3 for the three group sizes, and "Loan Type" is coded as 0/1 with "1" representing if the loan is a short-term loan (i.e., not a fixed loan). Panel C reports the summary statistics of loan level financial variables. Note that the litigation and recovery information is only available from April 2001 to April 2002.

Panel A: "Hard Information" Variables

Size (Percentile)	0–50	50–75	75–95	95–99	99–100
Percentage of total lending	1%	3%	11%	20%	65%
No. of loans (79,323 total)	23,854	19,632	21,004	8,484	6,349

Location	Small	Medium	Large	Unclassified
Percentage of total lending	2%	8%	89%	1%
No. of loans (79,323 total)	5,876	10,918	58,952	3,577

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

Group Size	Stand-alone	Intermediate	Conglomerate	Unclassified
Percentage of total lending	12%	18%	66%	3%
No. of loans (79,323 total)	35,510	15,504	11,801	16,508

Number of creditors	1	2	3	4	5	>6
Percentage of total lending	13%	7%	6%	5%	3%	65%
No. 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
Percentage of total lending	10%	59%	13%	8%	10%
No. of loans (79,323 total)	20,806	42,632	9,000	5,584	1,301

(*continued*)

Table II—*Continued*

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)	

Panel C: Other Variables

Variable	Mean	*SD*	Min.	Max.	Obs.
Loan size ('000s of 1995 Pak Rs.)	6,654	36,716	0.62	4,399,366	79,323
Default Percentage					
Overall (unweighted)	4.46	16.39	0	100	79,323
Less than a year (unweighted)	1.36	6.88	0	100	79,323
Over a year (unweighted)	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					
Litigation (unweighted)	27.92	44.87	0	100	5,762
Recovery (unweighted)	40.07	49.01	0	100	5,762
% Recovery (unweighted)	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

that I have information that includes 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 categories of firms: (a) Stand-Alone Firms—these are firms whose directors do not sit on the board of any other firm (12% of private lending); (b) Intermediate Group Firms—firms that belong to intermediate size groups, defined as groups consisting of 2–50 firms (19% of private lending;), and (c) Large Conglomerate Firms—firms that 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 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 that belong to larger groups are more likely to have better credit reputations and harder information. Group size therefore serves as the fourth proxy for hard information.

Number of Creditors. This variable captures the number of creditors (banks) from whom a firm borrows. Note that when constructing this variable, loans from government banks are also taken into account. Since it is easier for creditworthy borrowers and borrowers with less soft information to borrow, one would expect the number of creditors to be positively correlated with hard information. Moreover, if a firm has other creditors, a bank can obtain 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 a high number of creditors reduces the incentive of a firm to opt for strategic default.

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 nonfunded. The nonfunded loans are also of a 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 will keep the maturity of that borrower's loans shorter.

Panel B of Table II reports the correlation matrix for the six proxies for hard information. Since the six proxies measure the same firm attributes, it is not surprising that most of them are positively correlated with 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 in testing the various hypotheses.

D. Other Variables

Panel C of Table II represents 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 the loan recovered in the case of default. I present summary statistics of these variables both unweighted and loan-size weighted.

Given the skewed size distribution of the data set (Panel A), there might be a concern that the summary statistics are driven by a large number of economically insignificant small loans. 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 borrower defaults about a third of the time and recover at least part of their defaulted loan approximately 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 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 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 portfolios. This enables 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 such as Pakistan. However, it does not tell us why these banks finance the way they do.

To answer the "why" question I move to the part of the empirical analysis that tries to discriminate between the different theories of why foreign banks may differ from domestic banks (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 in which 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.

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

where F_j in the above regression represents a dummy for foreign banks, 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) 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 ordinary least squares (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 is 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% of loans by size representing 76% 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 that are small in size. To address this issue I will always report both the unweighted and size-weighted versions of (1) above.

B. Identification Concerns: Borrower Level

Given 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 banks 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) captures 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 adding 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 the borrower is a multinational firm. I avoid any functional form assumptions by introducing the controls in a very nonparametric manner. The controls consist of 134 dummies that represent each of the city/town locations, 21 dummies that represent each industry, 5 loan type dummies, 5 borrower size dummies that reflect various percentile cutoffs, 3 group size dummies, 8 dummies for number of creditors, 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 is likely to overcontrol for borrower differences because some of the controls may in turn be a result of differences in the domestic and foreign banks' abilities of interest.

Second, although the above set of controls is quite extensive, a sceptic could still argue that residual borrower-level variation is spuriously correlated with foreign banks. To address this concern, I add borrower-level fixed effects to (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 extended 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 focuses on differences between domestic and foreign banks only. As later sections show, running the above specifications for various outcomes of interest allows 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 is to discriminate between the various subclasses 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 distance constraint by running the regression below and testing if β_2 is bigger than zero.[10]

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

To test for the robustness of a given distance constraint hypothesis in the specification above I also include some bank-level observable characteristics of interest. However, since the total number of banks (90) is small compared to the number of borrowers, I am limited in the number and functional form of bank-level controls that I can add. For example clearly I cannot introduce bank-level fixed effects like I 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 outlines some of the predictions of theories based on the idea of distance constraints. The central predictions are that additional informational and agency costs hinder foreign banks from making relationship loans and soft information loans, and that these constraints 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?

If foreign banks face higher costs in relational lending due to distance constraints, they should avoid lending to soft information firms. Table I shows that

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

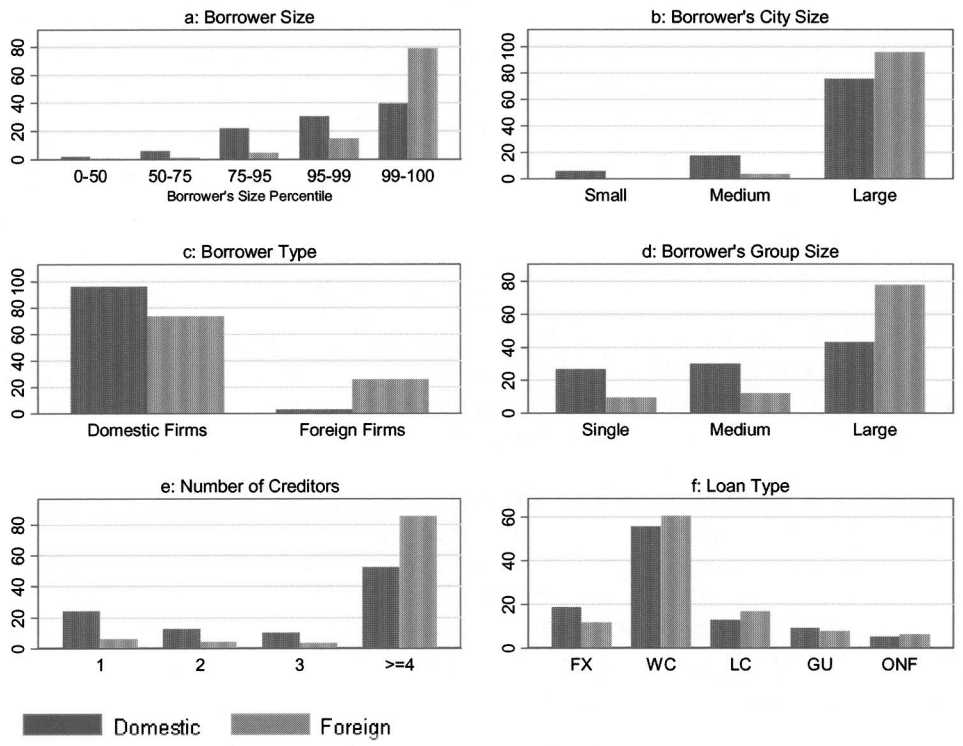

Figure 2. Lending composition of domestic and foreign banks. Each bar in the figure above represents the percentage of overall bank lending given to a particular category. Figure 2a gives lending composition by borrower size percentile, Figure 2b by size of borrower city, Figure 2c by foreign/local firms, Figure 2d by borrower's group size, Figure 2e by borrower's number of creditors, and Figure 2f by borrower's loan type. The loan type categories in Figure 2f are: "FX" for fixed loans, "WC" for working capital, "LC" for letter of credit, "GU" for guarantees, and "ONF" for other nonfunding loans. All loan types are short-term loans except "FX," which have a maturity greater than 2 years.

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 2 gives an overview of this test. For each of the six measures of hard information discussed in the preceding section, the figure plots the distribution of 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 extend less than 40% of their loans (by value) to the top 1% of firms by size, whereas foreign banks extend more than 80% of their loans to these firms (Figure 2a). Almost 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 (Figure 2b). More than 20% of foreign lending goes to foreign firms operating in Pakistan, whereas

only 3% of domestic lending goes to such firms (Figure 2c). 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 a large conglomerate, whereas only 40% of the domestic banks' lending goes to such firms (Figure 2d). Foreign banks are also more likely to lend to firms that already have multiple sources of credit available to them. Almost 90% of their lending goes to firms that have four or more banks as their creditors. In contrast, only 50% of domestic banks' lending goes to such firms (Figure 2e). 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 (Figure 2f). As pointed out earlier, these longer-term loans are more likely to involve relationship lending.

There are two limitations of the graphical analysis in Figure 2 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, that is 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 results in Figure 2 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 2 in a statistical framework.

Recall that in the cross-sectionalized version of the data set, the unit of observation is a loan which is 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 in Figure 2. 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 verify whether each measure has an independent effect. The results show that even after adding all of the remaining five measures of hard information as controls, most of the differences between foreign and domestic banks remain significant.[12]

[11] Let Y be a hard information variable such as firm size. Then, means for this variable are computed separately 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.

Table III
Lending Composition: Differences between Domestic and Foreign Banks

The results are based on the cross-sectional database of 79,323 loans covering a period of 1996–2002. Standard errors reported in parentheses are clustered at the bank-level (90 banks in all). Size is coded 1 through 5, representing the five borrower-size classifications shown in Table II; Location is coded 1 through 3, representing the city size of the borrower as in Table II; Foreign Firm is a dummy for whether the borrower is a multinational; 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.

Value-Weighted Means for "Hard Information" Proxies						
	(1) Size	(1) Location	(3) Foreign Firm	(4) Group Size	(5) No. of Creditors	(6) 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[a]	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

[a]The controls include 5 loan-type dummies, 5 borrower size dummies, a dummy for whether the borrower is a foreign firm, a 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.

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 Duclos (2000) devise a statistical test for stochastic dominance that I implement. The methodology also shows that for all measures of hard information, the 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 verify whether these results can be conclusively attributed to distance constraints, I perform additional tests below.

B. Are Foreign Banks Less Successful at Relational Lending?

If the preceding lending composition results are 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 the case of default. Moreover, in a country like Pakistan in which legal systems are weak, a lack of relational information and control over the borrower can lead foreign banks to be less successful in the 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 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 that need banks with relational skills. Such borrowers include small firms, local firms, and firms 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, we first look at the propensity of default for both foreign and domestic bank borrowers. Figure 3 plots the cumulative density function of lending with respect to default rates for domestic and foreign banks. Although the default rate for

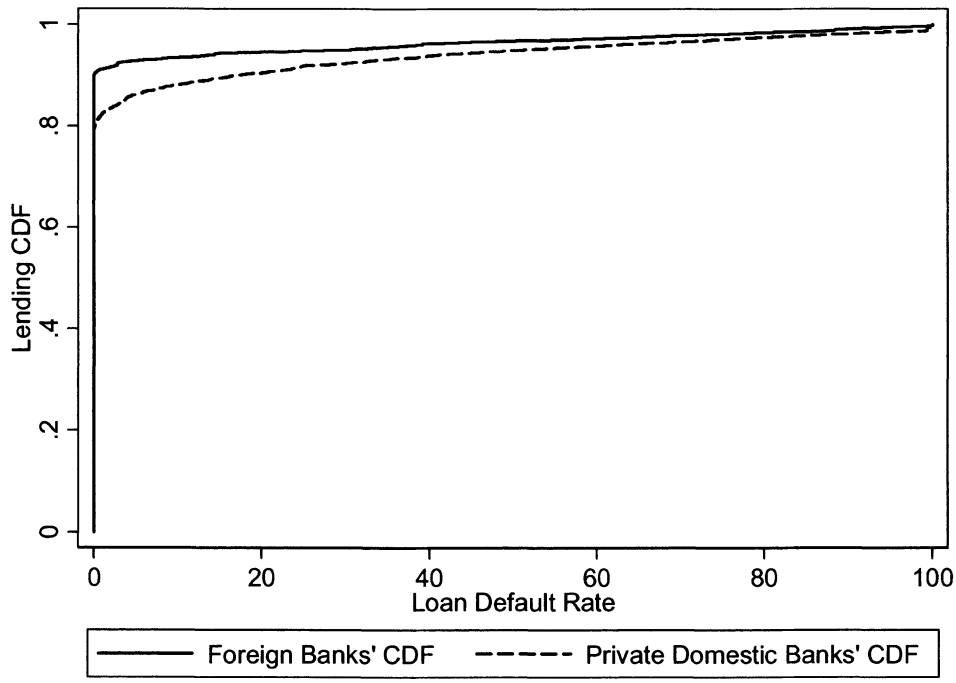

Figure 3. CDF of bank lending by default rate. The figure plots the cumulative distribution function of bank lending against the loan default rate. A point on the graph represents the percentage of aggregate lending with a default rate at or below the corresponding default rate on the x-axis. The upper line represents the CDF graph for foreign banks, while the lower line represents the CDF for domestic banks.

Table IV
Default, Recovery, and Litigation

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

			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[a]	(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

[a]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.

domestic banks is slightly higher than that of foreign banks on average (6.0% for domestic 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 exist for the last five quarters of the sample period (i.e., April 2001–April 2002). The central bank did not collect this information prior to that time. 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 court for litigation. If a bank decides not to litigate, this 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 loans that were in default during the last five quarters. There are 5,762 such loans.

Columns (3)–(6) in Table IV then compare the behavior of domestic and foreign banks conditional on default. I construct a 0/1 (binary) variable indicating whether there was any recovery on the defaulted loan or not. Both weighted and unweighted results (Columns (3) and (4)) show that foreign banks recover something as little as 19% of their defaulted loans, whereas domestic banks recover at least 45% of their defaulted loans. The difference of about 26% is

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

[14] Default is defined as the nonpayment of promised amount for over 90 days.

both economically large and statistically significant. Moreover, this difference is robust to introducing all the possible controls in a very nonparametric way, such as adding dummies for city location, foreign firm, loan type, borrower size, group size, number of creditors, and industry affiliation. As Section III discusses, robustness to different types of controls shows that our results are unlikely to be driven by differences in borrower 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 credit background.

Comparing the propensity to litigate, the unweighted results (Column (6)) show that foreign banks are significantly more likely to take a defaulter to court rather than renegotiate. Foreign banks take a defaulter to court 63% of the time compared to only 24% for domestic banks. The result is robust to adding 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% of the time, while foreign banks litigate only marginally higher at about 39%. This suggests that foreign banks are less likely to litigate on their larger defaults. However, the unweighted results shed some light on the type of average default faced by foreign and domestic banks. The results are consistent with the story that domestic banks extend more relational loans, which allows them to renegotiate more successfully as their recovery rates suggest.

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

Nevertheless, the details of the data set allow me to directly address the unobserved heterogeneity criticizm by completely controlling for any potential borrower-level heterogeneity. Table V does so by repeating Table IV after adding 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 rates 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; the loan covenants would determine whether this is legal. Thus, results of Columns (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]

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

Table V

Default, Recovery, and Litigation Using Borrower Fixed Effects

The results are based on the cross-sectional database of 15,453 loans from 1996 to 2002. These are loans taken by firms that borrowed from both foreign and local banks. The recovery and litigation data cover the period April 2001–April 2002. Columns (1) and (2) have 4,217 fixed effects (one for each borrower lending from both domestic and foreign banks), Columns (3)–(6) have 101 fixed effects (one for each borrower lending from both domestic and foreign banks, and defaulting on both). Standard errors given in parentheses are clustered at the bank level (90 banks in all).

			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^2	0.71	0.59	0.63	0.47	0.55	0.49

Columns (3)–(6) restrict the data to only those borrowers that default to both domestic and foreign banks. I here 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 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 highlights 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 the 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 could make it difficult for the 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 interpersonal interaction between the two societies. In other words, social networks between the two countries will not be 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 him to verify this piece of soft information if he has 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 that can play a crucial role in the successful communication of soft information is common training or education. For instance, 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.

As geographical distance inside a bank decreases, so does the importance of all these factors related to culture, communication, and trust. The consequence would be the greater ability of the CEO and the top management to rely on soft information from the local loan officers, and hence the loan officer could 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 before expanding to Europe and the U.S. Similarly, the recent growth in Information Technology 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 verify whether 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 U.S. 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 whether lending composition is more skewed toward hard information firms for non-Asian foreign banks than Asian foreign banks. Table VI repeats the tests of Table III, but 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. More importantly, the mean for non-Asian foreign banks is even higher than that of Asian foreign banks, and the differences are significant.

Table VI
Is Distance Geography/Culture?

Panel A reports differences in lending composition between domestic, Asian foreign, and non-Asian foreign banks. The results are based on the cross-sectional database of 79,323 loans covering a period of 1996–2002. Size is coded 1 through 5, representing the five borrower size classifications shown in Table II; Location is coded 1 through 3, representing the city size of the borrower as in Table II; Foreign Firm is a dummy for whether the borrower is a multinational; 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. Panel B reports differences between the three types of banks in their recovery and litigation rates once a loan goes into default. The omitted category in Panel B is Asian foreign banks. Regressions in Panel B include 5 loan-type dummies, 5 borrower size dummies, a dummy for whether the borrower is a foreign firm, a 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 data cover the period April 2001–April 2002. Both panels report standard errors in parentheses clustered at the bank level (90 banks in all).

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

	Size (1)	Location (2)	Foreign Firm (3)	Group Size (4)	No. of Creditors (5)	Loan-Type (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)
(Non-Asian foreign − Asian foreign)	0.21	0.10	0.12	0.17	0.27	0.01
	(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

	Recovery		Litigation	
	(1)	(2)	(3)	(4)
Non-Asian 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^2	0.19	0.22	0.21	0.13

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 interpret 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 of the 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 enforcement advantage may be greater 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 if he tries to abscond and default on his loans. To the extent that such informal mechanisms are used in banking, one could argue that domestic banks have better access to these mechanisms. Moreover, 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, who in turn may help them 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 reverse the effects of any unobserved heterogeneity, one could perform 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 would only

capture the unobserved differences between connected and unconnected firms. Econometrically, the test can be written as

$$Y_{ij} = \alpha + \beta_1(DOM_j) + \beta_2(UNCON_i) + \beta_3(DOM_j * UNCON_i) + \varepsilon_{ij}, \quad (3)$$

where Y_{ij} is an enforcement measure such as the 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 now define how political connectedness of a borrower is measured. Given 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 1990s (1993 and 1997). Using this approach, 19% of the loans are classified as politically connected. In 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 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.

Table VII

Are Distance Constraints Driven by Political Enforcement?

The results are based on the cross-sectional database of 79,323 loans covering a period of 1996–2002. Standard errors in parentheses are clustered at the bank-level (90 banks in all). A loan is classified as "politically connected" if the firm taking the loan has a director who stood in one of the national elections of 1993 or 1997. The recovery data covers the period April 2001 to April 2002. Regression includes a constant as well.

	Default (%)		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^2	0.01	0	0.04	0.04
Observations	79,323	79,323	5,762	5,762

V. Testing for Other Definitions of "Distance" and Bank Selection

Above we see that the distance constraints faced by foreign banks bind stronger the more geographically distant a foreign bank is. A couple of robustness checks need to be performed on this test. First, as Section I explains there are other possible definitions of distance that could lead to distance constraints. Second, as Section III discusses other bank-level attributes that are spuriously correlated with geographical distance may be responsible for our main results. I test for these concerns in this section.

A. Are the Results Driven by Bank Size?

As Section I points out papers such as Berger et al. (2004) suggest that larger bank size increases intrabank hierarchical distance, leading 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, which includes their world-wide operations. It may be argued that the global definition of size better proxies for the intrabank hierarchical distance. Since I have both size measures, I check for the robustness of 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 whether size can explain distance constraints, I repeat the regressions of Table VI, but here I include the log of bank size as a 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 the interaction of this variable with log size. This specification offers greater flexibility in functional form 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 larger banks, and (ii) the effect of geographical and cultural distance will diminish with the inclusion of a bank size variable. However, Table VIII shows that using the global definition of size, none of this is true. This results casts doubt on the plausibility of a size-based explanation. Moreover, replacing the global definition of size with the local definition yields similar results (not reported in the table).

Figures 4a and 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 4a), the overlap is more limited when using the global definition of bank size (Figure 4b). The limited overlap in Figure 4b 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 banks.

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 has a dummy

Table VIII
Is Distance Size?

Panel A reports differences in lending composition between domestic, Asian foreign, and non-Asian foreign banks after controlling for world-wide bank size. This "bank size" is calculated by summing up the total assets of a bank from all of its branches the world over (data source: BankScope). "Big" is a dummy variable that is 1 if the bank belongs to the top half of the "bank size" distribution. Size is coded 1 through 5, representing the five borrower-size classifications shown in Table II; Location is coded 1 through 3, representing the city size of the borrower as in Table II; Foreign Firm is a dummy for whether the borrower is a multinational; 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. Panel B reports differences between the three types of banks in their recovery and litigation rates after controlling for bank size as in Panel A above. The omitted category in Panel B is Asian foreign banks. Regressions in Panel B include 5 loan-type dummies, 5 borrower size dummies, a dummy for whether the borrower is a foreign firm, a 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 data cover the period April 2001–April 2002. Both panels report standard errors in parentheses clustered at the bank level (90 banks in all).

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

	Size (1)	Location (2)	Foreign Firm (3)	Group Size (4)	No. of Creditors (5)	Loan-Type (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)
Non-Asian 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

	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)
Non-Asian 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^2	0.20	0.25	0.22	0.13

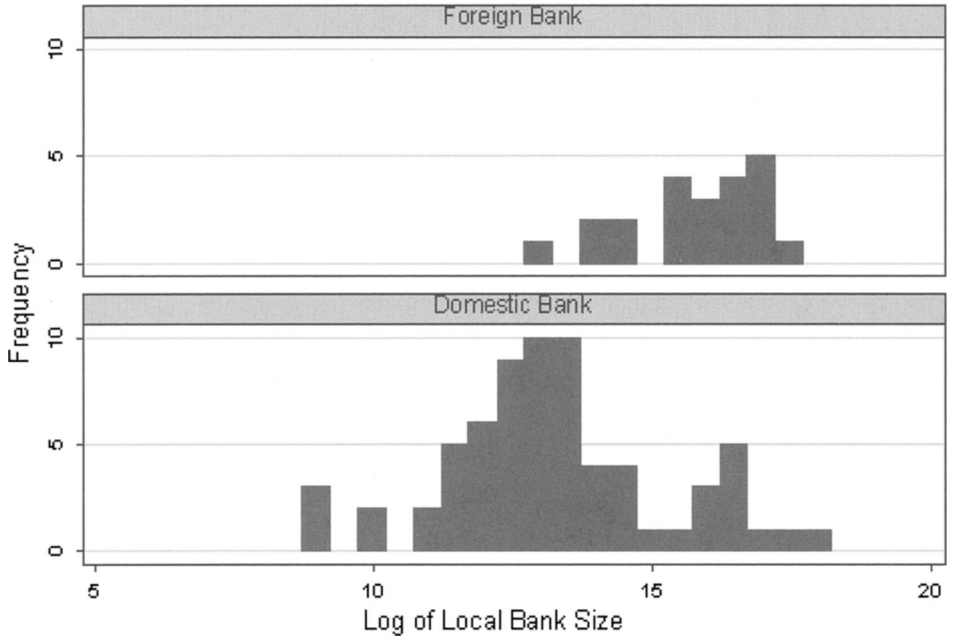

Figure 4a. Distribution of local bank size. The top panel draws the frequency histogram for the distribution of foreign banks by their local bank size. Bank size is defined as the total asset for a bank's operations in Pakistan. The lower panel does the same for domestic banks.

for whether the bank is above median in size, and it interacts this dummy with the log of size. Since all 45 below-median banks in the global size definition are domestic, Table VIII separately compares the 22 foreign banks with the 23 largest 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 the log of size should be 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 deals with differences in legal and regulatory framework, or institutional distance, between Pakistani and foreign banks' countries of origin. Such differences could make it difficult for the foreign bank to adapt to local banking practices. Consequently, foreign banks may rely only 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,

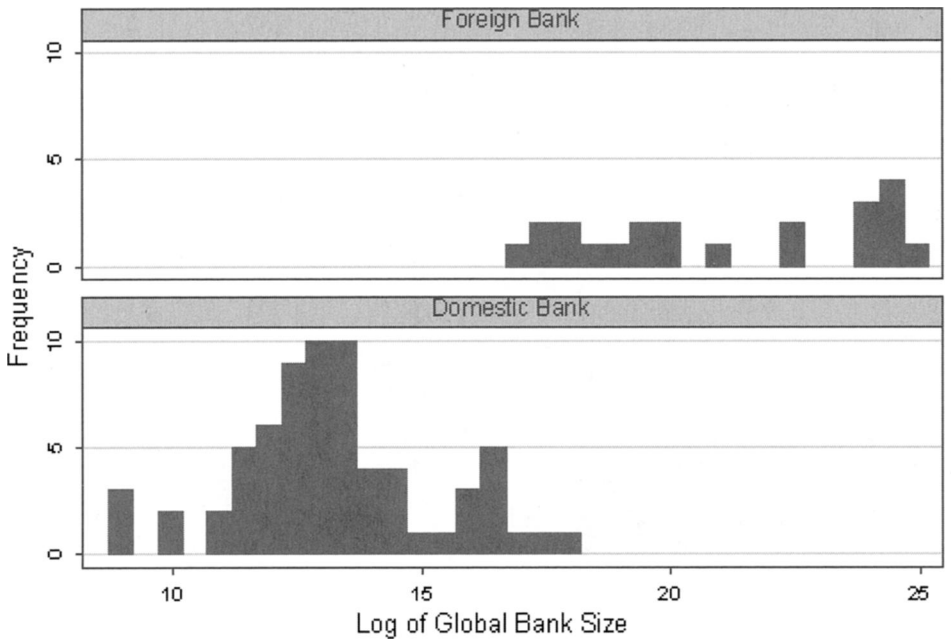

Figure 4b. Distribution of global bank size. The top panel draws the frequency histogram for the distribution of foreign banks by their global bank size. Global bank size is defined as the total assets for a bank's world-wide operations (data source: BankScope). The lower panel does the same for domestic banks.

which equals zero if the foreign bank's legal origin is the same as Pakistan (i.e., British) and one otherwise; (ii) Regulatory Distance, which 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); and (iii) Income Distance, which measures the log of the 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 the 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 should 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 explain why more geographically or culturally distant foreign banks lend less to soft information firms and are less successful at relational lending? Since foreign banks were allowed to operate

[16] Results not reported but available on request.

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, 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 opposite direction. Since foreign banks have been operating 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, 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 the 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 only considers theories based on distant constraints to explain differences between foreign and domestic banks. However, as Section I explains, risk preferences, or differences in evaluating risk between foreign and domestic banks, can also lead to differences in the 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 cannot be explained by theories based on risk preferences. In any event, I now present tests of the risk preference hypotheses.

A. Are Domestic Bank Loans of Poorer Quality?

Under the risk preferences view, domestic banks should 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 extended 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 the case of default. In particular, the return (R_j) from a typical loan of bank j is given by

$$(1 + R_j) = (1 - \delta_j)(1 + \rho_j) + \delta_j q_j, \tag{4}$$

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

While the data set does not contain interest rate information at the loan level, I have the average weighted interest rate for each bank branch and 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 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 percentages of 10.2% and 20.4%, and interest rates of 10.75% and 12.75%, respectively. Plugging 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 reject theories such as the risk preferences theory, which suggests domestic banks lend to soft information firms not because of any informational advantage but because of the poor quality of these loans. We see 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 lending due to the rolling over of these loans or evergreening. Thus, while on books such loans may appear to be performing, in actuality they are being used for looting and related lending. To test for such concerns, I 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 rates does not give an accurate picture of firm performance due to concerns of practices such as

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

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 firm's 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 come from.[18]

Using the export data I construct three different measures of real firm performance namely, whether the firm is an exporter, 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 whether 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.

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, Lopez-de Silanes, and Guillermo (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 himself, or his siblings/children/parent/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 extended to "related" firms, compared to 20% in Mexico. Moreover, there is no significant difference in the default rate of related versus unrelated loans. The results therefore show that unlike Mexican domestic banks related lending is not a concern in the data set here.[19]

The negative results regarding the poorer quality of domestic banks loans, lower productivity of domestic banks' clients, and related lending all reject

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

[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.

Table IX

Are Foreign Bank Borrowers Better Quality Firms?

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

	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^2	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

theories based on risk preferences as a possible explanation of our results in Section IV.

VII. How Important Are Distance Constraints?

This paper shows that communication and agency costs related to cultural and geographical distance make it difficult for foreign banks to lend to profitable soft information firms that require close monitoring. Consequently, foreign banks shy away from relationship contracts, leading to less successful bilateral renegotiations in the 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 would 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 because one does not observe the counterfactual scenario of local private banks disappearing.

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

points 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 that 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 toward the end of 1996. However, despite the rapid expansion in branch network of private domestic banks in the early 1990s, there is still sufficient new branch entry during my sample period to perform the tests above.

Table X 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 exended 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 X shows no evidence of "switching" of soft information firms toward domestic banks.

First, Panel A shows that 78.2% of loans by new domestic bank branches were given to first-time borrowers, that is those borrowers that had no other access to credit prior to borrowing from domestic banks. Only 6.3% of new branch loans were extended 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.

[20] Before 1990 the alternative was government banks. However, related work on government banks shows that government banks were extremely inefficient when lending to these soft information firms. Instead of providing credit to 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.

Table X

Lending Composition of New Bank Branches Opened after 1996

Data in Panels A and B are restricted to loans given out by "new" bank branches during the sample period. These are branches that were opened during the period June 1996 to April 2002. Panel B reports differences in lending composition between domestic, Asian foreign, and non-Asian foreign banks. Size is coded 1 through 5, representing the five borrower-size classifications shown in Table II; Location is coded 1 through 3, representing the city size of the borrower as in Table II; Foreign Firm is a dummy for whether the borrower is a multinational; 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. Standard errors in parentheses are clustered at the bank level (90 banks in all).

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 Loans	No. of Loans	Percentage 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)
Non-Asian 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.

Second, Panel B shows that the loans given out by new domestic bank branches are soft in nature, both in comparison to overall domestic bank loans in Table III, and in comparison to new branch loans by Asian and non-Asian foreign banks. The evidence in Table X thus shows that the entry of new private domestic bank branches gives credit access to soft information firms that had never been able to obtain 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 total banking assets, or 35% of 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 shows 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 of 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, the introduction of foreign banks in a poor country can be a good step toward 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.

An additonal message to take away from this paper is that domestic private banking can work even under a less than perfect legal and regulatory environment. As a number of tests show, 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 regress 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 toward larger 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 backgrounds (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.

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