DO LENDERS FAVOR POLITICALLY CONNECTED FIRMS?

RENT PROVISION IN AN EMERGING FINANCIAL MARKET

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April 2005

Abstract

Corruption by the politically connected is often blamed for economic ills, particularly in less developed economies. Using a loan-level data set of more than 90,000 firms that represents the universe of corporate lending in Pakistan between 1996 and 2002, we investigate rents to politically connected firms in banking. Classifying a firm as "political" if its director participates in an election, we examine the extent, nature, and economic costs of political rent provision. We find that political firms borrow 45 percent more and have 50 percent higher default rates. Such preferential treatment occurs exclusively in government banks - private banks provide no political favors. Using firm fixed effects and exploiting variation for the same firm across lenders or over time allows for cleaner identification of the political preference result. We also find that political rents increase with the strength of the firm's politician and whether he or his party is in power, and fall with the degree of electoral participation in his constituency. We provide direct evidence against alternative explanations such as socially motivated lending by government banks to politicians. The economy wide costs of the rents identified are estimated to be 0.3 to 1.9 percent of GDP every year.

I. Introduction

Rent-seeking and corruption are thought to be pervasive around the world, and there is increasing recognition that they impose substantial economic costs. Yet, despite a rich theoretical literature[1] there is limited empirical work. While cross country studies are useful in relating subjective measures of corruption to poor economic outcomes, they do not identify the presence of, or channels through which corruption and rent provision occurs.

This paper uses a unique loan level data set from Pakistan to establish the presence of political rents in banking, identify the means of rent provision focusing on the role of the public sector, and estimate the economy wide costs this imposes. The scope and depth of the data used in this study provides several advantages. First, instead of relying on subjective proxies, we have direct measures of a firm's political connections, defined as the firm having a politician on its board. We can therefore test at the individual firm level if political status obtains preferential lending. Second, by using firm fixed-effects and hence only exploiting variation within the *same* firm over time or across lenders, we can account for unobserved firm specific factors that do not vary over time or across lender types. This allows cleaner identification of the impact of political status on rent provision. Third, using measures of political strength and electoral participation, we can examine the extent to which rents are affected by the local political environment. Finally, given we have the universe of corporate lending in the country, we can use our micro-level estimates to back out tentative economy-wide costs of political corruption.

Our results show that politically connected firms receive substantial preferential treatment. Not only do such firms receive 45 percent larger loans, but they also have 50 percent higher default rates on these loans. Moreover, this preferential treatment is entirely driven by loans from government banks. Private banks show no such political bias.

The preferential treatment to politically connected firms is not just a result of government banks selecting firms with worse default rates. Using firm fixed effects and hence exploiting only variation within the *same* firm borrowing from *both* government and private banks, we find that government banks differentially favor politically connected firms by providing them greater access to credit. This preferential access is even higher for politically connected firms that are bigger and have a higher propensity to default.

We also find that the local political environment matters: Firms with "stronger" politicians

[1] For example, Krueger [1974], Rose-Ackerman [1978], Shleifer and Vishny [1993, 1994], Banerjee [1997], Bliss and Di Tella [1997], Ades and Di Tella [1999], and Acemoglu and Verdier [2000].

on their boards — as measured by votes obtained, electoral success of the politician or political party — obtain even greater preferential access to credit from government banks. Also firms whose politicians run from constituencies with greater voter turnout receive lower preferential treatment, hinting at checks imposed by electoral participation and political accountability.

The same politically connected firm also receives greater preferential treatment from government banks when either its politician or his political party wins. Taking advantage of the time dimension of our data, we use firm and quarter level fixed-effects to show that as a politician goes from losing to winning an election, the firm he is affiliated with receives (even) greater access to credit from government banks. We find a similar effect if the politician's political party wins the elections. Both winning or being in the winning party increase preferential treatment, suggesting that our findings indeed reflect the exercise of political power.

These results offer a particular mechanism of political rent seeking consistent with the institutional environment of Pakistan's banking and political system. Politically powerful firms obtain rents from government banks by exercising their political influence on bank employees. The more powerful and successful a politician is, the greater is his ability to influence government banks. This influence stems from the organizational design of government banks that enables politicians to threaten bank officers with transfers and removals, or reward them with appointments and promotions. Government banks survive such high levels of corruption because of the soft-budget constraints that often characterize state institutions [Kornai 1979, 1986].

We argue that our results provide evidence of political corruption and present evidence against alternative interpretations. One such alternative is "social lending" under which government banks lend to socially efficient but high risk projects, and firms with politicians on their boards undertake such socially efficient projects. While it is unlikely that social lending by the government will be carried out through loans to *private* firms (our results exclude loans to government firms), we nevertheless present direct evidence against the social lending view: When we distinguish between government banks that have an explicit social objective[2] versus those meant to run on pure financial profitability, the political preference results *only* appear within the latter "non-social" government banks. Social government banks, while facing high overall defaults, display no political bias whatsoever. Similarly, the preferential treatment by government banks remains as strong when we examine firms located in a completely different state from their politician's constituency. Such distant firms are unlikely to generate legitimate social value for the politician's constituents.

[2] Examples include banks set up for small and medium enterprises, women's welfare, and agricultural development.

Since our data forms the *universe* of corporate lending in Pakistan, we can use our estimates to provide a sense of economy wide costs imposed by these political rents. While there are a variety of costs, we will only focus on the two for which we can provide estimates. First, as a lower bound, the defaulted amounts due to corrupt lending can be thought of as transfer payments from tax payers. The dead weight loss from this is estimated between 0.15-0.30 percent of GDP each year. Second, there is an additional direct cost of such lending if the money is poorly invested or not invested at all. The evidence supports this as we find politically connected firms borrowing from government banks have relatively poor *real* output and productivity. Given the market to book value of investment in Pakistan, we estimate that an additional 1.6 percent of GDP is lost each year due to such investment distortions from corrupt lending.

Our paper broadly relates to the empirical literature on corruption and more specifically, to the role of political actors and state owned institutions in earning and providing such rents in financial markets. Cross country or cross region studies such as Mauro [1995, 1997], Keefer and Knack [1996], Hall and Jones [1999], La Porta et. al. [1999], and Glaeser and Saks [2004] study the impact of corruption on aggregate outcomes such as growth and investment rates. Sapienza [2003], Dinc [2004], and Cole [2004] exploit variation across countries or regions within a country and, like our paper, identify how political favors arise through government banks, either in the form of cheaper lending in politically preferred regions or increased lending in election years. Studies such as Fisman [2001], Johnson and Mitton [2003], and Faccio [2004] share our focus in identifying connections between politicians and individual firms and how these connections increase firm value.

Our study both complements and adds to these literatures. Since we link a firm to a politician and directly observe measures of preferential treatment to the firm, we can identify both the precise level, and specific manner in which rents are provided. Moreover, this level of disaggregation enables us to exploit variation for the same firm across lenders and over time, providing cleaner estimates of these rents. Our results also highlight the role of state institutions in providing political rents but, in addition, suggest that these rents may be checked by political competition and electoral participation. Finally, since we have the universe of corporate loans we can provide suggestive estimates on some of the significant costs these rents impose on the economy.

The paper is organized as follows. Section II outlines the institutional environment with a focus on political rents. Section III describes the data and methodology. Sections IV-VI present the main results. Section VII provides evidence against alternate explanations such as social lending. Section VIII estimates the economy-wide costs of rent provision and Section IX concludes.

II. Politics and Lending: The Institutional Environment

A. Politicians and Corruption in Pakistan

Politics in Pakistan has been closely linked to clientelism, rent-seeking and corruption. These factors are often cited as the main problems facing the Pakistani economy. *Transparency International,* an international non-government organization that ranks countries on corruption based on survey data from businesses, has consistently ranked Pakistan very high on their corruption index.

Political events in Pakistan also show a repeated pattern of alleged political corruption leading to political instability. During the past decade and a half, no elected government has completed its five-year tenure, with four prime ministers and their assemblies dissolved by presidents or army generals on accusations of "maladministration, corruption, and nepotism". Pakistan is therefore a good candidate to study the nature and consequences of political corruption.

B. A Mechanism for Political Rents

How is political corruption carried out? The National Accountability Bureau (NAB), setup in 2000 with the purpose of prosecuting those involved in large scale corruption, states that "in terms of the amount of corrupt money changing hands, taxation departments, *state-owned banks and development finance institutions*, power sector utilities, and civil works departments probably account for the lion's share".[3] *The Guardian,* a British newspaper, reports on the link between politics, corruption and banking in Pakistan:

> "Pakistan's state bank ... moved to freeze the accounts of thousands of politicians... The move is seen as the start of a crackdown on the endemic corruption in Pakistan's political system .... military officials have asked banks to provide lists of anyone who has defaulted on a loan from a state bank — a notorious way of amassing funds by politicians of all parties."(October 16th, 1999)

The above quote suggests that one of the means to obtain rents is through the banking sector, with politically connected firms "willfully defaulting on (government bank) loans that are accumulated with the intention of not being returned."[4]

Why are government banks more likely to be the source of political rents? First, they are simply the more dominant domestic player in the banking sector. While financial reforms in 1991 led to a

[3] Quoted from www.nab.gov.pk, June 17th, 2004. Emphasis added.
[4] National Accountability Bureau report on corruption, December 2000.

sharp growth in the private sector, the role of the public sector has remained important constituting 64 percent of domestic lending during our sample period. Second, soft budget constraints — a feature prevalent in government organizations all over the world [Kornai 1979, 1986] — lower the cost of capital for government banks and allows them to remain solvent despite high levels of default. Private banks face harder budget constraints making rent provision more difficult to sustain.

Finally, given the organizational structure of government banks, their lending decisions are particularly prone to political pressures.[5] The Banks Act of 1974 explicitly states that the top hierarchy of government banks — chairman, president and board members — is to be appointed by the government. The same Act states that the board "determin(es) the credit ... (and) personnel policies of the bank, including appointment and removal of officers and employees .. (and) guidelines for entering into any compromise with borrowers and other customers of the bank." In the published words of the current governor of the central bank:

> "The recruitment, postings and transfers in all government ministries, departments and corporations are largely made either in exchange of outright pecuniary favours or on purely political considerations ... (with) functionaries who are always trying to please their bosses or political masters"[6]

Thus the politically appointed top tier bank management not only influences the actions of bank officers through a system of rewards (promotions, sought after assignments) and punishments (disciplinary action, transfers), but can also play a direct role in how, for example, defaulters are to be dealt with.

Politically connected firms are therefore likely have an advantage over others seeking rents, as they can use their political influence in lieu of monetary bribes which in turn may have larger private costs.[7] However, such political influence is not unbounded. For example, a loan officer may only be willing to expose a certain fraction of his portfolio to political pressures so as not to raise suspicion and enquiry. Similarly, prudential regulations prevent banks from over-exposure to a single borrower. Perhaps more importantly, political favors and pressures may act like "gift exchanges" and politicians will be limited in how much and often they can call a friend for favors.

[5] All banks, government and private alike, face the same regulatory environment which is in-line with international banking practices (Basel accord). Moreover, all banks have access to the same centralized credit information bureau (CIB) database that provides information on each borrower's credit history.

[6] Dr. Ishrat Hussain. "Six Tentacles of Corruption", published in the *Dawn*, a Pakistani newspaper, on November 21, 1998.

[7] Non-monetary bribes are not the exclusive domain of politicians and other actors such as the army and bureaucrats may also wield similar influence. While links to these actors are not the focus of this paper, their presence in the data only makes our estimates of political rents a *lower* bound of the true rents.

While the mechanism for political rents presented here is stylized, its broad patterns are likely to hold in Pakistan and other countries where state organizations face soft budget constraints and political actors exercise influence on such organizations. We make use of this mechanism to develop our empirical specifications and methodology and generate further testable implications.

III. Data and Methodology

A. Data

We use two primary data sets. The first has detailed loan level information for every corporate loan made in Pakistan from 1996 to 2002, while the second has electoral outcomes for the two elections that overlap the loan data period.

The loan-level data is unique both in terms of coverage and detail. It provides quarterly information on *the entire universe* of corporate loans outstanding in Pakistan during a 7 year period from 1996-2002. The data is part of the Credit Information Bureau (CIB) database at the State Bank of Pakistan (SBP) which supervises and regulates all banking activity in the country. The CIB data provides each borrower's credit position by lender and quarter. This includes the amount of the loan outstanding by loan type (fixed, working capital, etc.), default amounts, and any litigation, write-offs or recoveries against the loans. In addition, we have information on the name, location and directorship of the borrowing firms and lending banks allowing us to construct borrower and bank level attributes.

In terms of data quality, our personal examination of the collection and compilation procedures, as well as consistency checks on the data suggest that it is of very good quality. CIB was part of a large effort by the central bank to setup a reliable information sharing resource that all banks could access. Perhaps the most credible signal of data quality is the fact that all banks refer to information in CIB on a daily basis to verify the credit history of prospective borrowers. For example, we checked with one of the largest and most profitable private banks in Pakistan and found that they use CIB information about prospective borrowers explicitly in their internal credit scoring models. We also ran several internal consistency tests on the data such as aggregation checks, and found the data to be of high quality. As a random check, we also showed the data from a particular branch of a bank to that branch's loan officer who confirmed the authenticity of the data related to his portfolio.

Given that the loan data covers 1996-2002, there are two relevant national and state elections

for this paper — general elections held in 1993 and 1997. We have information on the names and party affiliations for all candidates in these elections including the winner, the number of votes each received and the total number of registered voters in each constituency. There were around 200 national and 450 state constituencies in each election, with 6-9 candidates per constituency and a total of over 8,500 candidates in both election years.

B. Matching Politicians to Firms

The CIB data includes names and addresses of all directors of a borrowing firm. Since almost all firms are private and closely held, firm directors are typically one of the main owners of the firm. We then use election data to identify firms which have a politician on their board of directors — henceforth referred to as "politically connected" firms. A politician is defined as any individual who stood in the national or provincial elections. Later on we will also distinguish between whether the politician holds office or not.[8]

A politician is matched to a firm director, if their full (first, middle and last) names match exactly. Given this literal matching on names, we can have both types of errors — (i) incorrect exclusion (Type I), and (ii) false inclusion (Type II). Type I errors arise when a firm is politically connected but our algorithm is unable to match this firm's directors to a name in the election data-base. For example, firms that are politically connected because their director is related to or has close links with a politician will not be matched. Type II errors occur when our algorithm matches a firm to a politician but the match is incorrect.[9] Given this explanatory variable is binary (i.e. a firm is politically connected or not), the classification error is not classical in that it is correlated with the true value and may not have 0 mean (i.e. we may under-match more if firms are politically connected through indirect means). Nevertheless, one can show that this non-classical measurement error still produces a lower estimate of the true effect [Aigner, 1973].[10] Thus given the measurement error in matching politicians to firms, our estimates of political corruption are likely

[8] We define a politician as someone who ran in an election since the institutional setting in pakistan suggests that it is entry into the political network, and not just whether the individual won the election, that matters. Our subsequent empirical results also bear this out when we separately consider the impact of winning an election from just being a politician.

[9] Type I match failures could also be due to different spellings of names (since the data is in english there are often non-unique spellings of the names). Our algorithm tries to minimize this error by ignoring titles and allowing for common spelling variants. Similarly, as different people may share the same name, Type II errors are also possible. However, since we match on the politician's first, middle (whenever present), *and* last name before classifying a loan as political, such errors are minimized.

[10] Suppose that politically connectedness (P) is measured with error u ($P = P^* + u$; where P^* is the true classification and $u = -1, 0, 1$ is the error) which is uncorrelated with any controls and the error term in the true specification. Then one can show that $plim\ \widehat{\beta}_{OLS} = \beta(1 - \frac{Cov(P,u|controls)}{Var(P|controls)}) < \beta$ where β is the true coefficient.

to be *underestimates* of the true effect. One may also be concerned that our measure is correlated with attributes of the firm such as the number of directors a firm has since having more directors may increase the chances of matching. However, our results remain robust to including dummy variables for the number of directors in a firm and more generally, to including firm fixed effects.

Since directors in our data almost always reflect one of the primary owners of the firm, politically connected firms should be interpreted as firms that are (partly) owned by a politician with ownership retained over time (e.g. we see little director turnover for a firm over time). As such, the question of when and which types of firms choose to select politicians on their boards is not as relevant in our context. Moreover, our empirical results will primarily use comparisons within a given firm (across different banks or over time) and we are therefore less concerned that our findings are driven by comparing across different types of firms.

C. Summary Statistics

Table I presents summary statistics for the variables of interest for the CIB loan data-base and the matched election data. Since we are interested in analyzing whether *domestic* lenders show preferential treatment to *private* politically connected firms, we exclude loans by foreign banks and loans to all government firms.[11] This leaves us with a panel of 68 private domestic and 23 government banks lending to 93,316 unique firms during the 25 quarters in our data period.[12] The loans are all corporate or business-related loans. While there are fewer government banks in the data, they constitute about 64 percent of overall lending.

As most of our tests exploit cross-sectional variation, we collapse the time component of our panel by "cross-sectionalizing" the data at the firm-bank-level. We do this to avoid issues of auto-correlation over time for a given loan and thus get conservative standard errors. Cross-sectionalizing the data involves converting all values into real 1995 rupees (Rs.) and then taking the time average of each loan, where a "loan" is identified by the borrowing firm and its corresponding bank. The cross-sectionalized data has 112,685 observations or loans. This number is greater than the number of unique firms (93,316) as some firms borrow from more than one bank.

Panel A of Table I gives summary statistics for the loan level variables. These include amount

[11] Including foreign banks does not change our results as they behave similarly to private domestic banks i.e. display no political bias. Including lending to government firms, which are backed by government guarantees, may confound the analysis since any preferential treatment they receive is unlikely to reflect private rents and moreover, government banks may treat such firms differently due to their state ownership.

[12] The data set is not a complete panel. The number of loans in any given quarter ranges from 22,361 in the beginning of the sample to 54,554 towards the end, reflecting an overall increase in lending.

of loan outstanding, rate of default, and the fraction of loan recovered in case of default. Since these data show the *stock* of outstanding loans and defaulted amounts they also reflect lending activity prior to our data period and as such our results, especially on default, should not be construed as driven solely by behavior in the mid to late 90s but also in earlier periods. While we do not have interest rate at the loan-level, we are able to proxy this using another data-source that contains interest rate information at the bank-branch and loan size category level. For each bank branch we know the average interest rate charged on loans for 40 loan size categories. Using this procedure a total of 7,518 bank-branch and size-category observations map into 89,223 loans. We cannot match to all of the 112,685 loans since some bank-branches do not report interest rate information. Using the information above, we can construct the rate of return on a given loan from the bank's perspective. This unit return (η_{ij}), representing earnings of the bank per rupee lent, is given by the following accounting identity:

$$\eta_{ij} \equiv (1 + r_{ij})(1 - \delta_{ij}) + \delta_{ij} * \rho_{ij} \tag{1}$$

where r_{ij} is the time-averaged interest rate for a loan borrowed by firm i from bank j, δ_{ij} is the time-averaged default rate of the loan, and ρ_{ij} is the recovery rate for loans in case of default. The recovery rate is computed by aggregating all recoveries (against the defaulted principal and interest due) made by bank j from firm i till the end of our sample period.

Given the skewed loan size distribution, there might be a concern that the summary statistics are driven by economically insignificant small loans. For this reason we also report default rate weighted by loan size. The mean loan size is Rs. 6.7 million, while the mean default rate is 16.9 percent. Banks recover on average 8.6% of default. Panel A also shows the distribution of loans by the type of loan. A loan is classified into one of four different types: fixed (long term), working capital (short term), letter of credit, and guarantees.

Panel B gives various borrowing firm attributes. The main attribute is whether a firm is politically connected. The table shows that while 23 percent of firms are politically connected they receive 37 percent of overall lending. Panel B also presents other firm attributes which will be important to condition on when analyzing whether politically connected firms are treated differently. These variables are the size of a borrowing firm, it's location, whether it is a foreign firm, whether it belongs to a business group and how many creditors it has. They are described in more detail in Appendix I.

Panel C uses the matched election data to construct various measures of a politician's strength. Win and $WinParty$ are the percentage of times a politician or his political party wins. *Percentage Votes* is the percentage of total votes a politician obtains and $Victory\ M\arg in$ is the difference in percentage votes between the winner and runner up in case the politician won (and 0 otherwise) and *Electoral Participation* is the percentage of registered votes cast in the politician's constituency. Since we have two elections and politicians can run in multiple constituencies, these measures are the average over a politician's individual measures in each election and constituency. We report these statistics for politicians that were matched to the CIB loan data.[13]

D. Methodology

The mechanism described in section II suggests that politically connected firms obtain rents from banks in the form of preferential lending. We examine preference along two margins - access to credit and the effective price of a loan. Credit access is measured by the amount a firm is able to borrow (logarithm of loan size) , a substantial benefit in a credit constrained economy.[14] The effective loan price is measured as the payments per rupee borrowed that a firm makes (the loan rate of return η_{ij}), as determined by the interest, default and recovery rates on the loan.

The basic empirical specification employed to test for political preference uses the cross-sectionalized data. For firm i borrowing from bank j we use OLS to estimate:

$$Y_{ij} = \alpha_j + \beta_1.Political_i + \gamma_1.\mathbf{X}_i + \gamma_2.\mathbf{X}_{ij} + \varepsilon_{ij} \tag{2}$$

where Y_{ij} is one of the measures of preferential treatment mentioned above and $Political_i$ is an indicator variable for whether a firm is politically connected. $\mathbf{X}_i$ are firm level controls such as firm location, industry, and size, $\mathbf{X}_{ij}$ is a loan type (working capital, fixed investment) control and α_j is a bank fixed effect. The controls $\mathbf{X}_i$, and $\mathbf{X}_{ij}$ are introduced non-parametrically: We include fixed effects for firm size (5 categories), the number of creditors the firm has (8 categories from 1 to greater than 7), a firm's group size (3 categories), city (134 cities) and industry (21 categories), and the loan type (5 categories). This results in a total of 268 dummy variables (including the 91 bank dummies). β_1 in (2) is our coefficient of interest that captures the preferential treatment a

[13] These summary statistics are similar to those for unmatched politicians suggesting that our matching process did not introduce any selection effects.

[14] Another measure of credit access is whether a firm that applied for a loan received one. Since our data only includes firms that receive loans, we can only measure access in terms of how much a firm is lent to, conditional on receiving a loan.

politically connected firm receives, and henceforth shall be referred to as the political preference effect.

As our unit of analysis is a loan (i.e. firm-bank pair) there may be a concern that the results are driven by the majority of loans which are small in size. Since we are interested in economically significant differences, all regressions (except where loan size is the dependent variable) are weighted by loan size. For example, when default rate is the dependent variable we can interpret β_1 as the additional default by politicians *per dollar* of borrowed amount. Standard errors are clustered at the bank level.

While (2) includes an extensive set of firm-attribute fixed effects and bank fixed effects, a remaining identification concern is that β_1 may still be a biased estimate of political preference due to omitted firm level variables correlated with a firm's political status that affect the loan amount or price i.e. $Political_i$ is correlated with unobserved firm attributes in the error term (γ_i, where $\varepsilon_{ij} = \gamma_i + \nu_{ij}$). For example, more "influential" firms may attract politicians as board members and also use their influence to obtain preferential lending. To the extent that we cannot observe and control for firm influence in (2), β_1 will be an overestimate of the political preference effect.

Given these concerns, a more convincing estimation strategy would be to include firm fixed effects in (2) to account for all time-invariant firm attributes that have a similar (level) affect on a firm's borrowing from all banks i.e. the firm fixed effect absorbs firm-specific unobservables (γ_i) that enter additively in (2). While including firm fixed effects is not possible in (2) because the fixed effect absorbs our attribute of interest — whether a firm is politically connected or not — there are two ways we can proceed. The first is to define a time-varying measure of political connectedness and use the panel form of our data to exploit variation over time for a given firm. While we will use and describe this approach later, the political rent mechanism outlined earlier suggests that another promising direction, which allows us to retain our original measure of political connectedness, is to exploit differences across lenders, particularly private versus government banks, for a given firm.

We use the following specification to test whether the *same* firm receives (greater) preferential treatment if it is politically connected when it borrows from a government compared to a private bank:

$$Y_{ij} = \alpha_i + \alpha_j + \beta_1.Political_i * GOV_j + \gamma_1.\mathbf{X}_{ij} + \gamma_2.\mathbf{X}_{ij} * GOV_j + \varepsilon_{ij} \tag{3}$$

where in addition to the variables in (2), α_i is a firm fixed effect and GOV_j is an indicator variable for whether the lender is a government bank or not. Our coefficient of interest, β_1, is

the "differences-in-differences" estimate of political preference. β_1 captures the extent to which a politically connected firm receives preferential lending from a government bank as compared to a private bank.[15] In running specification (3) we restrict the data to firms that borrow from both types of banks.[16] The difference-in-difference estimate provides cleaner estimates of the political preference effect and removes the identification concerns mentioned above. The inclusion of both bank and firm fixed effects ensures that our results are not driven by level differences that may arise when comparing across different banks or different firms. For example, bank characteristics such as government banks making larger loans than private banks are captured by the bank fixed effects. Similarly, firm attributes such as political firms having greater loan demand, or different risk classes are subsumed in the firm fixed effects. However, we acknowledge that firm fixed effects do not eliminate biases that may arise from firm level unobservables that vary over time or across lenders.

In addition to estimating (3) we also run related specifications where we examine whether the relative political preference displayed by government banks differs across different types of firms where firm type is measured by characteristics such as its political strength. Such effects will be introduced as triple interaction terms in (3) i.e. the $Political_i * GOV_j$ term will be interacted with these firm-specific attributes.

Finally, as mentioned above, another strategy to exploit differences within the same firm is to use a time-varying measure of political connectedness and then introduce firm fixed effects in the panel version of the data. We do so by considering changes a firm experiences when its politician or politician's political party wins or loses an election. We use the following specification in the subset of politically connected firms that experience such a change:[17]

$$Y_{ijt} = \alpha_{ij} + \alpha_t + \beta_1.WIN_{it} * GOV_j + \beta_2.WIN_{it} + \varepsilon_{ijt} \tag{4}$$

[15] When we examine preferential treatment in terms of loan size we aggregate our observations at the firm X *bank-type* level. In particular we aggregate to firm i and *bank-type* $\bar{j}$ (government or private) since we want to compare how much (more) a politically connected firm is able to borrow from *all* government banks compared to *all* private banks. Therefore instead of (3) we run:

$$Log(Loan\ \text{Si}\,ze_{i\bar{j}}) = \alpha_i + \beta_1.POL_i * GOV_{\bar{j}} + \beta_2 GOV_{\bar{j}} + \varepsilon_{i\bar{j}}$$

where $\bar{j}$ is the bank type index (either government or private bank).

[16] We restrict to firms that borrow at least 1% of their lending from each type of bank. Firms that borrow from a single bank-type are not included as they do not directly affect our coefficient of interest, β_1.

[17] Once again with loan size as the dependent vaiable for each firm in a given quarter we aggregate the data at bank-*type* (government or private) level:

$$Log(Loan\ \text{Si}\,ze_{i\bar{j}t}) = \alpha_{i\bar{j}} + \beta_1.WIN_{it} * GOV_{\bar{j}} + \beta_2.WIN_{it} + \varepsilon_{i\bar{j}t}$$

where the variables are as before and the additional subscript t specifies the quarter. α_{ij} are bank-lender (i.e. loan-level) fixed effects, WIN_{it} is an indicator for whether the firm's politician holds office during quarter t or not. When we examine changes in electoral success for the politician's political party we use a similar indicator for whether the politician's political party wins or not, $WIN\text{-}Party_{it}$. The double-difference estimate B_1, captures any (additional) lending preference a politically connected firm receives from a government relative to private bank, when it's politician or his political party wins. The bank-lender fixed effects imply that this change is for the *same* loan (i.e. firm-bank pair) over time.

IV. Results - Preferential Treatment for Politically Connected Firms

Table II shows the results of estimating (2) for both margins of preference - loan access and price. The regressions non-parametrically control for firm and loan characteristics by introducing firm attribute, bank and loan type dummies.

Column (1) presents evidence for political preference in terms of credit usage: Loans to politically connected firms are 45% as large as those to unconnected firms. (difference in logs is 0.37). Concerns that this result is biased due to unobserved firm heterogeneity are lessened by the inclusion of firm level controls.[18] Moreover, this will be addressed further in subsequent specifications that allow the inclusion of firm-fixed effects.

Columns (2)-(5) show that in addition to better access, politically connected firms also face significantly lower "prices" on their loans: Column (2) shows the rate of return on political loans is 6 percentage points lower and is robust to the inclusion of bank fixed effects and firm attribute fixed effects. The difference is both statistically and economically significant.

A break down of loan rate of return into its three components specified in (1) in Columns (3)-(5) shows that preferential treatment is driven primarily by the higher default rates that the politically connected firms enjoy. Politically connected firms default 6.2 percentage points more

[18] Comparing politically connected and unconnected firms shows that the former tend to be located in slightly smaller cities, and belong to slightly larger business groups. There are sectoral differences in politically connected borrowing, with political loans more likely in sectors such as Textiles. Politically connected firms also get relatively more fixed investment (as compared to working capital) loans. These results were included in a previous verion and are available upon request. Since these differences may reflect differences in underlying attributes of politically connected firms, we condition on them in our empirical specifications. These differences hint at rent provision if longer-term loans or loans in certain sectors are easier to default on. We will return to these issues towards the end.

than unconnected ones.[19] On a base default rate of 14.8 percent, this implies that the politically connected default 42 percent more. In contrast to default rates, Columns (4) and (5) show little difference between politically connected and unconnected firms in the recovery rates on defaulted loans and the interest rates charged.

How do rent-seekers avoid recovery on collateralized loans? The Pakistani setting suggests a couple of answers. First, litigation is a long drawn process. Recovering default is not an easy task even for government banks, especially if courts are also subject to political influence. Second, anecdotal evidence suggests that collateral is often over-valued. A common way to create over-valued collateral is through over-invoicing by importing defunct machinery at inflated prices. The political borrower's influence ensures that such overvalued collateral is accepted. Thus when the firm does default a few years later, preventing recovery or seizure of capital is of little concern.

The results in Table II suggest that politically connected firms receive preferential treatment on two accounts: They are able to borrow larger amounts and their default rates are higher. For the remainder of the paper we will focus on both these margins of preferential treatment, i.e. receiving larger loans and defaulting more on each rupee lent. For the latter margin we use default rate instead of the loan return measure because the differences in loan return are entirely driven by differences in default rates and the loan return measure uses interest rate data that is not available for the full data.

We interpret the existence of the political preference effect as evidence of corruption in the form of rents provided to the politically connected. However, the specification presented so far raises plausible concerns regarding both the empirical identification of political preference and in interpreting it as evidence of corruption. In the following sections we present evidence that improves identification and supports our interpretation.

V. Results - Political Rents and Government Banks

Since government banks are more susceptible to political coercion due to their organizational design we expect them to provide greater rents to politically connected firms. We examine whether this is the case for the two measures of preferential treatment, default rate and access to credit.

[19] As we will see later on, since larger political loans are even more likely to default, the unweighted difference in default between political and non-political loans is lower at 3.3% (but still significant at 1% level)

A. Default rate:

Columns (1) through (5) in Table III show that the higher default rates that politically connected firms enjoy arise *entirely* due to loans from government banks. Columns (1)-(2) first run the original specification (2) by restricting the data to loans from government banks only and show that loans to the politically connected firms have 11 percentage points higher default rates. This result remains robust to all of the controls mentioned earlier.

Columns (3)-(4) repeat the same exercise for loans from private banks only. There is hardly any difference in default rates between the politically connected and unconnected firms in private bank loans. Including bank and firm attribute fixed effects (Column (4)), shows politically connected firms have 0.8 percentage points lower default rates on private bank loans.

Column (5) runs specification (3) but with firm attributes controls instead of firm fixed effects and shows the same result. The coefficient of interest is the double interaction term (β_1) that shows politically connected firms default 9.9 percentage points more than the unconnected in loans from government banks relative to loans from private banks. The small negative coefficient on the dummy for political firm shows that if anything, politically connected firms have slightly lower defaults suggesting either greater monitoring or better selection for politically connected firms by private banks.

An interesting aside is that while the government banks do treat politically connected firms more favorably, they also face high default rates in general (Column (1)). By focusing on political connectedness, we are only capturing one source of "influence". There may be a variety of other avenues such as alternate forms of status (bureaucracy, army, insider networks, familial ties etc.) and direct bribes that may also contribute to why government banks face higher default rates. In this paper our focus is only on political rents.

Do government banks face higher default rates because they select worse borrower types - where type is proxied by average default rates - and/or because they lend greater amounts to the worse types? We will consider the first selection margin here - of choosing whether to lend to a firm - and examine the second margin when we consider credit access.

Note first that if, as one would expect, loans from government and private banks have equal seniority, it is unlikely that a firm will be able to default on one but not on the other. This suggests that the higher default *rate* faced by government banks is because they exclusively deal with worse borrowers, and not that a given firm that borrows from both bank types, defaults more on its

government bank loan.

We can check for such selection by including firm fixed effects as in specification (3) and restricting the data to firms that borrow from both types of banks. The firm fixed effect enables us to ask whether the *same* politically connected firm defaults at a higher *rate* on its government versus private bank loan compared to a non-political firm. Column (6) shows that this is not the case, since the default differential reduces to a much smaller and not significant 1.4 percentage points. This decrease is not due to the data restriction since the default differential in this restricted sample is 9 percent without firm fixed effects (regression not shown), similar to that in column (5). It drops only after we have accounted for all selection effects through firm fixed effects. This is not surprising given the cross-default legal stipulations that make it unlikely that a firm can default on one bank and not another when loans have the same seniority.

The mechanism outlined in section II implies that borrowers are likely to self-select across banks with (the worst) borrowers that have no productive investments but wield (political) influence only borrowing from government banks. Our results also support this. Comparing average default rates for firms that (i) borrow only from government banks; (ii) borrow from both bank types, and (iii) borrow only from private banks - shows that the first have the highest average default rates (25.7 *percent*), followed by the second (16.9 *percent*) and then the last category has the lowest default rates (5.4 *percent*).

B. Access to Credit:

We next test if the other margin of political preference, access to credit, is also only due to government bank lending. An important concern when comparing credit access for political versus non-political firms is that the amount borrowed may differ simply due to a firm's different credit needs (a demand effect). In other words, the "preferential treatment" in access to credit identified in Table II earlier, may simply reflect a higher credit demand of political firms and not political preference. To argue there is political preference one needs to perfectly condition on a firm's credit demand. The hypothetical comparison would then be between two firms with the *same* credit demand and seeing if the politically connected firm receives a larger loan from the government bank. Specification (3) allows us to make such a comparison.

Column (1) in Table IV shows that while government banks provide larger loans than private banks, they lend even larger amounts — 29 percent more — to politically connected firms. The use of firm fixed effects strengthens our causal interpretation that the political preference observed is a

result of differential treatment and not (level) differences across firms. Moreover, as this preferential treatment stems from government banks, it supports our contention that it arises through the exercise of political power.

We showed above that government banks exclusively lend to the worst type of borrowers in terms of average default rates. Do government banks also perform poorly along the second selection margin i.e. conditional on choosing to a lend to a firm, do they lend greater amounts to the worst firms?

Columns (2)-(3) in Table IV check for further selection effects by asking whether certain types of politically connected firms are given greater access to credit. Column (2) (weakly) suggests that government banks lend more to the larger of the politically connected firms. A standard deviation increase in firm size as measured by the logarithm of the total amount it borrows, is associated with 8 percent greater amount that the politically connected borrow from government as compared to private banks. More tellingly, Column (3) shows that government banks systematically lend greater amounts to the worst (highest average default rates) of the politically connected firms. The coefficient on the triple interaction term shows that government banks (as compared to private banks) lend 56 percent larger amounts to those politically connected firms that go into default. Finally, one may be worried that by time-averaging each loan, we are no longer guaranteed that a firm is borrowing from private and government banks at the same time. To check for this concern we also re-ran the cross-sectional tests of Table IV separately for each quarter and found our results to be stable and significant in each quarter.

Tables III and IV paint a stark picture of the political rent seeking environment and the role of the public sector. It is an environment characterized by politically connected firms that receive greater access to credit and default more, not (only) because they face adverse business shocks but because they *can* default. The worst of such politically connected firms — those that default a lot — exclusively borrow from government banks. Moreover, even after accounting for this poor initial selection, we find that government banks provide greater rents by lending more to the larger politically connected firms and to the worst (in terms of default) of such firms.

VI. Results - Political Strength and Participation

Do political rents vary by the strength of the firm's politician, whether he holds office, and the degree of political participation in the politician's constituency? The mechanism outlined in section

II would suggest so provided a politcian's ability to influence government banks varies by political strength. While we can examine political preference on both margins, greater access to loans and higher default rates, we found no robust differences in default *rates* and will focus on the margin that does matter, preferential access to credit.

A. Political Strength:

Do firms with stronger politicians obtain even greater access to credit from government banks? We use different measures of a politician's strength. These include (i) The percentage of total votes a politician wins; (ii) the fraction of times a politician wins; (iii) the politician's victory margin and (iv) the fraction of times the politician's political party wins. We aggregate the data to the bank-type and firm level and restrict to firms borrowing from both bank types.

Columns (1)-(3) In Table V present the results for each of these variables with the logarithm of loan received as the dependent variable.[20] The coefficient of interest is the triple interaction term that reveals whether firms with stronger politicians are able to earn even higher rents from government banks. Table V shows that along all measures of a politician's strength, firms with stronger politicians borrow even more from government banks.

Column (1) shows that while all politically connected firms are able to borrow more from government banks, a 10 percentage points increase in the number of votes a politicians obtains is associated with a further increase of 7 percent in the amount his firm is able to borrow from the government. Columns (2)-(3) similarly show that a 10 percentage points increase in the fraction of times a politician wins and in his victory margin are associated with his firm borrowing 6 and 5 percent more from government banks respectively. Finally, column (4) shows that a 10 percent increase in the fraction of the times a politician's party wins is associated with 3 percent larger loans.[21]

B. Political Participation:

Table V also examines whether there are any constraints to these rents by asking whether a more active electorate is able to monitor and check its politicians. We run a similar specification as above

[20] Note that since the political strength measures are only defined for politically connected firms ($Political\ Strength_i * Political_i \equiv Political\ Strength_i$) all possible interaction terms are included in these regressions i.e they are either subsumed in the firm-fixed effect or the triple interaction term.

[21] We restrict the sample to firms that borrow from both government and private banks in order to use firm fixed effects. We get very similar results when we run these regressions (without firm fixed effects) on firms that only borrow from government banks suggesting that our sample restriction is not a concern.

using a measure for electoral participation - voter turnout in the politician's constituency - instead of the political strength measures.

Column (5) provides suggstive evidence that electoral checks impose constraints on rent provision. Firms whose politicians run in constituencies with 10 percentage points higher electoral participation receive 10 percent smaller loans from government banks than they would have otherwise. Recall that because we have firm level fixed effects, our result cannot be driven by simple spurious correlations such as firms in less active political constituencies are more likely to default. While other identification concerns remain, this result does suggest that political corruption is higher in weaker political environments, a point that has been highlighted by others at a cross-country level [Shleifer and Vishny 1993].

C. The Impact of Winning

What happens to a politically connected firm's borrowing when its politician or political party wins or loses an election? To what extent does being in power affect the firm's ability to earn rents?

Table VI answers this by exploiting the time series component of our data and estimating specification (4). We use quarterly data and restrict it to quarters where an elected government was in power[22] and to only those politically connected firms that experienced a *change* in whether their politician or political party was in power during our data period. Since we are comparing total firm borrowing from private and government banks, we collapse the data to the firm and bank-*type* level in each quarter.

Table VI shows a significant impact on *access* to credit i.e. winning or being a member of a winning party affects the ability of a politically connected firm to borrow and hence its *amount* of default.

Column (1) shows that, controlling for firm-bank level time-invariant factors and time trends, when the same political firm wins an election it increases its borrowing from government banks by 20 percent compared to its borrowing from private banks which goes down by 11 percent. Thus when a firm's politician board member wins an election, the firm partly substitutes borrowing from private banks towards government banks. Winning politicians exercise their increased political strength to obtain even greater preferential access to credit from government banks.

Column (2) shows that if a politician's political party wins, the firm connected to him also

[22] We exclude quarters where the new government had not been elected as yet (but the old one had been dissolved) and those during 1999-2002 when there was no elected government due to military rule.

benefits by getting greater access to credit from government banks (13.2 percent). Since a politician may both win and his party may also be in power, column (3) introduces the two effects together and shows that they both have independent effects. Column (4) interacts the politician winning with his party winning as well, and shows that there is no additional benefit of both winning and being in the winning party. Thus a politician is able to obtain (greater) rents for his firm either by being in power himself or through his party.

The effect of a firm's politician or his party being in power is only a half of the overall political preferential result (Table IV). While winning does matter, what matters equally is whether a firm director is a politician (regardless of whether he or his party is in power). This is not surprising for a couple of reasons. First, a significant number of firms appear to be "politically hedged" as a third have multiple politicians on their board, while 11 *percent* (37 *percent* if weighted by loan size) have politicians from different parties. Second, political lines in Pakistan are quite fluid as politicians frequently switch parties and often have family members in opposing parties. Both firms and families hedge themselves politically. Third, frequent elections with party reversals suggests that a politician may not remain out of power for long. Thus a politician who is out of the government may still wield substantial influence both because he has links with those currently in power and because he is likely to return to power soon. In terms of rent-seeking, entry into the "political network" has equal importance as the politician's relative position within this network. These results lend further support that our findings reflect political influence as opposed to other forms of influence.[23]

VII. Alternate Explanations

We have interpreted our findings as rents accruing to politically connected firms by virtue of their political influence over government banks and hence indicative of political corruption. Before estimating the economy-wide costs of such corruption, we examine whether there are alternate interpretations that can plausibly explain these findings.[24]

[23] One could imagine an influential individual is both more likely to become a politician and (independently of that) obtain preferential treatment. While we do not take a strong stance on this since our results are also interpretable as rents to such "influence", Table VI does suggest that these results are not due to an individual's unobserved (time-invariant) influence but rather the exercise of political power that increases either by his winning an election or being a member of a winning party.

[24] We should emphasize that we are not attempting to explain how these rents are distributed. They may be mostly appropriated by the politician and/or other firm owners. Even if the politician obtains all the rents, he may have to spend resources on his supporters to retain political influence. From our perspective, these are all forms of rent provision and we do not have the data to be able to distinguish between them.

Note first that omitted variables at the firm or bank level that have time-invariant level effects on outcomes, such as firm "influence" or bank inefficiency, cannot explain our results since they remain robust to firm and bank level fixed effects. Moreover, as discussed before, measurements errors in identifying politically connected firms are likely to under-estimate the political preference results. Similarly, while there may be "evergreening" concerns that private banks are better able to hide their poorly performing loans, as section VIII will show, this is unlikely since firms borrowing from private banks are also more productive in terms of real output. Even if private banks do hide bad loans, this would not explain why government banks treat politically connected firms better than unconnected ones, or why they also do not hide the higher default rates of the politically powerful. Therefore we only consider alternate explanations that also predict a (correctly identified) political preference effect.

A. Social Lending Explanation

The most likely alternative explanation for our political preference results is "social lending". This explanation relies on two key assumptions: (i) Firms with politicians on their boards are more likely to engage in projects with high social but low private returns and (ii) Government banks value social returns more than private banks. Given these two assumptions, one could argue that our political preference results do not reflect corruption but the mutual desires of politicians and government banks to undertake "social" projects.

Such an alternate explanation is unlikely given the institutional details and history of politics and politicians in Pakistan. While certain government banks may have social lending goals, our dataset consists of *private* corporate loans and excludes loans to government firms. For the social lending story to hold, one would have to believe that politicians in Pakistan are borrowing money *privately* for achieving social objectives. This is unlikely because social projects are mostly carried out either by directly lending to the targeted social class (such as small farmers), or intermediated through large government owned firms. To our knowledge, never has a government social scheme been explicitly implemented through loans to private firms. Moreover, politicians generally belong to the richest segment of society and a recent survey of parliamentarians in Pakistan (Zaidi 2004) suggests that politics enriches individuals, with longer duration in politics associated with greater wealth. Thus lending to private political firms with high default rates is unlikely to be socially motivated.

Our empirical results also make it harder to believe the social explanation. First, the preferential

treatment results are robust (and in fact hardly change) when conditioning on an extensive set of variables which proxy for social attributes of the loan. These include the location of the loan (lending to small cities), the bank (certain banks may have more social objectives), the size, number of creditors and group affiliation of the borrower (lending to small borrowers with few creditors) and the type and industry classification of the loan (certain industries generate greater social value).

Second, the social lending explanation is not easily reconciled with further results in Tables V and VI. For example, to generate the result that firms with stronger politicians receive greater preferential treatment, one would need to assume that the likelihood of a politically connected firm undertaking social projects increases the stronger its politician is, in terms of the votes he obtains, his victory margin etc. and the lower electoral participation is in his constituency. This is unlikely given that most of these firms are located in the major cities and not necessarily in the politician's constituency.

Nevertheless, regardless of these factors that make it harder to believe the social lending explanation, there is direct empirical evidence against it. Table VII presents two sets of results that check for the presence of social lending and show that there is no evidence for it.

Our first test of the social lending hypothesis is built on the observation that if mutual social objectives are driving political preference by government banks, then one would expect these results to be stronger for those government banks that have explicit social objectives. These include government banks set up for agricultural development, women's welfare, small and medium enterprises etc. In total, 25 percent of government bank loans belong to such explicitly social government banks. The remaining government banks are meant to be run on a purely financial basis and have no explicit social goals. Columns (1) and (2) show that on both measures of preferential treatment, i.e. default rates and loan size, there is *no* political preference within the explicitly social government banks, while it is large and significant for the non-social government banks. This is in stark contrast to what the social lending explanation would predict.[25]

We perform another test of the social explanation based on the observation that if politicians use their firms to generate social returns one would expect that this effect is greater for firms that are located in their own constituency. Columns (3) and (4) separate politicians by whether they own a firm in the same province (state) as their constituency or in a different one.[26] The results

[25] We should note that the average default rate on the social government banks is indeed higher (41.7%) than that on the non-social government banks (23.1%). This is not surprsing if such banks were lending to riskier social projects. Thus while some government banks may indeed lend for social objectives, such motivations cannot explain the political preference effects.

[26] Pakistan is divided into four main provinces. These provinces are different in terms of their ethnic composition

show little evidence in support of the social lending explanation as politically connected firms that are not located in the politician's state *also* receive the same degree of preferential treatment as those that are.

B. Efficient Lending Explanation

The results on loan rate of return and default rate in Tables II and III are based on comparing *averages* for these variables across bank and firm types. However, one could argue that even under efficient lending, it is possible to generate the observed differences in average (as opposed to marginal) loan returns.

To understand this argument, suppose government banks were lending efficiently without any political bias. In this case government banks would start with the most profitable firm and keep making loans to firms until the *marginal* firm has profitability equal to the marginal cost of deposits for the bank. Suppose further that political firms also happen to be less profitable on average than non-political firms. Then, even though the bank is lending efficiently and without any political preference, we will find differences between political and non-political loans in their average return. Moreover, if government banks have lower cost of funds than private banks, this can also explain why the average loan return for government banks is lower than private banks.

While the above explanation may appear plausible at first, it is unlikely for a number of reasons. First, even the average political loan is losing money for the government bank (a rate of return of -17.5 percent), and so the marginal political loan is likely to be even worse. Such low negative returns are impossible to reconcile with efficient lending given that we know government banks pay positive interest rates on their deposits. Second, if the efficient lending hypothesis were the correct explanation, we should also observe similar differences within private banks, which we do not.[27] Third, our results on preferential access to credit, where politically connected firms receive disproportionately larger loans from government banks than non-political firms, cannot be readily explained by an efficient lending hypothesis. Finally, time series evidence on political firms borrowing (even) more from government banks after winning an election is also hard to reconcile with efficient lending.

and political preferences. A politician's constituency is a strict subset of a province. Given the differences in provinces, it is unlikely that a politician will be interested in increasing the welfare of those in another province.

[27] One could make further restrictions on the distribution of average returns for political and non-political firms to generate no differences in average returns for private banks. However, these distributional assumptions are not very plausible since they require the relative density of political firms compared to non-political ones be signifcantly higher at low return projects, yet be the same for high return projects.

VIII. The Costs of Rents

This section estimates the economy-level costs of the rents identified. These cost estimates are admittedly speculative both because we only present the subset of costs that can be inferred from our findings and because, even for this subset, we have to make additional assumptions. We consider costs due to the increased taxation necessary to bail out bad government loans, and from the foregone value when corrupt loans are poorly invested. There are likely to be a variety of other, potentially larger, costs that we ignore due to measurement difficulties. For example, we ignore general equilibrium effects such as distortions in entry and composition of firms, compromised legal institutions, and "wasteful" activities that individuals and firms undertake in seeking rents and getting access to political networks.

A. The Dead Weight Loss Of Taxation

Loans that default due to political corruption can be considered a transfer payment to politicians. The transfer is ultimately from tax payers as the government uses its revenues to bail out government banks. To obtain the taxation dead weight loss from such transfers, we need to estimate the size of this transfer i.e. the "extra" default due to corrupt lending. Assuming private banks are lending efficiently,[28] the defaulted amount in government banks over and above the rate of default faced by private banks (6 percent) represents this extra default.

With an average default rate of 30.8 percent on government bank loans to politically connected firms, this suggests that 24.8 percent of such lending is the *incremental* loss due to corruption. Given total government bank lending of *Rs* 190 billion ($ 3.2 billion) in 2002, 38 percent of which was given to politically connected firms, the total additional revenue lost from political corruption is Rs. 17.9 billion annually (0.248*0.38*190). Alternatively, given the pervasiveness of corruption in government banks it is likely that even non-political loans have substantial elements of rents, since such loans also face a high default rate (19.9 percent). If we count non-political loan default on government banks as corruption motivated as well, then the revenue lost from corruption is Rs. 34.3 billion annually (17.9 + 0.139*0.62*190).

We use conservative DWL estimates that put the marginal costs of taxation at around 40 cents for every dollar raised [Ballard et al., 1985]. Note that others have estimated costs upto a dollar per dollar of revenue raised [Feldstein 1996]. Using the more conservative marginal cost numbers,

[28] This is reasonable since we find no evidence of corruption in private banks. See Mian [2004] for further evidence that private banks are lending efficiently.

we get DWL estimates ranging from Rs. 7.2 to 13.7 billion each year, or 0.16-0.3 percent of GDP annually.

B. Cost of Investment Distortion

It would be unrealistic to assume that wealth transfer is the only distortion resulting from corrupt lending. If influentials like politicians get "cheap" money from government banks, they are unlikely to invest their loans efficiently. This would lead to rates of return to investment that are lower than would have been otherwise. In the extreme, they may not invest at all and simply consume the money or deposit it in offshore accounts. To estimate the cost of such investment distortion, one needs to know the rate of return to corrupt lending.[29]

While one could make different assumptions about this return, it is simpler to present a higher bound where the defaulted amount is assumed to generate zero net returns (i.e. the economy just gains the book value of investment). In this case the cost of investment distortion is losing future streams of income generated had the defaulted amount been properly invested. Given that the market price of a firm reflects the present value of its underlying assets, we can impute this net present value by subtracting book from market value.

Using this approach and a Market to Book ratio for Pakistan estimated at 2.96 (IFC emerging market database — EMDB), we get annual costs of Rs. 35-67 billion, or 0.8-1.6 percent of GDP each year.[30] This is estimated as $(2.96-1)*$(Inefficient Government Lending) where the estimates vary depending on whether we only consider the defaulted amount by the politically connected (*Rs* 17.9 *billion*) or all government bank default in excess of natural default (*Rs* 34.3 *billion*) as inefficient government lending. Note that we are being conservative in only considering the *defaulted* government bank lending as inefficient since, as we show below, it is likely that even the non-defaulted government bank lending is poorly invested.

C. What is the real Rate of Return on Political Loans?

The investment distortion cost only arises if the real return on corrupt lending is less than that on non-corrupt lending. The loan-level financial data used so far does not reveal the real productivity

[29] Note that in well-functioning credit markets, these poor/no investments would not affect aggregate investment since financial markets would compensate for this leakage by lending more (i.e. credit supply would be very elastic). However, in a related paper Khwaja and Mian [2004b] exploit an exogenous shift in credit supply to show that bank credit supply in Pakistan is quite inelastic. Therefore, such perfect market assumptions are unlikely to hold.

[30] To the extent that private firms have a lower market to book ratio than public firms, we may be overestimating the cost of inefficient investment.

of the loan. For example, it is possible that a politically connected firm defaults because it can, but still invests the loan efficiently.

Table VIII shows that this is unlikely, by presenting direct evidence for the lower real quality of government bank lending in the Textile industry. We use three measures of firm quality: Whether a textile firm exported any amount in the three year period during 2000-2003, the value of its exports aggregated over the three years, and export "productivity" measured by exports as a fraction of total loans to the firm. These are plausible measures of firm quality since the textile industry in Pakistan is mostly export driven and it is unlikely that a high quality firm would not be exporting. Moreover, unlike balance sheet information, which for most of these firms is unaudited and hence of highly suspect quality, export information is measured through the banking sector (we obtained the information from the central bank) and therefore harder to manipulate. This data is matched by the name of the textile firm to firm names in our data.

Before presenting the results on government lending quality, Columns (1)-(2) first show that our quality measures are indeed related to borrowing performance. Firms in the textile industry with higher default rates are less likely to be exporting. Columns (3)-(8) next present evidence that not only do government banks lend to lower quality firms, but firm quality is even lower for politically connected firms. Columns (3)-(4) show that while government bank loans are 19 percentage points more likely to be provided to non-exporting textile firms, within government bank loans, those to the politically connected firms are 13 percentage points more likely to be given to non-exporting textile firms. Columns (5)-(8) illustrate similar findings using the other two measures of firm quality - value of exports and export productivity.

Our cost estimates assumed two investment extremes — normal returns (to the firm) on the corrupt loans or no returns at all. Examining real measures of firm quality suggest that these loans earn below normal rates of returns. The cost of such rent provision is therefore likely to be closer to the upper estimate, giving a total cost (i.e. including DWL) of 1.9 percent of GDP every year. Although this estimate is large, it is comparable to that in cross-country studies [Mauro 1995].

IX. Conclusion

This paper has tried to elaborate on the nature and consequences of political corruption in the form of rents in financial markets by carrying out a detailed micro-level analysis. The techniques used are relatively straight-forward and can be replicated in other contexts to examine the role political

and other avenues of corruption play in the economies of both developed and developing nations. For example, the rents identified in this paper are likely to have an impact on the structure of industry. Differential access and subsidized credit to the politically connected firm is likely to affect entry and exit of firms and their competitive strategies in general. Firms may devote resources to seek such rents and build political links. Exploring such effects offer promising areas for further research.

A question that arises given our findings is how these rents affect the decision to enter politics and the actions chosen by, and success of politicians. If greater wealth has an impact on political entry and strength, then our results imply a feedback mechanism where influential individuals, particularly the most corrupt, may progressively increase their wealth and influence. There is evidence to suggest that this is indeed the case in Pakistan [Zaidi 2004]. Our results also hint at the importance and robustness of political networks as politicians are able to obtain rents even when not directly in power. They also raise questions on the extent to which political competition imposes checks on rents. Are the excessively corrupt penalized and do rents have to be distributed to retain power? How the nature and extent of rents affect the political and institutional environment presents another interesting direction of future enquiry.

Finally, a positive policy interpretation of our results is that private banks do not provide any political rents and their low default rates suggest the lack such concerns in general. Moreover, they show little evidence of related lending [Mian 2004]. This lends credence to the government's current push for privatization, with three government banks privatized since 1990. However, we should caution that our results do not suggest that full privatization will eliminate rent provision. If government lending is reduced significantly, those with influence may choose other avenues to seek rents. More generally, our cost estimates are relative to the first best of no corruption. To the extent that constraining the political rents identified in this paper leads to alternative sources of rent extraction, the country may not recover the full cost of corruption identified in this paper. Understanding the importance and costs of alternative sources of rent seeking when more common channels are shut down, is an interesting area for future work, especially given that emerging economies are increasingly carrying out such reforms.

Appendix I: Firm Attributes

Details on the firm attributes used in this paper:

(i) *Size.* The total borrowing by a firm from all the banks in the country (including foreign, domestic, and government banks) is used as a proxy for borrower size. We divide firms into five size categories using 99, 95-99, 75-99, 50-75, and 0-50 percentiles as the cutoff criteria. The cutoff criteria were used given the skewed distribution of lending, with 55 percent of total lending going to the top 1 percent of firms by size.

(ii) *Location.* This variable captures which type of city or town the borrower belongs to. Cities are classified by their population size into three categories: big, medium and small. Borrowers located in the three largest cities (city population greater than 2 million) are coded as big, while those in cities with population between 0.5-2 and 0-0.5 million are coded as medium and small respectively.[31] The distribution of lending across city size is also highly skewed with the large cities getting 74 percent of the lending.

(iii) *Foreign.* This variable captures whether the borrower is a foreign firm or not. There are only 212 loans given out to foreign firms in the data, but they represent about 4 percent of the overall domestic lending.

(iv) *Group Size.* Using information on the names and tax identification numbers of all directors of a firm we can classify firms into "groups" based on their ownership information. In particular, firms are assigned the same group if they have a director in common. Mian and Khwaja [2004a] analyze these group linkages in detail, but for this paper what is important is that forming groups in this way creates three distinct category of firms: (a) Stand-Alone Firms — these are firms whose directors do not sit on the board of any other firm (comprising 20 percent of domestic lending); (b) Intermediate Group Firms — these are firms that belong to intermediate size groups, defined as groups consisting of 2 to 50 firms (20 percent of domestic lending), and (c) Large Conglomerate Firms — these are firms which belong to the large conglomerates, defined as groups consisting of more than 50 firms each (38 percent of domestic lending). Ownership (and hence group) information is missing for 22 percent of domestic lending.

(v) *No. of Creditors.* This variable captures the number of creditors (banks) that a firm borrows from. Loans from foreign banks are also taken into account when constructing this variable.

[31] 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".

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TABLE I
SUMMARY STATISTICS

Panel A : Loan-level Variables					
Variable	Mean	S.D.	Obs.		
Loan Size ('000s of 1995 Pak Rs.)	6,669	89,298	112,685		
Default Rate (%): Un-Weighted	16.85	30.22	112,685		
Default Rate (%): Loan size weighted	17.61	31.06	112,685		
Recovery Rate (%): (conditional on default)	8.55	24.50	24,562		
Rate of Return (%)	93.46	35.70	89,223		
Interest rate (%)	14.05	2.90	89,223		
Loan Type	*Fixed*	*Working Capital*	*Letter of Credit*	*Guarantees*	*Mixed*
Percent of total lending	32%	49%	7%	7%	5%
Panel B: Borrower/Firm Attributes					
Politically Connected	*No*	*Yes*			
Percent of total firms	77%	23%			
Percent of total lending (of total loans)	63% (74%)	37% (26%)			
Size (percentile)	*0-50*	*50-75*	*75-95*	*95-99*	*99-100*
Percent of total lending (of total loans)	6% (42%)	3% (21%)	13% (23%)	23% (9%)	55% (5%)
Location (City Size)	*Small*	*Medium*	*Large*	*Unclassified*	
Percent of total lending (of total loans)	8% (17%)	12% (15%)	74% (52%)	6% (16%)	
Foreign Firm	*No*	*Yes*			
Percent of total lending (of total loans)	(99.8%)	4% (0.2%)			
Business Group Size	*Stand Alone*	*Intermediate*	*Conglomerate*	*Unclassified*	
Percent of total lending (of total loans)	20% (54%)	19% (17%)	39% (10%)	22% (19%)	

Panel C : Politician Level Variables For Matched Politicians (2,073 Politicians)		
Variable	Mean	S.D.
Win (%)	9.0	26.0
Percentage Votes	9.83	16.33
Victory Margin	20.53	16.50
Electoral Participation (%)	36.60	10.46

Rate of Return Return = (1 - Default Rate) * (1+Interest Rate) + Default Rate * Recovery Rate. Politically Connected = dummy for whether firm has a politician on its board; Other firm level attributes defind in Appendix I; While we report summary statistics for Firm Location in terms of city Size as defined in Appendix I, in the subsequent Regressions firm location controls are introduced as separate dummies for each city. Win=politcian winning frequency (%); Percentage Votes=percentage votes obtained by politician;Victory Margin=Difference in Percentage Votes between the winner and runner up if politician won, 0 otherwise; Electoral Participation= Registered votes cast (%)

TABLE II
ARE POLITICALLY CONNECTED FIRMS GIVEN PREFERENTIAL TREATMENT?

Dependent Variable	Log Loan Size	Rate of Return	Default Rate	Recovery Rate	Interest Rate
	(1)	(2)	(3)	(4)	(5)
Politically Connected	0.37	-6.08	6.22	-1.09	0.09
	(0.08)	(2.46)	(1.98)	(1.14)	(0.05)
Controls	YES	YES	YES	YES	YES
R^2	0.26	0.28	0.29	0.24	0.43
No of Obs	112,685	89,223	112,685	24,562	89,223

Results based on cross-sectionalized data. A unit of observation is a loan (bank-firm pair). There are 89,223 observations instead of 112,685 in columns (2) and (5) as interest rate data is not available for all banks. There are 24,562 observaions in column (4) because the data is conditional on a firm having defaulted. Rate of Return Return = (1 - Default Rate) * (1+Interest Rate) + Default Rate * Recovery Rate. Standard errors reported in parentheses are clustered at bank level. Regressions in columns (2)-(5) are weighted by loan size. Controls in Colunm (1) include dummy for whether borrower is a foreign firm, 91 bank dummies, 134 dummies for each of the city/town of firm. Columns (2)-(5) include column (1) controls plus 8 dummies for the number of creditors the firm has, 5 loan-type dummies and 3 group size dummies, 5 firm size dummies. Firm-level control variables are described in Appendix I.

TABLE III
ARE POLITICALLY CONNECTED FIRMS FAVORED BY GOVERNMENT BANKS ONLY?
DEFAULT RATE

	Default Rate (%)					
	(1)	(2)	(3)	(4)	(5)	(6)
	Government Banks Only		Private Banks Only		All Banks	Firms borrowing from both government and private banks
Politically Connected	10.92	9.13	-0.02	-0.78	-0.78	--
	(4.12)	(1.92)	(0.27)	(0.26)	(0.26)	
Politically Connected * Government Bank					9.91	1.4
					(1.90)	(1.04)
Constant	19.87	--	6.05	--	--	--
	(2.60)		(2.03)			
Controls	NO	YES	NO	YES	YES[1]	Firm Fixed Effects[2]
R^2	0.02	0.3	0.004	0.15	0.33	0.78
No of Obs	61,897	61,897	50,788	50,788	112,685	18,819

Results based on cross-sectionalized data. Standard errors reported in parentheses are clustered at the bank level. Politically Connected = dummy for whether firm has a politician on its board; Government bank = dummy for government banks. Controls include 5 loan-type dummies, 5 firm size dummies, dummy for whether the borrower is a foreign firm, 8 dummies for the number of creditors the firm has, 3 group size dummies, 134 dummies for each of the city/town of borrower, 21 dummies for the industry of the firm, and 91 bank dummies. Firm-level control variables are described in Appendix I

[1] Controls also include government bank dummy and all interractions with the government bank dummy.

[2] Regression includes a government bank dummy as well. Data restricted to firms that borrow from both government and private banks.

TABLE IV

ARE POLITICAL FIRMS FAVORED BY GOVERNMENT BANKS ONLY?
ACCESS TO CREDIT

Dependent Variable	Log Loan Size		
	(1)	(2)	(3)
	Data restricted to firms that borrow from both government and private banks		
Government Bank	0.07	-1.19	-0.2
	(0.03)	(0.14)	(0.03)
Politically Connected * Government Bank	0.29	-0.21	0.13
	(0.05)	(0.22)	(0.05)
Government Bank * Log Firm Size		0.14	
		(0.02)	
Politically Connected * Government Bank * Log Firm Size		0.041	
		(0.03)	
Government Bank * Firm Default Rate			1.9
			(0.11)
Politically Connected * Government Bank * Firm Default Rate			0.56
			(0.17)
Firm Fixed Effect	YES	YES	YES
R^2	0.81	0.81	0.83
No of Obs	10,880	10,880	10,880

Data restricted to firms that borrow from both government and private banks. Robust standard errors reported in parentheses. A unit of observation is a firm-bank type (government or private) pair, as all loans of a firm given by the same bank type are summed. There are thus 5,440 firm fixed effects and 10,880 total observations in the regression. Politically Connected = dummy for whether firm has a politician on its board; Government bank = dummy for government banks; Log Firm Size = Logarithm of a Firm's total borrowing from all banks (private and government); Firm Default Rate = Firm's average default rate across all banks.

TABLE V

TESTING FOR POLITICAL STRENGTH AND PARTICIPATION

Dependent Variable	Log Loan Size				
	(1)	(2)	(3)	(4)	(5)
	Data restricted to firms that borrow from both government and private banks				
Government Bank	0.07	0.07	0.07	0.07	0.07
	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)
Politically Connected * Government Bank	0.25	0.26	0.25	0.23	0.67
	(0.06)	(0.05)	(0.05)	(0.05)	(0.20)
Politically Connected * Government Bank * Percentage Votes	0.69				
	(0.47)				
Politically Connected * Government Bank * Win		0.63			
		(0.32)			
Politically Connected * Government Bank * Victory Margin			0.53		
			(0.29)		
Politically Connected * Government Bank * WinParty				0.29	
				(0.13)	
Politically Connected * Government Bank * Electoral Participation					-1.04
					(0.53)
Firm Fixed Effect	YES	YES	YES	YES	YES
R^2	0.81	0.81	0.81	0.81	0.81
No of Obs	10,880	10,880	10,880	10,880	10,880

Data restricted to firms that borrow from both government and private banks. Robust standard errors reported in parentheses. A unit of observation is a firm-banktype pair, as all loans of a firm given by the same bank type are summed. There are thus 5,440 firm fixed effects and 10,880 total observations in the regression. Politically Connected = dummy for whether firm has a politician on its board; Government bank = dummy for government banks; Win/WinParty=politcian/political party's winning frequency (%); Percentage Votes=percentage votes obtained by politician; Victory Margin=Difference in Percentage Votes between the winner and runner up if politician won, 0 otherwise; Electoral Participation=Registered votes cast (%).

TABLE VI
TIME SERIES TEST OF POLITICAL STRENGTH

Dependent Variable	Log Loan Size			
	Data restricted to politically connected firms that experience change in political status			
	(1)	(2)	(3)	(4)
In Power?	-0.120		-0.106	-0.105
	(0.027)		(0.028)	(0.027)
In Power * Government Bank	0.186		0.170	0.168
	(0.032)		(0.032)	(0.033)
Party In Power?		-0.132	-0.120	-0.120
		(0.028)	(0.028)	(0.028)
Party In Power * Government Bank		0.170	0.153	0.150
		(0.033)	(0.033)	(0.036)
In Power * Party In Power * Government Bank				0.008
				(0.040)
Fixed Effects	Firm*Bank-Type, Quarter	Firm*Bank-Type, Quarter	Firm*Bank-Type, Quarter	Firm*Bank-Type, Quarter
R^2	0.79	0.79	0.79	0.79
No of Obs	29,405	29,405	29,405	29,405

Data is restricted to those politically connected firms that actually experience a change in their "power" status due to elections or their party experiences such a change. There are 2,330 such firms. The data is also restricted to only those quarters when an elected government was actually in power, i.e. we exclude quarters where the old government was disbanded but no new governmaent elected as yet and quarters under military rule. The included quarters are: 1996 Quarter 2 and Quarter 3; 1997 Quarter 2 to 1999 Quarter 3. In any given quarter, the loans for a given firm from a given bank type (government or private) are summed up. Robust standard errors reported in parentheses. In Power = dummy for whether politcian is in power (won relevant election) during the given quarter; Party In Power = dummy for whether politician's political party forms the government for the given quarter (winning partis were different in the two elections in our data period); Government bank = dummy for government banks.

TABLE VII

TESTING FOR A SOCIAL LENDING EXPLANATION

Dependent Variable	Default Rate	Log Loan Size	Default Rate	Log Loan Size
	(1)	(2)	(3)	(4)
Politically Connected * Government Bank	10.47	0.36	11.68	0.32
	(1.84)	(0.05)	(2.88)	(0.08)
Politically Connected * Government Bank * Social Government Bank	-9.4	-0.21		
	(2.73)	(0.17)		
Politically Connected * Government Bank * Local Firm			-2.54	-0.042
			(2.09)	(0.08)
Controls	YES		YES	
Firm Fixed Effect		YES		YES
R^2	0.33	0.56	0.33	0.81
No of Obs	112,685	11,549	112,685	10,880

Data restricted to firms that borrow from both government and private banks in columns (2) & (4). Robust standard errors reported in parentheses. Errors clustered at the bank level in Columns (2) & (4). In column (2), a unit of observation is a firm-bank type pair where banktype is private, social government, or non-social government. In column (4), a unit of observation is a firm-banktype pair where banktype is private or government. All loans of a firm given by the same bank type are summed. Controls include 5 loan-type dummies, 5 firm size dummies, dummy for whether borrower is a foreign firm, 8 dummies for the number of creditors the firm has, 3 group size dummies, 134 dummies for each of the city/town of firm, 21 dummies for the industry of the firm, and 91 bank dummies. Firm-level control variables are described in Appendix I. Controls also include government dummy and all interactions with the government bank dummy. Politically Connected = dummy for whether firm has a politician on its board; Government bank = dummy for lender type; Social Government bank = dummy for whether government bank (lender) has explicit social objectives; Local Firm = dummy for whether firm is located in same province (state) as politcian's electoral

TABLE VIII
ARE POLITICALLY CONNECTED FIRMS LESS PRODUCTIVE?

	Data Restricted to Textile Firms							
	Exporter?		Exporter?		Log Exports		Log Export Productivity	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Firm Default Rate	-0.22	-0.17						
	(0.051)	(0.060)						
Government Bank Borrower			-0.19		-0.79		-0.28	
			(0.08)		(0.44)		(0.18)	
Politically Connected				0.05		0.05		-0.02
				(0.06)		(0.20)		(0.09)
Politically Connected * Government Bank Borrower				-0.13		-0.64		-0.24
				(0.07)		(0.31)		(0.15)
Constant	0.22							
	(0.029)							
Controls		YES	YES	YES	YES	YES	YES	YES
R^2	0.04	0.27	0.2	0.28	0.1	0.18	0.1	0.21
No of Obs	6,313	6,313	6,313	6,313	6,313	6,313	6,313	6,313

All Regressions are run at the firm level. Robust standard errors reported in parentheses. Exporter is a dummy for whether the firm exports or not; Log Exports is the logarithm of export value; Export Productivity is export value divided by total firm borrowing (from all bank types). Politically Connected = dummy for whether firm has a politician on its board; Government bank borrower = dummy for whether firm borrows from any government bank; Log Firm Size = Logarithm of a Firm's total borrowing from all banks (private, government, foreign); Firm Default Rate = Firm's average default rate across all banks. Controls include 5 loan-type dummies, 5 firm size dummies, dummy for whether the borrower is a foreign firm, 8 dummies for the number of creditors the firm has, 3 group size dummies, 134 dummies for each of the city/town of firm, and 91 bank dummies. Firm-level control variables are described in Appendix I. When government dummy is reported in columns (3), (5) and (7) the bank dummies are not included in the regression.