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Abstract

Using a unique firm-level dataset for the manufacturing sector in Indonesia, we examine how firms' political and economic connections affect their access to finance. We determine individual firms' political connections by identifying whether the government owns shares in the firm, whether politicians are on its board of directors, and whether highly-ranked managers personally know any politicians. We find that politically connected firms are more likely to be able to borrow from state-owned banks. Moreover, being connected to the government raises the probability that a firm can receive the full loan amount it applied for. The improvement in access to finance from political connections is more prominent for SMEs than for large firms. Furthermore, such improvement mostly comes from personal connections with politicians rather than more formal connections measured by the government ownership or politicians on the board of directors.

Keywords: Political Connections, Credit Constraints, Small and Medium Enterprises, Indonesia
JEL classification: G14; H11; L53

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1 Introduction

The benefits and costs of political connections to firms in terms of their firm value and performance have been the subject of extensive debate in the literature (see, e.g., Goldman et al., 2009; Khwaja and Mian, 2005). On the one hand, firms with political connections tend to receive preferential treatment from state-owned banks and other financial institutions, as shown by studies for China (Li et al., 2008), Pakistan (Khwaja and Mian, 2005), and Italy (Sapienza, 2004). Faccio et al. (2006), using firm-level data from 35 countries, moreover find that firms with government officials are more likely to receive financial assistance from the government when they are distressed. On the other hand, Bliss and Gul (2012) show that politically connected firms have higher leverage and are perceived by financial markets and audit firms as being of higher risk. Thus, the literature is still unclear about the role of political connections with regard to firm values and performance.

The aim of the present study is to examine how political connections affect firms' financing using a firm-level dataset for Indonesia compiled by the authors. Studies on Indonesia suggest that political connections have a significant impact on the value (Fisman, 2001) and financing patterns (Leuz and Oberholzer-Gee, 2006) of firms. The Indonesian government and central bank are making efforts to facilitate financing for small and medium enterprises (SMEs) by establishing a public credit bureau, allocating more credit resources towards the SMEs sector and setting up a government guarantee scheme (OECD, 2012). However, SMEs in Indonesia, potentially still face difficulties in obtaining bank financing due to factors such as high net interest margins charged by banks and possible leakages in the government guarantee program, whose main participants are state-owned and regional banks (OECD, 2012; OECD, 2015).

Our study finds that in Indonesia, politically connected firms receive preferential treatments from banks in two ways. First, such firms are more likely to be able to borrow from state-owned banks. Second, political connections raise the probability that a firm receives the full loan amount it applied for. Furthermore, we find that while the benefits of political connections in terms of improved access to bank financing are significant for SMEs, this is not the case for larger firms. This finding is consistent with the findings

of studies indicating that SMEs benefit more from financial development (Love, 2003; Laeven, 2003; Beck et al., 2008). Finally, we find that informal political connections to the government, which we measure in terms of whether firm managers have personal connections with politicians, play a more important role in improving access to finance than formal connections measured by government ownership and politicians on the board of directors.

The contributions of this study are threefold. First, we investigate the impact of political connections on firm financing in both the loan application and loan amount setting processes. This empirical strategy explicitly resolves the sample selection problem. Second, a unique feature of our data is that we can identify different types of political connections. We distinguish between formal and informal political connections, and find that informal connections appear to be more important than formal ones. Finally, this study adds to the discussion on the effectiveness of government guarantee programs, which are rarely examined by using firm-level data for less developed countries.

2 Conceptual Framework

2.1 Political Connections and Access to Credit

There is a considerable body of literature discussing how political connections could affect firm financing in less developed countries. Faccio et al. (2006), for instance, find that politically connected firms are more likely to be bailed out by banks than non-connected firms when facing distress. Similarly, for China, Li et al. (2008) find that being a Communist Party member helps private entrepreneurs to obtain loans from banks and other state institutions.

Moreover, political factors may distort financial markets in a variety of ways. For instance, political connections distort the risk management of banks. Khwaja and Mian (2005) show that politically connected firms borrow 45 percent more and have 50 percent higher default rates than other firms in Pakistan. They argue that the annual cost of such political rents is equivalent to 0.3 to 1.9 percent of GDP every year. Similarly, focusing in government-owned bank lending in India, Cole (2009) finds that lending tends to increase in an election year and that such lending booms tend to be costly, as they go hand in hand

with a rise in the default rate but no increase in production. Because financial constraints are one of the most robust obstacles to firm growth (Ayyagari et al. 2008), the political distortions in the financial market could potentially exacerbate firms' financial constraints and lead to an inefficient allocation of financial resources.

In summary, the existing literature shows that political connections distort the availability and costs of bank loans. Based on these considerations, we posit the following benchmark hypothesis to be tested later.

Hypothesis 1. *Political connections are associated with a higher probability that firms receive credits from banks, in particular, from state-owned banks.*

Moreover, instead of focusing only on the effect of political connections on access to bank finance, we also investigate the effect on the entire financing process. Specifically, we also investigate whether politically connected firms are more likely to be able to borrow as much as they want, conditional on their having already applied and received approval for a loan. It is possible that political connections do not affect the loan process at the application and approval stage but affect the amount that banks agree to lend.

Hypothesis 2. *Conditional on banks' having approved a loan, political connections are associated with a higher probability that firms receive the amount of credits they need.*

2.2 Differences between Large Firms and SMEs

Another strand of literature focuses on the differences in financial constraints faced by SMEs and large firms. Using firm-level survey data from the World Business Environment Survey (WBES), Ayyagari et al. (2008) show that SMEs are more likely to suffer from financial constraints than large firms. Beck et al. (2008) show that growth of smallest firms affected the most by a country's legal and financial environment.

Indonesia is not an exception. Indonesian SMEs still have difficulties in receiving sufficient loans from banks. Recently, the government implemented policies to facilitate loans to SMEs, such as targeting the share of SMEs in bank loans,[1] providing government

[1] Global Business Guide Indonesia., "An outlook on Indonesia's microfinance sector". Retrieved on May 8th, 2015, from `http://www.gbgindonesia.com/en/finance/article/2013/an_outlook_on_indonesia_s_microfinance_sector.php`.

guarantees to productive SMEs, and providing information on the credit history of SMEs.[2]

Under such conditions, however, political connections may benefit SMEs more than large firms by alleviating credit constraints, because large firms may have access to external finance without any political connections. Policies such as financial development are found to have a larger effect on SMEs than on large firms (Love 2003; Laeven 2003). Therefore, we formulate our third hypothesis as follows:

Hypothesis 3. *The benefits of political connections mentioned in Hypotheses 1 and 2 are larger for SMEs than for large firms.*

3 Data

3.1 Data Description

The firm-level survey in Indonesia was conducted between September and December in 2014 in order to obtain information on firms' social and business networks, financing, and innovation. Subjects were randomly drawn from the 2012 issue of the Manufacturing Industry Directory compiled by the Central Bureau of Statistics (BPS). After dropping some firms due to missing information on firm age or employment, our final sample includes 296 firms in 17 cities across 5 sectors. In order to investigate whether the effect of political connections differs between SMEs and large firms, we define firms with fewer than 100 employees, or with annual sales of less than 50 billion Rupiah in 2013 as SMEs.[3] Table 2 shows that 83.8% of sample firms are classified as SMEs.

3.2 Key Variables for Estimation

To measure firms' political connections, we create three different variables.[4] The first one, *Formal Political*, is a dummy variable that equals one if any of the board members of the firm belongs to the central or local government, or the central or local government

[2]Bank Indonesia. Retrieved on March 8th, 2015, from `http://www.bi.go.id/en/perbankan/biro-informasi-kredit/Contents/Default.aspx`.

[3]The definition of SMEs in Indonesia differs across different institutions. In our analysis, we combine the definitions of the Small Enterprise Act No. 9 (revised in 2008) and the Central Statistics Agency (BPS).

[4]Detailed definitions of all variables are provided in Table 1.

owns shares in the firm.[5] The second measure, *Informal Political*, gauges firms' informal political connections and is a variable that equals one if the owner, the director, or a high-ranking manager interviewed in the survey has personal connections with a politician which the interviewees felt would allow the firm to obtain important information from the government, obtain easier approval from the government than other firms, or receive financial subsidies from the government. Finally, the third variable, *Political*, is a more general measure of political connections that equals one if the firm has formal or informal political connections.

Table 1: Definition of variables

Variables	**Definition**
Approval	= 1 if the firm received a loan from a state-owned, private, or foreign bank
Full Amount	= 1 if the firm received the full loan amount it applied for
State Bank	= 1 if the lender is a state-owned bank
Association	= 1 if the top manager is a member of a non-professional association
Political	= 1 if the firm has a board member belonging to the central or local government, if the state holds an equity stake, or the firm has informal connections to the politicians
Formal Political	= 1 if the firm has a board member belonging to the central or local government, or it has state-owned capital
Informal Political	= 1 if the firm has informal connection to the government
Formal Strength	Percentage of board members belonging to the central or local government
Informal Strength	Number of questions about informal political connection answered with *yes*
Employees	Log(number of permanent employees)
Direct Exports	Proportion of direct exports in total sales in 2013
Foreign	= 1 if the firm's largest shareholder is a foreign company
Investment	Log(purchases/addition of machinery and equipment + 1)
Firm Age	2013 - firm's founding year
Local Clients	= 1 if a larger number of clients are in the same province than outside the province
Local Suppliers	= 1 if a larger number of suppliers are in the same province than outside the province
Value Added	Log(annul sales in 2013 - intermediate materials in 2013)
Fixed Capital	Log(current value of machinery, equipment and other fixed capital goods in 2013)

In addition, we define measures of the strength of formal and informal political con-

[5] In addition, we also used a dummy variable representing whether a firm had a board member from the ruling parties to proxy formal connections. The estimation results are similar between these two definitions. We do not report the results for brevity.

nections. Specifically, *Formal Strength* equals the percentage of the number of politicians on the board of directors of the firm. Meanwhile, *Informal Strength* equals the number of *yes* answers to the four questions used to create *Informal Political*.

Summary statistics of our sample are presented in Table 2. The table indicates that far fewer firms have political connections than do not: depending on which variable is used, the share of politically connected firms ranges from 8.4% (*formal*) to 11.5% (*political*).

We use two variables to indicate credit constraints in the two stages of the loan application. First, *Approval* is a dummy variable that equals one if a firm received a loan from a state-owned, private or foreign-owned bank. The second dummy, *Full Amount*, equals one if the loan that the firm received was equal to the amount it applied for. Table 2 shows that 36% of all firms have loans from banks. Of these, 44% of firms did not receive the loan amount they applied for. These figures imply that even when firms receive a bank loan, they are still likely to face financial constraints. Furthermore, we also use the variable *State Bank* to indicate whether the loan a firm received from a state-owned bank or not.

In order to explicitly test our hypotheses, we employ a number of control variables based on firm characteristics. Specifically, we include *Employment*, measured as the log of the number of permanent workers, to control for firms' size, and *Foreign*, which is a dummy variable that takes a value of one if the largest shareholder of the firm is a foreign firm. We include these variables because foreign-owned firms may have different patterns of financing. We control for firm age (*Firm Age*) as well as the current value of firms' purchases of machinery and equipment (*Investment*). In addition, we control for the share of direct exports in total sales, which is a measure of firms' export performances. We also construct two dummy variables, *Local Clients* and *Local Suppliers*, which take a value of one if the number of clients and suppliers, respectively, in the same province exceeds the corresponding number outside of the province. We control for these variables because firms' financing may be affected by the geographical diversity of their business network.

Table 2: Summary statistics

	Obs.	Mean	S.D.	Min	Median	Max
Finance						
Approval	296	0.361	0.481	0.000	0.000	1.000
Full Amount	107	0.561	0.499	0.000	1.000	1.000
State Bank	107	0.234	0.425	0.000	0.000	1.000
Political Connection						
Political	296	0.115	0.319	0.000	0.000	1.000
Formal Political	296	0.084	0.279	0.000	0.000	1.000
Informal Political	296	0.101	0.302	0.000	0.000	1.000
Formal Strength	295	0.041	0.189	0.000	0.000	1.000
Informal Strength	296	0.139	0.471	0.000	0.000	4.000
Firm Characteristics						
Association	296	0.135	0.342	0.000	0.000	1.000
SME	296	0.838	0.369	0.000	1.000	1.000
Fixed Capital	251	8.612	2.267	0.405	8.700	14.509
Value Added	219	8.266	2.076	1.792	8.294	14.883
Employees	296	4.834	1.164	1.609	4.687	8.790
Foreign	296	0.152	0.360	0.000	0.000	1.000
Investment	296	3.203	3.450	0.000	2.398	12.612
Firm Age	296	25.145	13.465	0.000	23.000	96.000
Direct Exports	296	0.084	0.236	0.000	0.000	1.000
Local Clients	296	0.608	0.489	0.000	1.000	1.000
Local Suppliers	296	0.831	0.375	0.000	1.000	1.000

4 Empirical Strategy

Since we want to investigate the impact of political connections on firm financing in the whole financing process, we divide the analysis into two stages: loan approval and loan amount setting. For the analysis of loan approval, we can employ the full sample. However, for the analysis of the determinants of the loan amount, the sample consists only of firms whose loan application was approved. Since there may be private information leading firms to self-select into applying for a bank loan, we need to control for the selection effect in the second stage. We use the Heckman probit model to explicitly account for

this problem.

In the first stage, we look at the impact of political connections on the probability that whether a firm obtained a bank loan. More specifically, we estimate the following equation:

$$Approval_{ijp} = 1[\alpha + \beta Political_i + \theta Association + X_i\gamma + D_j + D_p + u_{1ijp} > 0], \quad (1)$$

where u_{1ijp} is the error term. $Approval_{ijp} = 1$ if firm i in industry j and province p received a bank loan. $1[\cdot]$ is an indicator function. *Political* is a variable representing firm i's political connections, and we employ the three different definitions of this variable introduced above: $Formal\ Political$, $Informal\ Political$, or $Political$. X_i is a vector of firm characteristics. D_j represents industry fixed effects, while D_p represents province fixed effects. We include the variable *Association* in Equation 1 as an exclusion restriction. This is a dummy variable which equals one if the owner or highly-ranked manager interviewed is a member of a non-professional associations such as a sport club and community associations. *Association* can be regarded as a proxy for the manager's social connectedness, which may raise the probability that the firm received a bank loan if it applied for one. However, once a firm's loan application has been approved by a bank, it is likely that the amount actually lent as well as the terms of the loan will be affected by information from the firm's financial report and direct investigation by the bank.

In the second stage, focusing on firms whose loan has been approved, we estimate the following equation to examine the determinants of whether firms obtain the loan amount they applied for:

$$FullAmount_{ijp} = 1[\alpha + \beta Political_i + X_i\gamma + D_j + D_p + u_{2ijp} > 0], \quad (2)$$

where $FullAmount_{ijp} = 1$ if the actual loan amount firm i received was equal to the amount the firm applied for and u_{2ijp} is the error term. If u_{2ijp} is correlated with the error term of the first stage, u_{1ijp}, Equation 2 cannot be consistently estimated without correcting for sample selection (Wooldridge, 2010).

5 Results

5.1 Political Connections and Loan Approval

The results from the probit estimation of Equation 1 are shown in Table 3. The estimations are conducted for the whole sample (columns 1-3) and for the subsample of SMEs (columns 4-6). The analysis produces three notable findings.

First, political connections do not have a significant impact on access to loans, regardless of whether we focus on the whole sample or on SMEs only. The coefficient on *Association* is positive and significant at the 1% level. This result indicates that top mangers' social connectedness plays an important role in the loan approval stage.

Second, the coefficient estimates for *Foreign* indicate that foreign ownership has a significant impact on firms' financing patterns. In all six columns, foreign ownership is negatively associated with the probability that a firm obtains a bank loan. A possible interpretation is that foreign-owned firms, because of the high cost of bank financing in Indonesia, tend to obtain funds from their parent firm abroad.

Turning to other control variables, investment is positively associated with the probability of obtaining a bank loan. The direction of causality of this positive correlation, however, is unclear. On the one hand, firms with new fixed assets may find it easier to gain access to bank credit; on the other hand, firms that receive a loan may be able to invest in new fixed assets. In the estimations for the SME subsample, the variable *Local Suppliers* is negatively correlated with the probability of obtaining a bank loan, suggesting that SMEs with a geographically less diverse supplier base are less likely to obtain a bank loan.

To investigate whether the impact of political connections differs depending on whether the bank involved is a private bank or a state-owned bank, we conduct additional estimations using a multinomial logit model.[6] That is, we now have three types of firms in the first stage: firms that obtained no bank loans, firms that obtained loans only from private banks, and firms that obtained loans from state-owned banks (either part of the amount they applied for or the full amount).

[6]We drop the variables *Association* and *Direct Exports* to reach convergence in our multinomial logit estimations.

Table 3: Political connections and access to bank loans: probit estimation for the first stage

	Whole Sample			SMEs		
	(1)	(2)	(3)	(4)	(5)	(6)
Dependent Var.	Approval	Approval	Approval	Approval	Approval	Approval
	ME/SE	ME/SE	ME/SE	ME/SE	ME/SE	ME/SE
Political	-0.076			-0.047		
	(0.159)			(0.154)		
Formal Political		-0.070			-0.096	
		(0.121)			(0.070)	
Informal Political			-0.039			-0.049
			(0.157)			(0.156)
Association	0.279***	0.275***	0.271***	0.364***	0.374***	0.363***
	(0.082)	(0.079)	(0.080)	(0.081)	(0.106)	(0.088)
Employees	0.039	0.036	0.038	0.040	0.036	0.040
	(0.033)	(0.034)	(0.033)	(0.047)	(0.047)	(0.046)
Foreign	-0.294***	-0.292***	-0.290***	-0.355***	-0.361***	-0.355***
	(0.083)	(0.077)	(0.082)	(0.105)	(0.104)	(0.105)
Investment	0.028***	0.029***	0.028***	0.027***	0.029***	0.027***
	(0.003)	(0.004)	(0.003)	(0.008)	(0.009)	(0.008)
Firm Age	-0.002*	-0.001	-0.002	0.002	0.002	0.002
	(0.001)	(0.001)	(0.001)	(0.002)	(0.002)	(0.002)
Direct Exports	-0.157	-0.155	-0.157	-0.174	-0.175	-0.175
	(0.105)	(0.099)	(0.106)	(0.123)	(0.118)	(0.122)
Local Clients	0.032	0.035	0.031	0.054	0.055	0.054
	(0.024)	(0.025)	(0.021)	(0.051)	(0.054)	(0.052)
Local Suppliers	-0.114	-0.120	-0.114	-0.140*	-0.144*	-0.140*
	(0.095)	(0.091)	(0.098)	(0.085)	(0.082)	(0.083)
Observations	296	296	296	248	248	248
Province FE	Yes	Yes	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes	Yes	Yes
Pseudo R-Sq.	0.145	0.144	0.144	0.176	0.177	0.176
Log-Likelihood	-165.596	-165.711	-165.830	-134.345	-134.140	-134.348

Notes: ***, **, and * denote statistical significance at the 1%, 5%, and 10% level, respectively. The table presents the results from the probit models. The dependent variable is *Approval*, which equals one if the firm obtained a loan from a state-owned, private, or foreign bank in 2013. Columns (1)-(3) present the results for the full sample. Columns (4)-(6) present the results of the subsample of SMEs only. Each column reports the marginal effects (ME) and standard errors (SE) for each variable assuming that all other covariates are equal to their sample mean. Standard errors in parentheses are clustered at the industry level.

The results for the whole sample are shown in columns (1)-(3) of Table 4, while those for SMEs are presented in columns (4)-(6). We find that SMEs with informal political connections are more likely to obtain loans from state-owned banks, while informal po-

litical connections do not have any significant effect on SMEs' probability of obtaining a loan from private banks. This finding is consistent with previous studies such as those by Li et al. (2008) and Cole (2009).

Table 4: Multinomial logit estimation for the first stage

	Whole Sample			SMEs		
Dependent Var.	No Loan ME/SE	Private ME/SE	State-owned ME/SE	No Loan ME/SE	Private ME/SE	State-owned ME/SE
Informal Political	-0.023	0.013	0.010	-0.034	0.008	0.026*
	(0.088)	(0.084)	(0.015)	(0.086)	(0.092)	(0.014)
Employees	-0.022	0.026	-0.004	-0.024	0.029*	-0.005
	(0.024)	(0.019)	(0.008)	(0.029)	(0.017)	(0.015)
Foreign	0.212***	-0.149***	-0.063*	0.269***	-0.202***	-0.067*
	(0.048)	(0.052)	(0.035)	(0.069)	(0.062)	(0.040)
Investment	-0.021***	0.017***	0.005***	-0.024***	0.017***	0.007***
	(0.003)	(0.004)	(0.001)	(0.006)	(0.006)	(0.001)
Firm Age	0.001***	-0.002***	0.000	-0.000	-0.001	0.001**
	(0.000)	(0.000)	(0.001)	(0.001)	(0.001)	(0.000)
Local Clients	-0.031***	0.014	0.017	-0.049	0.022	0.027
	(0.008)	(0.014)	(0.017)	(0.038)	(0.045)	(0.018)
Local Suppliers	0.086	-0.085	-0.001	0.098**	-0.089**	-0.009
	(0.068)	(0.057)	(0.027)	(0.049)	(0.044)	(0.031)
Observations	296	296	296	248	248	248
Province FE	Yes			Yes		
Industry FE	Yes			Yes		
Log-Likelihood	-219.002			-183.460		

Notes: ***, **, and * denote statistical significance at the 1%, 5%, and 10% level, respectively. This table presents the results from the multinomial logit model. The dependent variable is *Bank Type*, which equals zero if the firm, in 2013, did not obtain a bank loan, and equals one if the firm received a loan from a private bank, and two if it obtained a loan from a state-owned bank. Columns (1)-(3) present the results for the full sample. Columns (4)-(6) present the results of the subsample of SMEs only. Each column reports the marginal effects (ME) and standard errors (SE) for each variable assuming that all other covariates are equal to their sample mean. Standard errors in parentheses are clustered at the industry level.

5.2 Political Connections and Loan Amount

Next, we estimate Equation 2 using a Heckman probit model. The results are shown in Table 5. Similar to the estimations for Equation 1, columns (1)-(3) are for the whole sample, while (4)-(6) are for the subsample of SMEs. We find that the χ^2 tests reject the null hypothesis that $\rho = 0$ in all three estimations for the subsample of SMEs. This

implies that unobserved factors in the first stage focusing on loan approval potentially affect the probability that a firm receives the full loan amount it applied for.

Looking at the results for the three variables representing political connections, we find that none of them are significant in the full sample estimations. However, for SMEs, *Informal Political* and *Political* are positively associated with the likelihood that a firm received the full loan amount. Moreover, these variables are not only statistically significant, their economic significance is also large: when all other covariates equal to their sample means, the marginal probabilities of *Informal Political* and *Political* are 29.5% and 26.3%, respectively.

Another interesting finding is that the coefficient on *State Bank* is negative and significant, suggesting that firms borrowing from a state-owned bank are less likely to receive the full loan amount. A possible explanation is that such firms face stricter collateral requirements and therefore find it more difficult to get the full loan amount than firms borrowing from a private bank.

Table 5: Probit estimation for the second stage with correction for sample selection

	Whole Sample			SMEs		
	(1)	(2)	(3)	(4)	(5)	(6)
Dependent Var.	Full Amount ME/SE	Full Amount ME/SE	Full Amount ME/SE	Full Amount ME/SE	Full Amount ME/SE	Full Amount ME/SE
Political	0.077			0.263**		
	(0.103)			(0.119)		
Formal Political		-0.109			-0.035	
		(0.181)			(0.165)	
Informal Political			0.118			0.295**
			(0.124)			(0.134)
State Bank	-0.176*	-0.166*	-0.174**	-0.227***	-0.213***	-0.223***
	(0.101)	(0.100)	(0.095)	(0.053)	(0.062)	(0.053)
Employees	-0.038	-0.046	-0.038	-0.083*	-0.097**	-0.085*
	(0.058)	(0.065)	(0.058)	(0.043)	(0.039)	(0.044)
Foreign	0.130	0.146	0.127	0.019	0.047	0.026
	(0.126)	(0.127)	(0.126)	(0.177)	(0.195)	(0.175)
Investment	0.002	0.002	0.003	0.027*	0.023	0.027
	(0.010)	(0.010)	(0.011)	(0.016)	(0.018)	(0.016)
Firm Age	-0.002	-0.002	-0.003	0.002	0.000	0.002
	(0.003)	(0.004)	(0.004)	(0.004)	(0.004)	(0.004)
Direct Exports	0.021	0.023	0.025	-0.007	0.001	-0.000
	(0.209)	(0.181)	(0.207)	(0.110)	(0.110)	(0.112)
Local Clients	0.077	0.079	0.076	0.137	0.159	0.139
	(0.088)	(0.090)	(0.087)	(0.159)	(0.174)	(0.161)
Local Suppliers	-0.106	-0.085	-0.112	-0.090	-0.046	-0.091
	(0.110)	(0.095)	(0.109)	(0.123)	(0.090)	(0.125)
Observations	296	296	296	248	248	248
χ^2 Test	1.786	1.257	2.052	17.387	10.235	20.531
P-value of χ^2 Test	0.181	0.262	0.152	0.000	0.001	0.000
Province FE	Yes	Yes	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes	Yes	Yes
Log-Likelihood	-226.593	-226.758	-226.681	-183.443	-184.897	-183.173

Notes: ***, **, and * denote statistical significance at the 1%, 5%, and 10% level, respectively. The table presents results from the probit model for the second stage with correction for sample selection. The dependent variable is *Full Amount*, which equals one if the loan amount obtained by the firm in 2013 was equal to the amount it applied for. Columns (1)-(3) present the results for the full sample. Columns (4)-(6) present the results of the subsample of SMEs only. Each column reports the marginal effects (ME) and standard errors (SE) for each variable assuming that all other covariates are equal to their sample mean. Standard errors in parentheses are clustered at the industry level. The χ^2 test is a Wald test of independence between estimations in two stages under the null hypothesis that $\rho = 0$.

5.3 Discussion

Summing up the results, we find that political connections alleviate financial constraints of SMEs in different stages of the loan application process. Moreover, firms with political connection are more likely to borrow from state-owned banks. Finally, firms with political connections are more likely to receive the full loan amount they applied for.

The observed effect of political connections on access to bank loans may arise via various channels. First, because firms with political connections may be closer to state-owned bank officers, they face lower lobbying costs when they are applying for a bank loan. Second, firms with political connections may be closer to government-led investment projects and for that reason may find it easier to receive support from banks. As argued by Faccio et al. (2006), firms with political connections may receive financial assistance to support them during times of trouble and distress. Finally, political connections provide firms with easier access to government support programs such as the government guarantee program in Indonesia, which may help to reduce collateral requirements.

Further, we find that informal connections play a more important role than formal connections. One possible explanation is that the informal connections are more likely to help to reduce the lobbying costs or provide easier access to government guarantee programs when firms are applying for a loan.

5.4 Robustness Checks

One issue in the estimation of Equation 1 is that our sample does not consist only of firms that applied for a loan. The results in Table 3 suggested that foreign-owned firms are much less likely to borrow from domestic banks. This is probably because they have access to other forms of funding through their overseas parent. If we assume that for foreign-owned firms borrowing from domestic banks is less important than for other firms, then by excluding them we can reduce the likelihood that our first-stage estimation includes firms that did not apply for a loan from a domestic bank in the first place.

The results of the multinomial logit estimation for the first-stage after excluding firms with foreign ownership are reported in Table 6. In the subsample consisting of SMEs, being politically connected is still associated with a higher probability of obtaining a loan

from a state-owned bank. Moreover, the economic significance is also similar to the result when not excluding foreign-owned firms.

Table 6: Multinomial logit estimation for the first stage (excluding foreign-owned firms)

	Whole Sample			SMEs		
Dependent Var.	No Loan ME/SE	Private ME/SE	State-owned ME/SE	No Loan ME/SE	Private ME/SE	State-owned ME/SE
Informal Political	-0.036	0.024	0.011	-0.039	0.013	0.027*
	(0.095)	(0.094)	(0.014)	(0.091)	(0.100)	(0.014)
Employees	-0.002	0.006	-0.004	-0.017	0.021	-0.004
	(0.025)	(0.021)	(0.008)	(0.025)	(0.014)	(0.016)
Investment	-0.025***	0.021***	0.005***	-0.024***	0.017***	0.007***
	(0.003)	(0.004)	(0.001)	(0.006)	(0.006)	(0.001)
Firm Age	0.001	-0.001	0.000	0.000	-0.001	0.001***
	(0.001)	(0.001)	(0.001)	(0.002)	(0.002)	(0.000)
Local Clients	-0.021	-0.001	0.023	-0.045	0.009	0.036**
	(0.015)	(0.005)	(0.018)	(0.032)	(0.036)	(0.017)
Local Suppliers	0.071	-0.066	-0.005	0.108**	-0.093**	-0.015
	(0.058)	(0.044)	(0.028)	(0.050)	(0.042)	(0.030)
Observations	251	251	251	215	215	215
Province FE	Yes			Yes		
Industry FE	Yes			Yes		
Log-Likelihood	-197.226			-170.585		

Notes: ***, **, and * denote statistical significance at the 1%, 5%, and 10% level, respectively. The table presents the results from the multinomial logit models when excluding foreign-owned firms. The dependent variable is *Bank Type*, which equals zero if the firm, in 2013, did not obtain a bank loan, and equals one if the firm received a loan from a private bank, and two if it obtained a loan from a state-owned bank. Columns (1)-(3) present the results for the full sample. Columns (4)-(6) present the results of the subsample of SMEs only. Each column reports the marginal effects (ME) and standard errors (SE) for each variable assuming that all other covariates are equal to their sample mean. Standard errors in parentheses are clustered at the industry level.

As a further robustness check, we use the strength of political connections as an alternative variable in the second stage regression. The variable *Formal Strength* measures firms' closeness to politicians by using the percentage on the board of directors. The variable *Informal Strength* measures the strength of informal connections by using the number of questions answered with *yes* in the questions about firms' informal political connections. We repeat the estimation in the previous section and replace indicators of political connections with the strength of political connections. The results are reported in Table 7. We find that a one degree increase in informal strength raises the probability

that the firm receives the full loan amount applied for by 16%.

Table 7: Probit estimation for the second stage with measures of the strength of political connections

	Whole Sample		SMEs	
	(1)	(2)	(3)	(4)
Dependent Var.	Full Amount ME/SE	Full Amount ME/SE	Full Amount ME/SE	Full Amount ME/SE
Formal Strength	-0.225		-0.145	
	(0.176)		(0.184)	
Informal Strength		0.075***		0.159***
		(0.013)		(0.026)
State Bank	-0.184*	-0.176*	-0.240***	-0.246***
	(0.107)	(0.095)	(0.091)	(0.083)
Employees	-0.058	-0.053	-0.129**	-0.133**
	(0.076)	(0.074)	(0.066)	(0.067)
Foreign	0.212	0.228	0.248	0.303*
	(0.167)	(0.176)	(0.184)	(0.176)
Investment	-0.003	-0.006	0.010	0.009
	(0.007)	(0.006)	(0.015)	(0.014)
Firm Age	-0.002	-0.002	0.001	0.001
	(0.004)	(0.004)	(0.005)	(0.005)
Direct Exports	0.060	0.063	0.081	0.092
	(0.144)	(0.190)	(0.072)	(0.076)
Local Clients	0.068	0.079	0.145	0.157
	(0.105)	(0.094)	(0.199)	(0.189)
Local Suppliers	-0.071	-0.090	-0.017	-0.050
	(0.093)	(0.091)	(0.087)	(0.122)
Observations	99	99	85	85
Province FE	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes
Pseudo R-Sq.	0.112	0.109	0.131	0.146
Log-Likelihood	-60.832	-61.036	-51.216	-50.293

Notes: ***, **, and * denote statistical significance at the 1%, 5%, and 10% level, respectively. The table presents the results from probit models. The dependent variable is *Full Amount*, which equals one if the loan amount obtained by the firm in 2013 was equal to the amount it applied for. Columns (1)-(3) present the results for the full sample. Columns (4)-(6) present the results of the subsample of SMEs only. Each column reports the marginal effects (ME) and standard errors (SE) for each variable assuming that all other covariates are equal to their sample mean. Standard errors in parentheses are clustered at the industry level.

5.5 Political Connections, Bank Finance and the Allocative Efficiency of Capital

Our analysis above raises the following question: if political connections are beneficial to firms in terms of providing better access to bank finance, what are the consequences? If firms with political connections happen to make more productive use of the additional capital than other firms, preferential treatment by banks of politically connected firms contributes to the growth of such firms and the economy overall. However, if such firms do not use the additional capital more productively than other firms, loans to them represent a misallocation of capital that is detrimental to economic growth. In addition, if preferential treatment of politically connected firms involves bribery and corruption, it is not only detrimental from the perspective of economic development, but also undermine economic and social equity.

To investigate whether loans based on political connections represent an efficient allocation of capital, we follow the strategy employed by Banerjee and Munshi (2004) and Li et al. (2008) and include an interaction term between fixed assets and political connection in our estimation. The results, based on ordinary least squares (OLS) are reported in Table 8. The dependent variable is *Value Added*, which measures firm productivity. The first column is the estimation result for all SMEs. Columns from (2) to (4) show the results for SMEs that obtained bank loans. We use the variable *State Bank* to test whether firms received a loan from a state-owned bank had a higher level of productivity. Similarly, we use the variable *Full Amount* to test whether firms that received the full amount they applied for are more productive.

The results of this estimation are shown in Table 8 and do not provide any significant evidence showing that political connections are associated with an efficient allocation of capital to more productive firms. On the contrary, in the third column, we find that firms with political connections that borrowed from state-owned banks appear to be less productive than other firms. This finding supports the suspicion that access to loans based on political connections probably does not result in a better allocation of capital. Instead, scarce financial resources likely are channeled by state-owned banks to politically connected but less productive firms.

Table 8: Political connections and allocative efficiency of capital

Dependent Var.	(1) Value Added β/SE	(2) Value Added β/SE	(3) Value Added β/SE	(4) Value Added β/SE
Political	0.423	1.725	0.596	-0.097
	(1.693)	(0.840)	(0.329)	(0.726)
Political × Fixed Capital	-0.108	-0.155		
	(0.175)	(0.093)		
State Bank			0.652*	
			(0.274)	
Political × State Bank			-0.902*	
			(0.397)	
Satisfied				-0.310
				(0.184)
Political × Full Amount				0.746
				(0.612)
Fixed Capital	0.465***	0.729***	0.735***	0.712***
	(0.086)	(0.100)	(0.100)	(0.126)
Employees	0.072	-0.082	-0.130	-0.133
	(0.091)	(0.147)	(0.190)	(0.106)
Foreign	0.514**	0.641	0.726	0.797
	(0.173)	(0.546)	(0.750)	(0.438)
Firm Age	0.004	-0.011	-0.014*	-0.013*
	(0.008)	(0.006)	(0.005)	(0.005)
Direct Exports	0.152	-0.034	0.189	0.110
	(0.178)	(0.514)	(0.446)	(0.536)
Local Clients	0.436**	0.308	0.306	0.274
	(0.138)	(0.237)	(0.152)	(0.266)
Local Suppliers	0.252	-0.637*	-0.593	-0.650
	(0.322)	(0.293)	(0.310)	(0.416)
Observations	172	66	66	66
Province FE	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes
R-Sq.	0.490	0.642	0.662	0.648

Notes: ***, **, and * denote statistical significance at the 1%, 5%, and 10% level, respectively. The table presents the results from the OLS model. The dependent variable is *Value Added* as defined in Table 1. Column (1) presents the results of the estimation for SMEs. Columns (2) to (4) present the results for the estimation for SMEs which obtained a loan. Standard errors in parentheses are clustered at the industry level.

6 Conclusion

This paper examined the effects of political connections on access to bank credits, using a firm-level dataset for the manufacturing sector in Indonesia. A unique feature of our

data is that they contain detailed information on firms' political connections and bank finance for both SMEs and large firms. To the best of our knowledge, ours is the first study to incorporate the role of political connections in access to bank finance into the two steps of the loan granting process (approval and decision of the loan amount). We find that the political connections help SMEs to gain approval for loans by state-owned banks. Moreover, conditional on loan approvals, SMEs with political connections are more likely to receive the loan amount they requested. On the other hand, for larger firms, political connections do not appear to play a significant role in the access to bank loans. In addition, we find that, for SMEs, informal political connections based on personal connections between a firm manger and politicians are more important than formal political connections based on the presence of politicians on the board of directors.

Finally, our analysis suggests that firms with political connections that borrowed from state-owned banks appear to be less productive than other firms. Taken together, our findings thus provide evidence of potential cronyism in the disbursal of loans by state-owned banks to smaller firms, which results in an inefficient allocation of capital. Possible policies to address such inefficiency, which is not only detrimental to economic development but also undermines the social fabric, include reducing the role of politicians in state-owned banks, increasing the professionalism of loan disbursal decisions based on objective criteria, and mechanisms to enforce the application of those criteria.

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