Politically connected firms in Poland and their access to bank financing

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Abstract

This study investigates the relationship between politically connected firms and their access to bank financing in a post-communist eras in Poland. Overall, it finds that "recent" political connections do influence access to bank financing and the value of such connections increased during the financial crisis. However, it also observes that the positive relationship mentioned above is substantially weaker in Poland relative to other emerging countries and we attribute this phenomenon to the instability of the Polish political climate.

Key words: political connections; bank financing; global financial crisis

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1. Introduction

The literature on political connections among firms is abundant. However, the existing evidence based on experiences from non-European emerging economies or developed countries is not directly applicable to post-transitional Central Europe as a result of the historical, cultural, and institutional specificity of these countries. Our study therefore fills a gap in the literature by characterizing politically connected firms and their access to bank financing in the context of a post-communist economy. The issue of politically connected firms' potentially privileged access to bank loans—and, consequently, the uneven playing field among firms—has important policy implications, as more than one-third of the listed companies in Poland were politically connected during the 2001-2011 period.

The existing literature offers several explanations for the widespread presence of politically connected firms in both developing and mature economies. These explanations can be broadly divided into three categories. The first group stems from the seminal resource dependence theory by Pfeffer and Salancik (1978). In this approach, political connections facilitate access to scarce and valuable resources, such as bank loans or government contracts. Political connections also compensate for the institutional vacuum that frequently characterises emerging countries (Allen et al., 2006), help firms cope with economic uncertainty or moral hazard problems (Li and Zhang, 2007), and constitute a form of insurance against negative external shocks (Faccio et al., 2006; Blau et al., 2011). The second group of explanations underlines the role of politicians' or a government's goals. Accordingly, from this perspective, political connections are considered a method of using firms' resources to win or maintain political support, an alternative to means of controlling strategically important enterprises through capital engagement (Boubakri et al., 2008; Wu and Cheng, 2011; Wu et al., 2012) or a mechanism enabling the stabilization of undemocratic regimes (Choi and Thum, 2009). The third and final group of reasons for creating political

connections and investing in their durability is related to managers' interests. Firms' relationships with politicians constitute an important part of the social capital brought in by directors, as these relationships are difficult to replicate and, consequently, may improve firms' competitive positions (Peng and Luo, 2000; Li and Zhang, 2007; Li et al., 2008).

The study directly tests the validity of the first group of explanations in the context of a post-transitional European economy by investigating whether politically connected firms in Poland play an important role in the economy and have greater access to bank financing. We believe that the Polish economy constitutes an appropriate context for such an investigation. The reasons are twofold. First, all European post-transitional countries, owing to their historical legacies, are known for frequent intersections of political and business interests (Kowalewski and Rybinski, 2011). Second, the existing literature on political connections heavily relies on datasets from China and other Asian countries or Latin American economies, and therefore, previous findings—however relevant—are not necessarily applicable to Central European countries.

Using a new and comprehensive dataset, we establish that the relationship between political connections and access to bank financing was complex in Poland in the years from 2001 to 2011. The results moderately support the predictions based on resource dependence theory and only partially correspond to findings in the literature. We find that the sheer existence of political connections generally does not privilege firms in the bank loans market. However, recent political connections, i.e., those created through persons who left politics a few years ago, have a stronger and more stable impact on access to bank financing. Moreover, ties to local authorities are less valuable than connections with central government officials. Unexpectedly, neither the role of politically connected directors within a firm nor the number of a firm's political relations affects the structure of liabilities. When we account for the different conditions of the loan market during the non-crisis and global financial crisis

periods, we find some evidence that the importance of political connections increased from 2007 onward, despite the institutional changes fostered by Poland's accession to the EU in 2004. With respect to the frequency and characteristics of politically connected firms in Poland, however, our results are consistent with the existing evidence from other emerging economies. We find that during the 2001-2011 period, 37% of listed companies in Poland had personal political connections in at least one financial year, and that politically connected entities are larger, located closer to Warsaw, and more frequently in regulated and strategically important industries than their competitors. Even though our evidence is based on Polish data, we believe that our results have a wider appeal: our results are relevant to other Central European post-transitional countries in particular and supplement the literature on political connections in general.

Our study contributes to the existing literature in three ways. First, this study fills an important gap in the literature concerning the functioning of politically connected firms. As mentioned above, to the best of our knowledge, the frequency of political connections and their impact on access to bank financing has not been thoroughly studied in the literature in the specific context of Central European post-transitional countries. Second, the study verifies and develops some previous claims about the number and share of politically connected firms in Poland from cross-country studies (Faccio, 2004, 2006), which are by their nature necessarily less detailed. Third, our empirical analysis is based on a unique, hand-collected dataset concerning political connections. This dataset is dynamic and allows us to characterize connections along several dimensions, such as the age of political connections, level of political connections (national or local), political experience of firms' employees and positions held by connected employees (on supervisory boards or management teams), and to assess the changes in importance of political connections brought about by the macroeconomic situation and institutional reforms.

The remainder of the paper is organised as follows. Section 2 concentrates on the frequency and characteristics of political connections. It reviews the relevant literature, presents our data, and describes our empirical findings for the Polish economy. Section 3 focuses on the impact of political connections on long-term debt availability. Once more, we begin with a literature review to develop our own hypotheses. Then, we present the empirical design and results. Section 4 discusses the main conclusions.

2. The frequency of political connections

2.1. Literature review

We identified in the literature three works describing at length the frequency of political connections among firms. Faccio (2004, 2006) and Boubakri et al. (2008) analyzed the frequency of political connections in the international context, while Kang and Zhang (2012) focused on the US market only. However, many other researchers have provided brief statements concerning the share of politically connected enterprises in their samples. It is worth stressing that most previous studies have examined the factors responsible for the creation of political connections, rather than the sheer existence of political connections. In addition to the aforementioned authors, the factors affecting the probability of being a politically connected firm were established by Agrawal and Knoeber (2001) for US firms, by Xin and Pearce (1996) and Li et al. (2006) for Chinese firms, and by Bunkanwanicha and Wiwattanakantang (2009) for Thai firms. Despite this considerable research effort, our knowledge about the share of politically connected firms in different economies and the traits of politically connected entities is still incomplete. The vast majority of empirical findings have concerned US and Chinese markets. Central European countries, with the noticeable exception of Faccio (2004, 2006), have been absent in previously published studies.

Faccio (2004, 2006) identified 541 politically connected enterprises in 35 countries, which accounted for 2.68% of the analyzed firms. In 12 of 47 countries, Faccio (2004, 2006) did not find any personal connections between politics and business. Among these countries were two from Central Europe: the Czech Republic and Poland. Boubakri et al. (2008) established that 35.5% of privatized firms in their sample—which included data from 41 countries—were politically connected. In the case of the US market, Kang and Zhang (2012) discovered that during the 1990-2007 period, 43.3% of the observations regarding listed companies originated from entities that hired at least one politically connected director. Moreover, Kang and Zhang (2012) showed that the share of politically connected firms steadily increased during the sample period. Moreover, many other researchers have incidentally provided data necessary to calculate the frequency of politically connected firms. The distribution of the relevant assessments is shown in Figure 1. In 14 of 21 studies, the share of politically connected firms is between 20% and 50%. However, this result should be interpreted cautiously, as the definitions of politically connected firms vary greatly in different works.

[Figure 1]

The descriptive analysis of the frequency of political connections is usually supplemented in the literature with econometric models that are designed to identify the determinants of the creation of political ties. Faccio (2004; 2006) established that political connections are more common in countries that are characterized by intense corruption and capital flow restrictions, while the frequency of political connections is lower in countries with strict regulations regarding conflicts of interests. Also in the international context, Boubakri et al. (2008) found that the creation of political ties is more likely when the judiciary system is less independent, the political base of the government is less stable, firms have a large scale of operations, their headquarters are located in the main cities of a country, and

companies are in regulated industries. In the case of developed markets, the determinants of political connections have only been studied for US firms. Agrawal and Knoeber (2001) showed that political ties are more frequent among large companies, companies that are dependent on government contracts and export productions, and entities that are heavily involved in lobbying activities. 11 years later, Kang and Zhang, reached almost the same conclusions. However, they added the observation that political ties are more ubiquitous in regulated industries. The similarity in the findings between these studies shows that the determinants of political connections are quite stable over time, at least for the American market. Regarding emerging markets, there is some empirical evidence based on Chinese and Thai enterprises. Xin and Pearce (1996) observed that in China managers of private companies were more frequently politically connected and perceived political ties to be more important to the success of a firm than their peers, and so concluded that political connections help firms deal with institutional weaknesses. Li et al. (2006) found that political connections were more widespread in Chinese provinces with weaker legal and economic infrastructures. Using Thai data, Bunkanwanicha and Wiwattanakantang (2009) discovered that business tycoons were more likely to participate in general elections when their firms were more dependent on government concessions.

The literature on the frequency of political ties shows thus that connected firms play an important role in both developed and emerging economies. The share of politically connected firms is usually between 20% and 50% of studied companies. Moreover, a low transparency of public life, presence of underdeveloped institutions and stringent regulations, and dependence on government contracts favour the creation of political connections.

2.2. The data on political connections in Poland

Unlike in some developed countries, no organisation in Poland provides information on firms' political ties. Therefore, all data presented in this paper were hand collected from different sources. We assume that a company is politically connected when it employs top managers or supervisory board members with experience in politics.[1] A similar approach was previously applied, for example, by Faccio (2006), Boubakri et al. (2008), Niessen and Ruenzi (2009), Hung et al. (2012), and Liu at al. (2012). In contrast to Faccio (2006), however, we concentrate only on objectively observed political ties. We exclude the connections created through acquaintances, friendships, and family bonds. To determine the number of political connections among listed firms in Poland, we gathered information on politicians since the fall of communism, as well as on supervisory board members and top managers. The names of politicians were retrieved from documents of the Polish Election Commission, publications of chambers of both the national parliament and local governments, reports prepared by ministries, the National Bank of Poland, and several institutions regulating financial organisations. In addition, we used numerous documents from Internet sources. In sum, the database on politicians in Poland comprises more than 7,500 names, including: 4,100 members of Parliament; 2,400 members of local parliaments and local executive powers; 850 persons serving as prime ministers, government ministers, Presidential Office ministers, and vice ministers from departments related to finance, industry, privatization, infrastructure, construction, European integration, and regional development; and 170 persons in top positions at the National Bank of Poland and supervisory bodies within the financial system. For each person in the database, we obtained information on personal details (first name, middle name, surname), as well as details regarding time spent in politics and position held in political institutions.

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[1] In Poland, companies can have only a two-tiered board, which includes a supervisory board and a management board.

The second type of information that is needed to assess the frequency of political connections pertains to the composition of managerial teams and supervisory boards. The necessary data for Polish listed companies were gathered from the National Judicial Register via the INFOVERITI service. The National Judicial Register was created in 2001, which determined the starting point of our analysis. From the INFOVERITI database, we retrieved first names, second names, surnames, dates of birth, and types of position held within a given firm. For the 2001-2011 period, the IFOVERITI database contains 3,680 items related to managerial teams and 7,456 items concerning supervisory board members. Merging the database on Polish politicians with the INFOVERITI database produced 1,105 matches. To eliminate random matches that were unrelated to political connections, all potential ties were meticulously checked first by an independent, highly qualified verifier with a doctorate in economics and then analyzed a second time by the authors. The described procedure eliminated 479 matches. Two-thirds of the remaining connections were related to a situation in which firms employed persons who were currently or previously active in politics.

2.3. The characteristics of politically connected firms in Poland

During the 2001-2011 period, 128 of 349 listed companies in Poland were politically connected in at least one financial year. The number of connected entities decreases to 105 when we consider only non-financial firms. The frequency of political connections is thus comparable, as Figure 1 shows, to the estimates provided for other markets in the literature, but contrasts with Faccio's findings (2006). The identified connections were created through 166 non-repeating persons for the entire sample and 128 persons for the sub-sample of non-financial entities.

Table 1 provides a more detailed breakdown and analysis of the politically connected listed firms in Poland. As the table shows, political connections are created mainly through

supervisory boards. Moreover, politicians working for listed firms most frequently have experience working in the central government. The vast majority of companies are tied to the political sphere on only one of four levels defined in Panel B of Table 1. As suggested by the literature, regulated industries (banking and other financial intermediaries) and industries considered by the Polish government to be strategically important (power, chemical, fuel, and raw materials industries) have the highest percentage of politically connected firms.

[Table 1]

We compare the size and location of politically connected firms and their untied competitors in Table 2. The necessary financial data were retrieved from the NOTORIA service. When we consider sales revenue as a size measure, the statistical test unequivocally shows that politically connected companies are larger than others firms. If we use the value of total assets, the size advantage of the politically connected entities over their peers is visible only in the case of the medians. We obtained the most inconclusive results with regard to market capitalization. While non-financial politically connected firms have significantly greater market values of equity, the results for the entire sample differ for the means and medians. Moreover, the headquarters of politically connected firms are located statistically significantly closer to the centre of power in Poland, Warsaw, the capital.

[Table 2]

To further investigate the differences between connected and unconnected firms in Poland, we estimate a simple probit regression. The dependent variable *PCONsimp* takes the value of one when a given listed company is classified as politically connected in at least one period. The explanatory variables can be divided into two groups. The first one describes the traits of a firm and includes financial ratios, illustrating size (LnAsimp or LnMVsimp), cash balance (CASHsimp), development perspectives (MVBVsimp or DYN_Asimp or DYN_Ssimp), structure of assets (COLLATsimp), profitability (ROAsimp), firm age

(AGEsimp), and distance of the headquarters from the capital (WAW). The second group comprises binary variables designed to identify the industries in which, according to the literature, the benefits of being a connected entity are the highest: regulated industries (BANKS, OT_FIN, OT_REG, UTILITY), industries dependent on government contracts (CONTR), and industries treated by political powers as strategically important (STRATEG). The detailed definitions of the aforementioned variables are given in Table 3. All values of the regressors, owing to the construction of the dependent variable, were calculated as means for the sample period.

[Table 3]

The outcomes of the probit model estimation are presented in Table 4. Panel A provides the results for the entire sample, while Panel B provides the results for non-financial companies only. The characteristics of politically connected firms revealed by the probit regressions are not surprising. In fact, they are mostly consistent with the findings in the literature for other economies. The probability of being a politically connected company is higher for entities with large assets (LnAsimp) or market capitalization (LnMVsimp). The existence of politically connected supervisory boards or management teams is also accompanied by relatively low profitability (ROAsimp) and proximity of capital (WAW). The remaining variables from the first group are either insignificant or their impact is unstable. With respect to the second group of explanatory variables, political connections are more likely to appear in banking institutions (BANKS), other financial institutions (OT_FIN), and strategically important industries (STRATEG).

[Table 4]

In comparison to the US economy (Kang and Zhang, 2012), the political connections in our study are less stable, as the number of firms connected in at least one year is higher than the number of politically connected companies in each year. As Figure 2 shows, the number

of firms employing persons with political experience increases from 18 in 2001 to above 50 in the second half of the sample period. However, the number of observations for politically connected entities is still sufficient for a statistical interference because it is equal to 479 for the entire sample and 372 for non-financial companies.

[Figure 2]

3. Access to bank loans

3.1. Literature review

The relationship between political connections and the availability of bank financing has been analyzed in the literature almost exclusively with data from emerging economies. The only exceptions are cross-country studies (Faccio, 2006, 2010; Boubakri et al., 2012) and the study by Houston et al. (2012). The majority of the relevant works have relied on financial statements as a primary source of information. However, several authors have used survey data (Cull and Xu, 2005; Li et al., 2008; Malesky and Taussig, 2009; Zhou, 2009; Chow et al., 2012). In only two studies were the statistical inferences based on information concerning individual loans instead of firm-level information (Khwaja and Mian, 2005; Lazzarini et al., 2012). The dependent variables in the relevant articles were usually computed using financial statements and described the financial leverage, share of long-term liabilities or liabilities to banks in total liabilities of firms. Less frequently, the dependent variables were the size of banks or were binary, describing whether a firm contracted bank debt. Independently of the way in which access to bank financing was approximated, the majority of existing studies have concluded that politically connected firms are privileged in this respect in emerging economies (Faccio, 2006, 2010, and Boubakri et al., 2012, for the international context; Cull and Xu, 2005, Zhou, 2009, Li et al., 2008, and Liu et al., 2012, for China; Charumilind et al., 2006, for Thailand; Johnson and Mitton, 2003, Fraser et al., 2006, Bliss and Gul, 2012, for Malaysia; Melesky and Taussig, 2009, for Vietnam; Khwaja and Mian, 2005, for Pakistan;

Claessens et al., 2008, and Lazzarini et al., 2012, for Brazil). The literature has revealed that maintaining political connections on several levels simultaneously is especially valuable with respect to preferential access to debt financing (Liu et al., 2012; Malesky and Taussig, 2009), as is maintaining links to influential politicians or winning parties (Khwaja and Mian, 2005; Claessens et al., 2008; Lazzarini et al., 2012). Politically connected firms are also less financially constrained in their investment programs (Xu et al., 2011; Chan et al., 2012).

The existing evidence on the relationship between political connections and bank financing should be interpreted cautiously, however, as in some studies, owing to the static nature of the datasets concerning political connections, the observed patterns may result from reverse causality. Theoretically, it is possible that highly leveraged firms and firms that are closely collaborating with banks create and maintain political connections to reduce the probability of bankruptcy or increase the probability of obtaining public help (Faccio et al., 2006). While the alternative explanation for the findings reported in the literature cannot be ruled out entirely, there is some evidence that changes in access to financing occur after the creation of political connections (Faccio et al., 2006; Boubakri et al., 2012). The dynamic nature of the dataset on political ties that is used in this article also helps us to determine whether political connections facilitate bank financing or whether they are created because of the high level of bank debt.

3.2. Hypotheses and empirical design

In this section, we test four hypotheses. Because politically connected firms are privileged in the credit market in the majority of emerging economies, we expect the same privilege to apply to Central European countries. Therefore, we propose the following hypothesis:

H1. *Politically connected Polish firms have better access to bank loans than their competitors.*

As we indicated above, strong political connections are especially valuable with respect to bank financing. Thus, we propose the following hypothesis:

H2. *The benefits concerning access to bank loans increase with the strength of political connections.*

To ensure that we correctly capture the strength of political connections, we use several methods based on different characteristics of political ties.

The sample period encompasses the years directly preceding Poland's EU accession and the early years of Poland's EU membership. Consequently, during this period, the institutional infrastructure of the economy was quickly gaining maturity and converging toward the standards set by the old EU member states. This situation could weaken the influence of political factors in comparison with other developing countries (Kowalewski and Rybinski, 2011). However, only three years after Poland joined the EU, the economy was hit by the global financial crisis. From 2007 onward, access to long-term debt financing became more valuable for firms than in the previous period. Consequently, the important of political connections may be greater in the second half of the sample period. These arguments lead us to two mutually exclusive hypotheses:

H3. *The institutional changes linked to EU accession limited the role of political connections in Poland.*

H4. *The recent crisis increased the significance of political connections in Poland despite the institutional changes related to EU accession.*

Ideally, when analyzing the relationship between political connections and bank financing, a researcher should have information on individual loans (e.g., Khwaja and Mian, 2005; Lazzarini et al., 2012) or the share of liability to banks in total liabilities (e.g., Charumilind et al., 2006; Liu et al., 2012). Regrettably, the NOTORIA database of financial statements that is used in this study does not provide this type of information. Therefore,

following Faccio (2010) and Boubarki et al. (2012), we use the share of long-term liabilities in total liabilities (LT_LIAB) as a proxy for an access to long-term bank financing and the main dependent variable. Owing to the underdevelopment of the corporate bond market in Poland, long-term liabilities are mainly created by contracted bank loans. Accordingly, we believe that the choice of the dependent variable does not negatively affect the validity of the empirical findings.

When we analyze the determinants of the LT_LIAB ratio, we restrict the original sample that is used in Section 2 to only non-financial firms because the liability structures of financial and non-financial companies are incomparable. Technically, we exclude from the sample companies classified as banks, insurers, investment firms, and other financial entities. The final sample that is used in this Section includes 2,428 observations for 316 listed firms for the period 2001 to 2011. We base our statistical inferences about the relationship between political connections and bank financing on both static and dynamic panel models to test the stability of the results. Because some variables of interest are time invariant, we opted for the random effects estimator. The dynamic models are estimated using the GMM-SYS procedure (Verbeek, 2002; Roodman, 2006; Doornik and Hendry, 2009). The general construction of the static and dynamic models is shown by equations (1) and (2), respectively:

$$LT\_LIAB_{it} = f\left(POLITICAL_{it}; CONTROL_{it-1}; TIME_t xINDUSTRY_k\right) \tag{1}$$

$$LT\_LIAB_{it} = f\left(OP_{it-1}; POLITICAL_{it}; CONTROL_{it-1}; TIME_t xINDUSTRY_k\right) \tag{2}$$

where $POLITICAL_{it}$ is a set of variables illustrating the traits of political connections for firm i in period t; $CONTROL_{it-1}$ is a set of firm-specific variables describing other political determinants of the dependent variable; and, finally, $TIME_t$ x $INDUSTRY_k$ is a set of dummy variables designed to render the specific situations in industry k during period t.

Table 5 provides the definitions of the explanatory variables. It also contains information on the time lags that are used in the static panel models and on the

methodological choices in the dynamic models (the treatment of variables as exogenous or sequentially exogenous and the number of instruments). The expected directions of influence for the group of POLITICAL variables are discussed later when we present the empirical findings. Therefore, we here concentrate on the control variables. As suggested by the literature, larger firms (LnA) with considerable fixed assets (COLLAT) reporting good profitability ratios (ROS_M) should have higher shares of long-term debt in liabilities. The need for long-term bank financing should also be diminished when asset turnover increases (TAT) and be enhanced when a firm undertakes investment programs (INVEST). Theoretically, the impact of the equity ratio (EQ) on the dependent variable is more ambiguous. On the one hand, a solid capital base means lower risk for lenders; on the other hand, however, significant equity reduces the need for long-term bank loans.

[Table 5]

Panel A of Table 6 provides the descriptive statistics for the dependent variable and the firm-specific control variables, while Panel B contains information on the correlations among the regressors. As the table shows, the correlations are low or moderate; they do not surpass 0.27 in absolute terms.

[Table 6]

3.3. The empirical results

The results testing H1 are presented in Table 7. The estimated models have good econometric properties. In both static and dynamic models, the independent variables (excluding TIMExINDUSTRY dummies) are jointly significant at the 1% level. The majority of the explanatory variables are also individually significant. With respect to the dynamic models, in all specifications, there is no basis to reject the null hypothesis in the Sargan test regarding the validity of the instruments. The critical assumption of no serial correlation in the disturbances is validated because we find significant negative first-order serial correlations in

the differenced residuals (the AR(1) test) and no evidence of second-order serial correlations in the differenced residuals (the AR(2) test).

[Table 7]

The firm-specific control variables generally influence the structure of liabilities in the expected directions. Large companies (LnA) that are able to offer valuable collateral (COLLAT) when contracting debt report higher shares of the long-term liabilities in total liabilities. As forecasted, quick asset turnover has a negative effect on the dependent variable, while good operational performance (ROS_M) facilitates access to the long-term bank loans. The results concerning capital base (EQ) and investment programs (INVEST) are more ambiguous. In the static econometric setting (Panel A of Table 7), the aforementioned variables are significant and have coefficients with the predicted signs. However, in the GMM estimations, these variables lack statistical significance.

The statistical significance of the variables identifying politically connected firms (PCON) and recent political connections (PCON_ACT) is conditional upon the construction of the models. When we apply the random effects estimator, PCON is statistically significant in three of four models and enters the regressions with a coefficient with the expected (positive) sign, suggesting that companies employing persons with political experience have greater access to bank loans in Poland. However, the GMM estimates do not support such a conclusion. PCON in specifications (21) through (24) is not statistically significant. The evidence that recent political ties augment the share of long-term liabilities in total liabilities is slightly stronger, because PCON_ACT is always statistically significant in the static panel models and is significant in dynamic model no. (22). Moreover, it is worth noting that in four of six models in Table 7, when there are grounds to reject the null hypotheses that the coefficients obtained for PCON and PCON_ACT are equal to zero, these statistical decisions are made only at the 10% level. In sum, in contrast to the majority of studies reviewed in

subsection 3.1, we find only weak support for the hypothesis that political connections improve firms' ability to obtain bank loans (H1).

H2, based on evidence presented by Khwaja and Mian (2005), Claessens et al. (2008), Melesky and Taussig (2009), Liu et al. (2012), and Lazzarini et al. (2012), states that strong political connections are more valuable with respect to bank financing. Unfortunately, the literature does not provide clear guidance concerning the proper measure of the strength of political connections. Thus, we use several different approaches. The value and strength of political connections should be dependent on the position held by a connected person within a firm, the type of political experience that a given person possesses, the number of a firm's simultaneous political ties, and the share of politically connected members on a firm's supervisory board or management board in the total number of members of these bodies.

The first division of political connections that we introduce pertains to the role of a connected person within a company. Using our database, we are able to identify political connections through supervisory boards (PCON_SUP) and management boards (PCON_MNG). It seems plausible that because of their prospects on the labour market, politically connected managers should be more interested in using their networks to secure long-term credit contracts than politically connected supervisory board members. This proposition is tested in Table 8. This table focuses on the coefficients obtained for the group of POLITICAL variables and their statistical significance and is, therefore, considerably shorter than Table 7. The results for the remaining variables turned out to be very stable and did not provide additional insight into the studied phenomena. The full results are not presented for brevity and are available from the authors upon request.

[Table 8]

Contrary to our expectations, the positions of connected persons within listed companies in Poland do not influence the dependent variable. In Table 8, all the coefficients for the

binary variables PCON_SUP and PCON_MNG are statistically insignificant. The evidence regarding the relationship between political connections and bank financing is similar to that presented previously. Static panel models (26) through (28) suggest that political connections, regardless of their traits, improve access to long-term bank loans, while dynamic panel models (29) and (30) indicate that recent political connections are especially valuable in this respect.

The second classification that we use to measure their strength of political connections relates to the type of political experience possessed by connected employees. We define three new binary variables that identify persons with experience in the central government (PCON_GOV), national parliament (PCON_PARL), and local authorities (PCON_LOCAL). We posit that connections at the governmental level should be the most valuable with respect to bank financing. We test this proposition in Table 9.

[Table 9]

The evidence concerning political connections on the governmental level are mixed. In dynamic specification (40), the variable DPCON_GOV, as expected, positively and significantly influences the dependent variable. However, in static model (34) we cannot reject the null hypothesis that the estimated parameter is equal to zero. The tested proposition is indirectly supported by the estimation outcomes for the models incorporating the variable PCON_LOCAL. Three of four such models indicate that political connections on the local level are less valuable with respect to bank financing than other types of political ties. Moreover, the empirical evidence presented in Table 9 confirms that recent political connections significantly improve a firm's ability to obtain long-term bank loans, as PCON_ACT always has positive coefficient and is statistically significant in nine of 12 models. In sum, specifications (33) through (44) provide some support for H2.

To illustrate the strength of political connections, we construct, as in Liu et al.'s (2012) work, an index (the variable PCON_IND) which takes a higher value when a firm possesses political connections on multiple levels. For example, for a company with political ties at the governmental and local levels, PCON_IND takes a value of two. Table 10 presents the estimation results for the models that include the index of the strength of political connections. Unexpectedly, PCON_IND is insignificant in static panel specifications (45) and (46) and in dynamic specification (52) and negatively influences the dependent variable in dynamic specification (51). This result, contrasting with findings in the literature, may have been observed because only a limited number of Polish listed non-financial firms had connections on more than two levels during the sample period, as Panel C in Table 1 demonstrates.

[Table 10]

The fourth and final method of defining the strength of political connections that we apply in this article is based on variables showing the share of politically connected persons in the total number of supervisory board members (SUP_SH) or management board members (MNG_SH). The relevant specifications are (47)-(50) and (53)-(56) in Table 10. None of the new variables is statistically significant, which contradicts H2. As observed previously, the most stable positive impact on access to long-term bank loans is exerted by recent political connections (PCON_ACT).

To test H3 and H4, that is, to check whether the importance of political connections was diminished or increased during the crisis and economic slowdown, we replace PCON with two variables identifying politically connected firms before 2007 (PCON_FH) and during the crisis period (PCON_CR). The positive and significant sign of the coefficient for PCON_FH accompanied by the insignificant coefficient for PCON_CR would provide support for H3, while the positive and significant impact of PCON_CR on the dependent variable in

conjunction with insignificance of PCON_FH would provide support for H4. Table 11 presents the relevant empirical results. As the table shows, the Polish data do not confirm the claims that institutional changes were successful in curbing the influence of political connections. This conclusion corresponds with recent findings that political connections are important drivers of firm performance even in a low corruption environment (Amore and Bennedsen, 2013). In contrast, our calculations provide some support for H4, as all the static panel model specifications in Table 11 suggest that politically connected companies have enjoyed especially privileged access to long-term bank financing during the recent crisis. However, in the dynamic models, PCON_CR is not significant.

[Table 11]

5. Concluding remarks

Our study documents for the first time that politically connected firms play an important role in a post-transitional Central European economy. The results show that almost 37% of the listed companies in Poland employed a person with political experience in at least one financial year during the sample period from 2001 to 2011. The political connections were established mainly through supervisory boards, that is, non-executive positions. The view of a typical politically connected Polish company is very similar to the view described by other researchers of politically connected companies in non-European emerging economies. Politically connected firms are larger, are situated closer to capital cities, and are more frequently in regulated and strategically important industries than their peers. Despite these *prima facie* similarities, we found that the impact of political connections on access to bank long-term financing was surprisingly weak during the entire sample period. The sheer existence of political connections did not unambiguously influence the share of long-term liabilities in total liabilities. Statistically significant relationships were undetectable even when politically connected persons held executive positions or had experience working in the

central government and when firms created multiple and simultaneous connections, that is, in situations in which political connections should be more valuable than otherwise. Only recent political ties positively affected our dependent variable in a stable manner. One may argue that the weak association between political connections and access to long-term bank financing is due to the institutional changes linked to Poland's EU accession and EU membership since 2004. However, when we account for the changed macroeconomic and financial situation in Poland after 2007, we obtain some evidence that during the recent crisis, political connections have exerted a more powerful impact on access to long-term funds. This observation is inconsistent with the argument that institutional changes drive the weak association between political connections and access to long-term bank financing. Thus, a more probable explanation for the generally weak relationship between political connections and access to bank financing concerns the instability of the political scene during the sample period. From 2001 to 2011, Poland had six different prime ministers and witnessed several cabinet reshuffles. In this setting, political connections might quickly lose value after their creation. Therefore, our study suggests that political instability might foster an even playing field with respect to access to bank loans.

Altogether, our results moderately support predictions based on resource dependence theory concerning the role of political connections in the economy. The study also corroborates previous findings that political connections constitute a form of insurance against negative external shocks (Faccio et al., 2006; Blau et al., 2011), as we document that the significance of political connections is to some degree conditional on the macroeconomic situation in Poland. Finally, the high frequency of politically connected companies among strategically important firms suggests that political connections may be treated as an alternative means of controlling strategically important industries, rather than control through state ownership (Boubakri et al., 2008). We believe that the conditional, insurance-like value

of political connections and the price to pay for this insurance deserve further investigation

using detailed data from other markets.

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Figure 1. Distribution of the frequency of politically connected firms reported in the literature
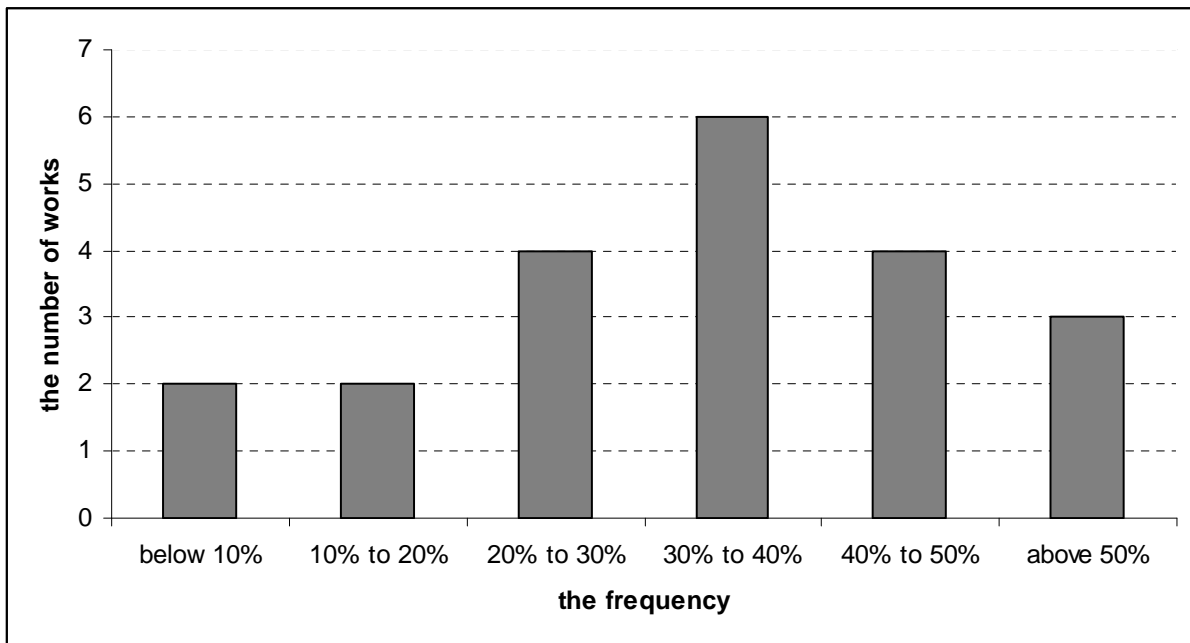
Source: Claessens et al. (2008) and Bandeira-de-Mello and Marcon (2011) for Brazil; Fan et al. (2007), Li et al (2008), Zhou (2009), Du and Girma (2010), Xu et al (2011), Qian at al. (2011), and Wu et al. (2012) for China; Bertrand et al. (2009) for France; Niessen and Ruenzi (2009) for Germany; Khwaja and Mian (2005) for Pakistan; Agrawal and Koneber (2001), Hillman (2005), Goldman et al. (2012), Houston et al. (2012), and Kang and Zhang (2012) for the United States; Malesky and Taussig (2009) for Vietnam; Faccio (2006) and Boubakri et al. (2008) for the international context.

Table 1. Politically connected firms in Poland – main statistics

Panel A. The number of connected firms at least in one year for

	the entire sample	non-financial entities
supervisory board	118	97
management	32	23

Panel B. The number of connected firms at least in one year for

	the entire sample	non-financial entities
parliament	57	48
government	85	69
local authorities	36	32
supervisory and regulating bodies in the financial system	15	4

Panel C. The number of firms connected on one, two, three and four levels defined in Panel B

The number of levels of connections	the entire sample	non-financial entities
1	76	65
2	40	32
3	11	8
4	1	0
Suma	128	105

D. The political connections in different industries

Industry (according to the classification applied by the *Notoria* service)	The number of politically connected firms	The percentage of politically connected companies within a given industry	The number of politically connected firms in a given industry as a percentage of the entire sample
Financial companies			
banking	13	81.3%	3.7%
finance - other	7	53.8%	2.0%
capital markets	2	100.0%	0.6%
insurance	1	50.0%	0.3%
Non-financial companies			
construction	12	37.5%	3.4%
developing	7	43.8%	2.0%
power	4	57.1%	1.1%
trade - other	0	0.0%	0.0%
retail trade	5	25.0%	1.4%
wholesale trade	9	33.3%	2.6%
hotels and restaurants	2	33.3%	0.6%
IT	10	31.3%	2.9%
media	5	31.3%	1.4%
industry - other	0	0.0%	0.0%
chemicals	5	100.0%	1.4%
wood and paper	2	33.3%	0.6%
electro-engineering	8	30.8%	2.3%
pharmaceuticals	1	20.0%	0.3%
light industry	1	12.5%	0.3%
building materials	2	12.5%	0.6%
metal	6	33.3%	1.7%
automotive	2	33.3%	0.6%
fuel	3	60.0%	0.9%
food	6	26.1%	1.7%

raw materials	3	60.0%	0.9%
plastic	2	33.3%	0.6%
telecommunication	3	42.9%	0.9%
services - other	7	35.0%	2.0%
Mean		39.7%	
	Sum		36.7%

Table 2. Comparison of size and locations – politically connected vs. unconnected firms

Panel A. The entire sample

Data in thousands of PLN	Politically connected firms in at least one period		Unconnected firms during the sample period	
	mean	median	mean	median
Assets	63740.4	3225.5	54392.0	1323.7
Total revenues [a]	16875.3	2115.4	10737.3	1298.6
Capitalisation	24086.3	2213.7	32546.6	830.3
Distance from Warsaw (in km)	177.3	197.0	235.0	293.0

	Tests for statistical difference in			
	means		medians	
	t	*p-value*	Z	*p-value*
Assets	0.5377	0.5908	12.3528***	0.0000
Total revenues	1.7694*	0.0770	5.3208***	0.0000
Capitalisation	-0.6968	0.4860	9.4499***	0.0000
Distance from Warsaw (in km)	-7.1360***	0.0000	-6.2890***	0.0000

Panel B. Non-financial firms

Data in thousands of PLN	Politically connected firms in at least one period		Unconnected firms during the sample period	
	mean	median	*mean*	mean
Assets	21718.4	2724.7	20777.7	1334.1
Total revenues [a]	18064.3	2521.9	10922.2	1320.7
Capitalisation	14599.9	1583.4	7215.9	812.5
Distance from Warsaw (in km)	195.1	266.0	224.7	289.0

	Tests for statistical difference in			
	means		medians	
	t	*p-value*	Z	*p-value*
Assets	0.1094	0.9129	9.0978***	0.0000
Total revenues	1.9709**	0.0488	6.9785***	0.0000
Capitalisation	3.4792***	0.0005	6.0696***	0.0000
Distance from Warsaw (in km)	-3.8924***	0.0001	-3.1007***	0.0019

[a] Indicates that all calculations have been made excluding banks and insurers; ***, **, and * signify that there are grounds to reject the null hypotheses at the 1%, 5% and 10% levels, respectively. The standard t-test is applied to test for differences in means, while the Wilcoxon test is applied to test for differences in medians. All the financial data are expressed in constant prices from 2000.

Table 3. Definitions of the variables used in the probit estimation

Variable	Definition
A. The dependent variable	
PCONsimp	A binary variable equal to one when a firm is classified as politically connected in at least one financial year

Variable	Definition
B. Explanatory variables	
LnAsimp	Average value for the sample period of the natural logarithm of assets expressed in real terms
LnMVsimp	Average value for the sample period of the natural logarithm of a firm market value expressed in constant prices
WAW	The distance between a firm's headquarters and Warsaw (in kilometres)
AGEsimp	Average value for the sample period of a firm' age
DYN_Ssimp	Average value for the sample period of the sales growth ratio
DYN_Asimp	Average value for the sample period of the asset growth ratio
MVBVsimp	Average value for the sample period of the market-to-book ratio
ROAsimp	Average value for the sample period of the return on assets ratio
CASH	Average value for the sample period of the cash to assets ratio
COLLATsimp	Average value for the sample period of the fixed assets share in total assets
BANKS	A binary variable identifying banks
OT_FIN	A binary variable encoding non-bank financial intermediaries
CONTR	A binary variable equal to one for firms belonging to sectors that are potentially dependent on public contracts, i.e., IT, construction, energy, and equal to zero otherwise
UTILITY	A binary variable identifying firms from utility industries
OT_REG	A binary variable equal to one for firms belonging to non-financial industries that are regulated to a certain degree, i.e., pharmaceutical, energy, basic materials, telecommunication, manufacturing of alcohol beverages
STRATEG	A binary variable encoding firms in industries treated as strategically important, i.e., energy, oil & gas, chemicals, basic materials

Table 4. Traits of politically connected firms – the results of the probit analysis

Panel A. The entire sample	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Constant	-2.0135 ***	-2.0248 ***	-1.9559 ***	-1.6485 ***	-2.0312 ***	-2.0241 ***	-1.9609 ***	-1.6780 ***
	(0.4539)	(0.4619)	(0.4658)	(0.4855)	(0.4495)	(0.4544)	(0.4569)	(0.4763)
LnAsimp	0.1942 ***	0.1959 ***	0.1824 ***	0.1381 **				
	(0.0493)	(0.0521)	(0.0533)	(0.0558)				
LnMVsimp					0.1890 ***	0.1880 ***	0.1750 ***	0.1350 **
					(0.0481)	(0.0506)	(0.0516)	(0.0540)
WAW	-0.0009 **	-0.0009 **	-0.0009 **	-0.0010 **	-0.0008 **	-0.0008 **	-0.0008 **	-0.0010 **
	(0.0004)	(0.0004)	(0.0004)	(0.0004)	(0.0004)	(0.0004)	(0.0004)	(0.0004)
AGEsimp	0.0172	0.0170	0.0180	0.0194	0.0273 *	0.0274 *	0.0278 *	0.0272 *
	(0.0158)	(0.0159)	(0.0159)	(0.0160)	(0.0160)	(0.0160)	(0.0160)	(0.0162)
CASHsimp	1.9450 *	1.9192 **	1.8974 **	1.7997 *	1.0718	1.0957	1.1176	1.1714
	(0.9916)	(0.9617)	(0.9604)	(0.9598)	(0.9534)	(0.9261)	(0.9231)	(0.9226)
ROAsimp	-1.7706 **	-1.7758 **	-1.7288 **	-1.6840 **	-1.8883 **	-1.8851 **	-1.8299 **	-1.7506 **
	(0.7626)	(0.7660)	(0.7639)	(0.7618)	(0.7568)	(0.7613)	(0.7596)	(0.7577)
MVBVsimp	-0.0046	-0.0046	-0.0046	-0.0054				
	(0.0100)	(0.0100)	(0.0100)	(0.0101)				
DYN_Asimp					0.0571	0.0570	0.0567	0.0502
					(0.0731)	(0.0731)	(0.0729)	(0.0730)
BANKS	0.5430	0.5380	0.6178	0.8468	0.9294 **	0.9296 **	0.9866 **	1.1207 **
	(0.5004)	(0.5069)	(0.5122)	(0.5164)	(0.4687)	(0.4706)	(0.4727)	(0.4731)
OT_FIN	0.8024 **	0.8059 **	0.8169 **	0.8318 **	0.7713 **	0.7687 **	0.7867 **	0.8105 **
	(0.3508)	(0.3483)	(0.3483)	(0.3485)	(0.3482)	(0.3459)	(0.3462)	(0.3470)
CONTR	-0.0206				0.0160			
	(0.1877)				(0.1875)			
UTILITY		-0.0439				0.0264		
		(0.3841)				(0.3782)		
OT_REG			0.1461				0.2050	
			(0.2648)				(0.2619)	
STRATEG				0.7167 **				0.7452 **
				(0.3346)				(0.3306)
No. of observations	340	340	340	340	340	340	340	340
Akaike criterion	1.2377	1.2377	1.2369	1.2242	1.2403	1.2403	1.2386	1.2253
Test χ^2	70.513 ***	70.514 ***	70.796 ***	75.106 ***	69.632 ***	69.629 ***	70.232 ***	74.752 ***

Panel B. Non-financial firms	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
Constant	-1.9907 ***	-2.0388 ***	-1.5222 ***	-1.9374 ***	-1.9819 ***	-2.0057 ***	-1.9411 ***	-1.5777 ***
	(0.4879)	(0.5058)	(0.5409)	(0.5127)	(0.4865)	(0.5009)	(0.5080)	(0.5409)
LnAsimp	0.1666 ***	0.1725 ***	0.1178 **	0.1608 ***				
	(0.0522)	(0.0540)	(0.0577)	(0.0552)				
LnMVsimp					0.1650 ***	0.1690 ***	0.1616 ***	0.1258 **
					(0.0508)	(0.0525)	(0.0535)	(0.0565)
WAW	-0.0007 *	-0.0007 *	-0.0009 **	-0.0007 *	-0.0007	-0.0007 *	-0.0007 *	-0.0009 **
	(0.0004)	(0.0004)	(0.0004)	(0.0004)	(0.0004)	(0.0004)	(0.0004)	(0.0004)
AGEsimp	0.0096	0.0092	0.0110	0.0100	0.0164	0.0163	0.0163	0.0152
	(0.0166)	(0.0166)	(0.0167)	(0.0166)	(0.0167)	(0.0167)	(0.0167)	(0.0169)
DYN_Ssimp					-0.0038	-0.0038	-0.0039	-0.0042
					(0.0085)	(0.0086)	(0.0086)	(0.0087)
COLLATsimp	0.4936	0.5332	0.2388	0.4510	0.5076	0.5299	0.4783	0.2974
	(0.4469)	(0.4624)	(0.4642)	(0.4624)	(0.4477)	(0.4646)	(0.4707)	(0.4796)
CASHsimp	2.0749 *	2.1220 **	1.8219 *	2.0530 **	1.2871	1.3452	1.3147	1.2334
	(1.0640)	(1.0400)	(1.0410)	(1.0400)	(1.0310)	(1.0080)	(1.0070)	(1.0080)
ROAsimp	-1.5092 *	-1.5407 *	-1.4666 *	-1.4933 *	-1.5511 *	-1.5839 *	-1.5666 *	-1.5198 *
	(0.8412)	(0.8427)	(0.8352)	(0.8404)	(0.8234)	(0.8249)	(0.8258)	(0.8250)
MVBVsimp	-0.0059	-0.0059	-0.0068	-0.0060				
	(0.0103)	(0.0104)	(0.0106)	(0.0104)				
CONTR	0.0116				0.0410			
	(0.1891)				(0.1882)			
UTILITY		-0.1422				-0.1003	-0.3080	-0.2800
		(0.3975)				(0.3927)	(0.4731)	(0.4073)
OT_REG				0.0906			0.2554	
				(0.2760)			(0.3292)	
STRATEG			0.6979 **					0.7668 **
			(0.3505)					(0.3567)
No. of observations	310	310	310	310	310	310	310	310
Akaike criterion	1.2622	1.2618	1.2494	1.2619	1.2631	1.2630	1.2676	1.2544
Test χ^2	56 .476 ***	56 .598 ***	60 .448 ***	56 .577 ***	56 .19 ***	56 .207 ***	56 .802 ***	60 .884 ***

***, **, and * indicate that we can reject the null hypotheses concerning individual coefficients or their groups at the 1%, 5%, and 10% levels, respectively. Standard errors are given in parentheses.

Figure 2. Number of firm-year observations for entities classified as politically connected
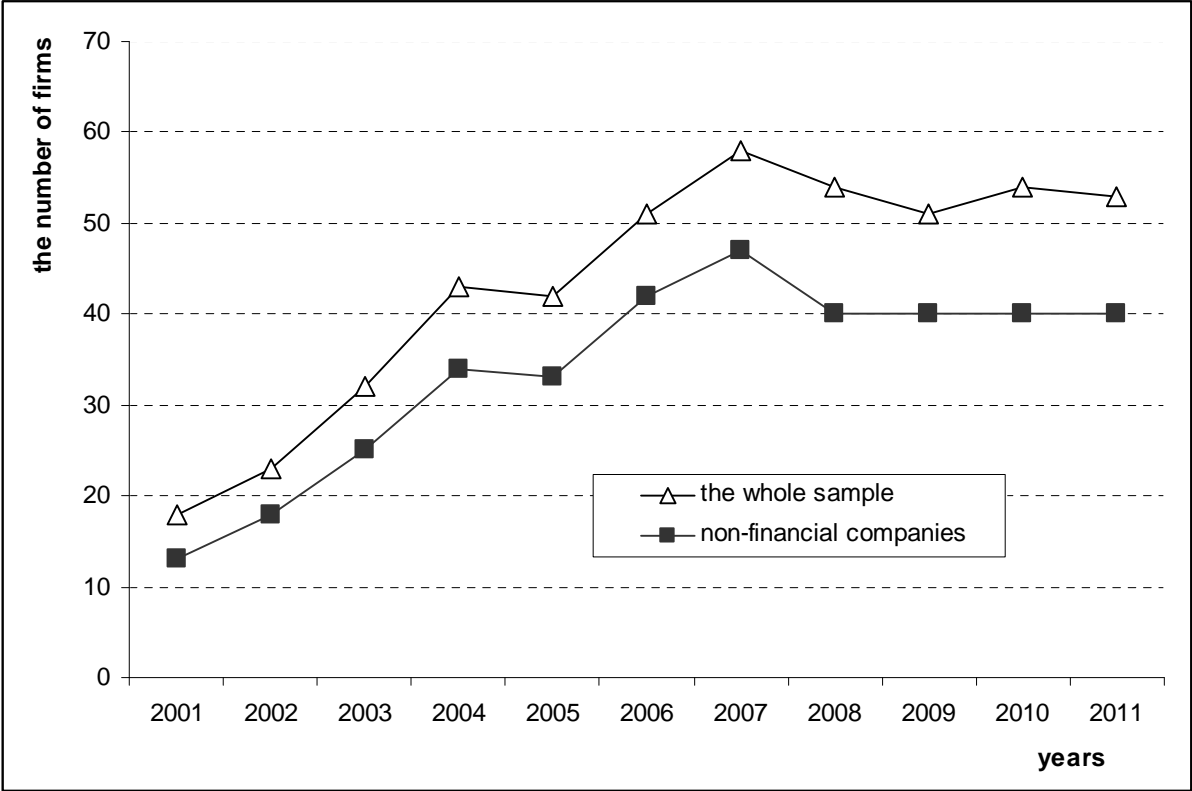
Table 5. Definitions of the variables used in the static and dynamic panel regressions

Variable	Definition	Lag	Type
A. The dependent variable			
LT_LIAB	Ratio of long-term liabilities to total liabilities		
B. Explanatory variables			
LnA	Natural logarithm of assets in constant prices	C	E
COLLAT	Ratio of fixed assets to assets	L	E
TAT	Ratio of sales to assets	L	E
EQ	Ratio of equity capital to assets	L	E
INVEST	Ratio of capital expenses to assets	L	E
ROS_M	Ratio of income from sales to sales	L	E
PCON	A binary variable identifying companies in which in a given year, a manager or supervisory board member had current or past political ties	C	SE
PCON_ACT	A product of (-1) and a difference between a given year and a year in which all current managers and supervisory board members with political ties left their political offices	C	E
PCON_MNG	A binary variable identifying companies in which in a given year, a manager had current or past political ties	C	SE
PCON_SUP	A binary variable identifying companies in which in a given year a supervisory board member had current or past political ties	C	SE
PCON_GOV	A binary variable identifying companies in which in a given year a manager or supervisory board member had current or past political ties as a member of the central government	C	SE
PCON_LOCAL	A binary variable identifying companies in which in a given year a manager or supervisory board member had current or past political ties as a member of a local government	C	SE
PCON_PARL	A binary variable identifying companies in which in a given year a manager or supervisory board member had current or past political ties as a member of the national parliament	C	SE
PCON_IND	An index of the strength of political connections, i.e., an integer ranging from 0 to 4, with 0 assigned to companies with no political connections in a given year (PCON equals zero) and 1, 2, 3, or 4 assigned to companies with simultaneous connections through 1, 2, 3, or 4 channels, respectively, where the connection channels are national parliament, central government, local governments, regulatory, and supervisory authorities of the financial system	C	SE
SUP_SH	Share of politically connected directors on the supervisory board	C	SE
MNG_SH	Share of politically connected persons on the management board	C	SE
PCON_FH	PCON multiplied by a binary variable encoding the pre-crisis years, i.e., years until 2006		
PCON_CR	PCON multiplied by a binary variable encoding the crisis years, i.e., years after 2007	C	E
TIME x INDUSTRY	A set of binary variables designed to catch specific situations within industries in a given year. Industries are aggregated when the number of firms operating in them is lower than five.	C	E

Note: SE denotes sequentially exogenous variables, E denotes strictly exogenous variables, L denotes lagged variables, and C denotes contemporaneous variables.

Table 6. Descriptive statistics and correlation coefficients for the firm-specific control variables

A. Descriptive statistics

	LnA	COLLAT	EQ	ROS_M	TAT	INVEST	LT_LIAB
Mean	7.5393	0.3314	0.4800	0.0521	1.2190	0.0804	0.2352
Median	7.4567	0.3117	0.4867	0.0503	1.0855	0.0498	0.1811
Standard deviation	1.7288	0.2186	0.2319	0.1301	0.7833	0.1019	0.2111
Min	1.2861	0.0001	-0.9402	-0.9624	0.0009	0.0000	0.0000
Max	15.2908	0.9486	0.9801	0.5890	6.9372	0.8531	0.9931

B. Correlation coefficients

	LnA	COLLAT	EQ	ROS_M	TAT	INVEST
LnA	1					
COLLAT	0.2425	1				
EQ	-0.0699	0.0302	1			
ROS_M	0.2655	0.0267	0.1417	1		
TAT	-0.1974	-0.2292	-0.2169	-0.0568	1	
INVEST	-0.0666	0.2292	0.0789	0.1554	-0.0279	1

Note: The descriptive statistics were calculated after the exclusion of outliers. We treated observations outside the theoretically permissible range for a given variable as outliers.

Table 7. Relationship between political connections and access to bank financing - the main findings

A. Static panel models

	(17)		(18)		(19)		(20)	
LnA	0.0312	***	0.0314	***	0.0292	***	0.0289	***
	(0.0050)		(0.0050)		(0.0057)		(0.0057)	
COLLAT	0.1515	***	0.1505	***	0.1207	***	0.1233	***
	(0.0281)		(0.0281)		(0.0347)		(0.0347)	
TAT	-0.0312	***	-0.0312	***	-0.0320	***	-0.0318	***
	(0.0065)		(0.0065)		(0.0083)		(0.0083)	
EQ	-0.0438	**	-0.0437	**	-0.0563	**	-0.0567	***
	(0.0182)		(0.0182)		(0.0221)		(0.0221)	
ROS_M	0.1092	***	0.1073	***	0.1058	**	0.1087	**
	(0.0346)		(0.0346)		(0.0428)		(0.0428)	
INVEST					0.1108	***	0.1070	***
					(0.0407)		(0.0408)	
PCON	0.0158		0.0232	*	0.0340	**	0.0256	*
	(0.0111)		(0.0119)		(0.0141)		(0.0133)	
PCON_ACT			0.0036	*	0.0044	*		
			(0.0022)		(0.0026)			
Constant	-0.0893		-0.0911		-0.0541		-0.0526	
	(0.0569)		(0.0570)		(0.0608)		(0.0607)	
Number of observations	2036		2036		1435		1435	
The Wald test for the POLITICAL and CONTROL variables	133.2	***	135.4	***	100.2	***	97.72	***
Determination coefficient	30.15%		30.21%		32.77%		32.67%	

B. Dynamic panel models

	(21)		(22)		(23)		(24)	
DLT_LIAB	0.5058	***	0.5083	***	0.4745	***	0.4699	***
	(0.076)		(0.076)		(0.077)		(0.078)	
DLnA	0.0122	***	0.0123	***	0.0142	***	0.0141	***
	(0.004)		(0.004)		(0.004)		(0.004)	
DCOLLAT	0.1107	***	0.1082	***	0.0798	**	0.0833	**
	(0.032)		(0.032)		(0.039)		(0.039)	
DTAT	-0.0275	***	-0.0271	***	-0.0356	***	-0.0361	***
	(0.008)		(0.008)		(0.009)		(0.009)	
DEQ	-0.0174		-0.0164		-0.0420		-0.0429	
	(0.025)		(0.025)		(0.026)		(0.026)	
DROS_M	0.1117	***	0.1080	**	0.1158	*	0.1201	**
	(0.042)		(0.043)		(0.059)		(0.059)	
DINVEST					0.0272		0.0243	
					(0.044)		(0.043)	

	(1)	(2)	(3)	(4)
DPCON	0.0165	0.0197	0.0023	0.0010
	(0.020)	(0.021)	(0.026)	(0.024)
DPCON_ACT		0.0049 **	0.0031	
		(0.002)	(0.002)	
Constant	-0.0286	-0.0293	0.0160	0.0171
	(0.039)	(0.039)	(0.043)	(0.043)
No. of observations	2024	2024	1430	1430
The Wald test for the POLITICAL and CONTROL variables and for the lagged dependent variable	426.5 ***	430.1 ***	306.1 ***	298.8 ***
Sargan test (two-step)	45.97	48.31	57.75	57.29
AR(1) test	-8.101 ***	-8.097 ***	-7.185 ***	-7.173 ***
AR(2) test	-0.4723	-0.4829	0.8473	0.846

Note: This table presents the random effects estimates (Panel A) and one-step GMM-SYS estimates (Panel B). Robust standard errors are given in parentheses. All models include $TIME_t$ x $INDUSTRY_k$ dummies. In Panel B, PCON and LT_LIAB are treated as predetermined. For the former, we use lags 1 to 4, and for the latter, 2 to 5. ***, **, and * indicate significance at the 1%, 5%, and 10% levels, respectively

Table 8. Strength of political connections and access to bank financing - part I

A. Static panel models

	(25)		(26)		(27)		(28)	
PCON	0.0186		0.0543	**	0.0591	*	0.0316	**
	(0.0127)		(0.0269)		(0.0310)		(0.0154)	
PCON_ACT	0.0032		0.0033		0.0039		0.0042	
	(0.0022)		(0.0022)		(0.0026)		(0.0026)	
PCON_MNG	0.0257						0.0091	
	(0.0250)						(0.0292)	
PCON_SUP			-0.0366		-0.0320			
			(0.0282)		(0.0338)			
Number of observations	2036		2036		1435		1435	
The Wald test for the POLITICAL and CONTROL variables	138	***	138.9	***	104.8	***	102.5	***
Determination coefficient	30.35%		30.39%		33.18%		32.99%	

B. Dynamic panel models

	(29)		(30)		(31)		(32)	
DPCON	0.014		0.063	**	-0.005		-0.017	
	(0.021)		(0.031)		(0.032)		(0.026)	
DCON_AGE	0.004	**	0.005	**	0.003		0.001	
	(0.002)		(0.002)		(0.002)		(0.002)	
DPCON_MNG	0.015						0.033	
	(0.032)						(0.037)	
DPCON_SUP			-0.050		0.010			
			(0.034)		(0.038)			
No. of observations	2024		2024		1430		1430	
The Wald test for the POLITICAL and CONTROL variables and for the lagged dependent variable	380.1	***	386.5	***	244.8	***	253.5	***
Sargan test (two-step)	50.11		46.47		61.17		65.35	
AR(1) test	-8.223	***	-8.055	***	-7.23	***	-7.289	***
AR(2) test	-0.6749		-0.6008		0.7685		0.8331	

Note: This table presents the random effects estimates (Panel A) and one-step GMM-SYS estimates (Panel B). Robust standard errors are given in parentheses. All models include $TIME_t$ x $INDUSTRY_k$ dummies, a constant term and the group of CONTROL variables. In Panel B, we include the lagged dependent variable. In specifications (27), (28), (31), and (32), we also introduce the variable INVEST. In Panel B, the POLITICAL variables (PCON, PCON_SUP, PCON_MNG) and LT_LIAB are treated as predetermined. For the former group of variables, we use lags 1 to 4, and for the latter variable, lags 2 to 5. ***, **, and * indicate significance at the 1%, 5%, and 10% levels, respectively.

Table 9. Strength of political connections and access to bank financing - part II

A. Static panel models

	(33)	(34)	(35)	(36)	(37)	(38)
PCON	0.0120 (0.0147)	0.0242 (0.0170)	0.0341 *** (0.0133)	0.0221 (0.0176)	0.0304 (0.0195)	0.0502 *** (0.0156)
PCON_ACT	0.0036 * (0.0022)	0.0036 (0.0022)	0.0044 ** (0.0022)	0.0044 * (0.0026)	0.0044 * (0.0026)	0.0052 ** (0.0026)
PPOL_PARL	0.0250 (0.0192)			0.0262 (0.0230)		
PPOL_GOV		-0.0016 (0.0206)			0.0068 (0.0240)	
PPOL_LOCAL			-0.0434 * (0.0229)			-0.0666 ** (0.0277)
Number of observations	2036	2036	2036	1435	1435	1435
The Wald test for the POLITICAL and CONTROL variables	136.5 ***	135.1 ***	140.4 ***	101.6 ***	99.77 ***	106.5 ***
Determination coefficient	30.23%	30.20%	30.42%	32.84%	32.73%	33.09%

B. Dynamic panel models

	(39)	(40)	(41)	(42)	(43)	(44)
DPCON	0.019 (0.023)	-0.010 (0.027)	0.045 ** (0.023)	0.009 (0.025)	-0.004 (0.029)	0.016 (0.025)
DCON_AGE	0.004 * (0.002)	0.005 ** (0.002)	0.007 *** (0.002)	0.001 (0.003)	0.004 (0.002)	0.005 ** (0.002)
DPCON_PARL	-0.017 (0.031)			-0.067 ** (0.032)		
DPCON_GOV		0.050 * (0.030)			0.016 (0.030)	
DPCON_LOCAL			-0.070 * (0.038)			0.020 (0.045)
No. of observations	2024	2024	2024	1430	1430	1430
The Wald test for the POLITICAL and CONTROL variables and for the lagged dependent variable	394.4 ***	390.7 ***	386.2 ***	257.4 ***	271.7 ***	289.1 ***
Sargan test (two-step)	56.32	56.59	59.39	74.49	74.69	73.96
AR(1) test	-8.199 ***	-8.101 ***	-8.16 ***	-7.243 ***	-7.118 ***	-6.888 ***
AR(2) test	-0.5391	-0.526	-0.6249	0.7317	0.8177	0.6966

Note: This table presents the random effects estimates (Panel A) and one-step GMM-SYS estimates (Panel B). Robust standard errors are given in parentheses. All models include $TIME_t$ x $INDUSTRY_k$ dummies, a constant term and the group of CONTROL variables. In Panel B, we include the lagged dependent variable. In specifications (36)-(38) and (42)-(44), we also introduce the variable INVEST. In Panel B, the POLITICAL variables (DPCON, DPCON_GOV, DPCON_LOCAL, DPCON_PARL) and LT_LIAB are treated as predetermined. For the former group of variables, we use lags 1 to 4, and for the latter variable, lags 2 to 5. ***, **, and * indicate significance at the 1%, 5%, and 10% levels, respectively.

Table 10. Strength of political connections and access to bank financing - part III

A. Static panel models

	(45)		(46)		(47)		(48)		(49)		(50)	
PCON	0.0401		0.0590	*	0.0292		0.0184		0.0381	*	0.0353	**
	(0.0265)		(0.0327)		(0.0180)		(0.0124)		(0.0212)		(0.0150)	
PCON_ACT	0.0038	*	0.0045	*	0.0032		0.0033		0.0043	*	0.0047	*
	(0.0022)		(0.0026)		(0.0022)		(0.0022)		(0.0026)		(0.0026)	
PCON_IND	-0.0128		-0.0197									
	(0.0179)		(0.0231)									
SUP_SH					-0.0554				-0.0368			
					(0.1041)				(0.1265)			
MNG_SH							0.0841				0.0203	
							(0.0701)				(0.0777)	
Number of observations	2036		1435		1948		1882		1394		1342	
The Wald test for the POLITICAL and CONTROL variables	135.5	***	101.4	***	138.1	***	146.9	***	104.7	***	104.4	***
Determination coefficient	30.21%		32.86%		30.29%		31.68%		32.87%		34.11%	

B. Dynamic panel models

	(51)		(52)		(53)		(54)		(55)		(56)	
DPCON	0,072	*	0,015		0,028		0,006		0,019		0,025	
	(0.041)		(0.043)		(0.030)		(0.034)		(0.020)		(0.024)	
DCON_AGE	0,005	***	0,001		0,005	**	0,002		0,005	**	0,005	**
	(0.002)		(0.002)		(0.002)		(0.002)		(0.002)		(0.002)	
DPCON_IND	-0,043	*	-0,028									
	(0.024)		(0.028)									
DSUP_SH					-0,075		-0,072					
					(0.160)		(0.186)					
DMNG_SH									0,018		-0,036	
									(0.092)		(0.096)	
No. of observations	2024		1430		1938		1389		1872		1337	
The Wald test for the POLITICAL and CONTROL variables and for the lagged dependent variable	385,7	***	240,1	***	363,1	***	275,5	***	360,6	***	244,5	***
Sargan test (two-step)	61,89		74,48		55,21		71,87		44,52		57,41	
AR(1) test	-8,16	***	-7,283	***	-7,744	***	-7,073	***	-7,555	***	-6,797	***
AR(2) test	-0,5295		0,7696		-0,8787		0,706		-0,7923		0,5315	

Note: This table presents the random effects estimates (Panel A) and one-step GMM-SYS estimates (Panel B). Robust standard errors are given in parentheses. All models include TIME$_t$ x INDUSTRY$_k$ dummies, a constant term and the group of CONTROL variables. In Panel B, we include the lagged dependent variable. In specifications (46), (49)-(50), (52), (54) and (56), we also introduce the variable INVEST. In Panel B, the POLITICAL variables (DPCON, DPCON_IND, DSUP_SH, DMNG_SH) and LT_LIAB are treated as predetermined. For the former group of variables, we use lags 1 to 4, and for the latter variable, lags 2 to 5. ***, **, and * indicate significance at the 1%, 5%, and 10% levels, respectively.

Table 11. Relationship between political connections and access to bank financing - the role of institutional changes and crisis

A. Static panel models

	(57)	(58)	(59)	(60)
PCON_CR	0,0238 *	0,0288 **	0,0402 **	0,0360 **
	0,0135	0,0142	0,0163	0,0158
PCON_FH		0,0164	0,0227	
		0,0151	0,0208	
PCON_ACT	0,0032	0,0037 *	0,0047 *	0,0043 *
	0,0021	0,0022	0,0026	0,0026
Number of observations	2036	2036	1435	1435
The Wald test for the POLITICAL and CONTROL variables	135,3 ***	136,2 ***	100,5 ***	99,81 ***
Determination coefficient	30,22%	30,25%	32,77%	32,76%

B. Dynamic panel models

	(61)	(62)	(63)	(64)
DPCON_CR	0,0242	0,0026	0,0275	-0,0095
	(0.020)	(0.018)	(0.030)	(0.024)
DPCON_FH		0,0027		-0,0195
		(0.020)		(0.026)
DPCON_ACT	0,0045 **	0,0038 **	0,0049 *	0,0022
	(0.002)	(0.002)	(0.003)	(0.002)
No. of observations	2024	2024	1430	1430
The Wald test for the POLITICAL and CONTROL variables and for the lagged dependent variable	422 ***	432,7 ***	305,8 ***	321 ***
Sargan test (two-step)	2,763	53,23	24,38	56,37
AR(1) test	-8,05 ***	-8,105 ***	-7,017 ***	-7,228 ***
AR(2) test	-0,4921	-0,4802	0,7427	0,9344

Note: This table presents the random effects estimates (Panel A) and one-step GMM-SYS estimates (Panel B). Robust standard errors are given in parentheses. All models include $TIME_t$ x $INDUSTRY_k$ dummies, a constant term and the group of CONTROL variables. In Panel B, we include the lagged dependent variable. In specifications (59)-(60) and (63)-(64), we also introduce the variable INVEST. In Panel B, the POLITICAL variables (DPCON_CR and DPCON_FH) and LT_LIAB are treated as predetermined. For the former group of variables, we use lags 1 to 4, and for the latter variable, lags 2 to 5. ***, **, and * indicate significance at the 1%, 5%, and 10% levels, respectively.