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Abstract

Using novel indicators of political connections constructed from campaign contribution data, we show that Brazilian firms that provided contributions to (elected) federal deputies experienced higher stock returns around the 1998 and 2002 elections. This suggests contributions help shape policy on a firm-specific rather than ideological basis. Using a firm fixed effects framework to mitigate the risk that unobserved firm characteristics distort the results, we find that contributing firms substantially increased their bank leverage relative to a control group after each election, indicating that access to bank finance is an important channel through which political connections operate. We estimate the economic costs of these political connections over the two election cycles to be at least 0.2% of GDP per annum.

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1. Introduction

This paper studies the political connections individual firms buy by contributing to campaigns of election candidates and the possible channels politicians use to repay these contributions. The paper addresses two fundamental political economy questions: do higher campaign contributions imply more future firm-specific political favors? And, if so, what do these political favors consist of? We find supporting empirical evidence for the hypothesis that campaign finance buys firm-specific political favors by exploiting a novel dataset of firm- and candidate-level contribution data for the 1998 and 2002 Brazilian elections. Using a firm fixed effects framework to mitigate omitted variable problems, we find evidence that access to bank finance is one of these favors.

There are a number of reasons why Brazil is an ideal case to test the impact of political connections on stock prices and access to external banking finance. First, Brazil is notorious for the odious relationships between politicians and firms, as recent revelations have further confirmed. Second, and related, given its limited level of institutional development, the value of political connections in Brazil is likely greater than in more developed countries. Much of this value may come from preferential access to finance as Brazil is among the countries with the highest interest rates and lowest degree of financial intermediation in the world. Moreover, the two largest commercial banks are government-owned and a large portion of external financing is extended by government-owned development banks, making financing more easily influenced by politicians. Third, Brazil is one of the few countries that register campaign contributions at the individual candidate level. Brazilian law dictates individual registration and justification of campaign expenditures by each candidate. Hence, the law makes it more difficult for a politician to spend unofficial money on campaigning. Although there may still be other ways to influence

politicians, campaign contributions can be expected to be important means to do so. Importantly, the detailed data enable us to construct new measures of political connections.

This paper contributes to the literature in the following ways. We make two methodological innovations. First, we improve upon the relatively crude measures of political connections often used in the non-U.S. political connections literature. We are able to do so because we have detailed data on candidate-level campaign contributions. Our data have three advantages: (i) they are more objective compared to the data typically used in this literature to identify whether there exists a connection between politicians and firms; (ii) they enable us to measure the intensity of a connection rather than simply indicating its presence; and (iii) they allow us to investigate whether it matters for firm value and access to finance how contributions are distributed over different types of candidates. Second, we mitigate the omitted variable problem that plagues the literature on political connections by using a panel data framework with firm fixed effects to exploit the variation over time in our measures of political connections.

Supported by these methodological innovations, our research attests to the growing literature that political connections can have a significant impact on firm value and access to bank finance. First, we find that the cross-sectional variation in stock market responses at the announcement of the election results can in part be explained by the campaign contributions of individual firms to federal deputies. After controlling for industry fixed effects, we still find a strong link between stock market reactions and contributions of individual firms, suggesting that contributions help shape policy on a firm-specific rather than ideological basis. Apparently, the stock market expected deputies to shape policy to benefit their campaign donors specifically. Second, we find that bank financing of firms that made more contributions to (elected) federal

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deputies increased more relative to other firms in the four years following each election, even after controlling for a host of firm characteristics and unobserved firm fixed effects.

Third, we show that it matters for firm value and access to finance how contributions are distributed across different types of candidates. We find that contributions to winning candidates have a consistently larger impact on firm value and access to finance. This result further alleviates concerns about the presence of a simultaneity bias and suggests there is a direct channel from contributions to political favors. If higher firm value and better access to finance would allow for larger contributions but contributions do not buy political favors, we should have found similar effects for contributions to winning and losing candidates. We also find that contributions to incumbent candidates and candidates affiliated to the president have a consistently larger impact on firm value and access to finance, suggesting that the strength of political connections depends on the characteristics of the candidate.

Taken together, our research shows that political connections matter through preferential access to finance. In theory, this could still be socially beneficial. In countries with weak financial and legal institutions, access to finance on arm's-length principles may be difficult, potentially making political connections a socially desirable alternative. However, our analysis shows that firms that make more contributions have significantly lower returns on assets, despite having higher investment rates. We estimate the economic costs of capital misallocation associated with political connections to be at least 0.2% of GDP per annum.

Our paper contributes to two related strands of literature. First are studies of the relationship between campaign contributions and policy outcomes (e.g., Snyder, 1990; Grossman and Helpman, 1996; Coate, 2004). This literature has found it difficult to disentangle the matching of ideological voting dispositions of politicians with preferences of firms from the

incentives of politicians to provide contributors with specific favors. Combined with simultaneity bias (e.g., Durden and Silberman, 1976; Grenzke, 1989), this has made it hard to establish whether contributions have a substantial influence on political decision-making because politicians act according to their ideology (e.g., Chappell, 1982) or because contributions are used to forge "cozy" alliances between politicians and specific contributors (e.g., Stratmann, 1995; Kroszner and Stratmann, 1998). The literature has used event study methodologies to try to overcome these problems but has found mixed results (e.g., Roberts 1990; Ansolabehere et al., 2004; Jayachandran, 2004; Shon et al., 2006; Fisman et al., 2006).

Second are studies of the influence of special interests on economic outcomes, without specific reference to campaign contributions. This literature finds that firms have strong incentives to forge alliances with politicians and that such connections affect economic outcomes, in part through affecting the general institutional environment (e.g., Krueger, 1974; Acemoglu, 2005; Morck, Wolfenzon, and Yeung, 2005). The channels for political influence are likely multiple. Rajan and Zingales (2003), for example, argue that incumbents have incentives to oppose financial development because it creates more competition; to maintain their rents, incumbents will use political channels to retard financial development.

There is some cross-country and country-specific evidence that political connections indeed matter for firm value, including through preferential access to financing. Fisman (2001) finds that the market value of politically connected firms in Indonesia under president Suharto declined more when adverse rumors circulated about the health of the president. A number of other papers also take an event-study approach and find similar results for other countries (e.g., Johnson and Mitton, 2003; Ferguson and Voth, 2005; Faccio, 2006; Faccio and Parsley, 2006).

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For France, Bertrand et al. (2004) show that favors between politicians and firms operate in both directions with firms reciprocating favors in the form of job creation.

There is also evidence that political connections can provide preferential access to finance in emerging markets. Kwahja and Mian (2005) using loan-level data for Pakistan find that politically connected firms – firms with a director participating in an election – borrow twice as much and have 50% higher default rates than control firms, with connected firms obtaining exclusively loans from government-owned banks. Charumilind et al. (2006) find similar evidence for lending patterns in Thailand. Cole (2004) in the case of India and Dinc (2005) for a larger set of emerging countries also find that government-owned banks are often subject to capture by politicians.

The remainder of the paper is structured as follows. Section 2 describes the Brazilian political system and the context of the 1998 and 2002 elections. Section 3 lays out the methodology used. Section 4 describes the data. Section 5 provides a discussion of the results and the robustness checks. Section 6 concludes.

2. The Brazilian political system and the context of the 1998 and 2002 elections

In this section, we give a brief overview of the electoral system in Brazil and the institutional setup for campaign contributions. Brazil, like the United States, is a presidential and federal republic with a bicameral National Congress (*Congresso Nacional*) consisting of the Federal Senate, or Upper House (81 seats), and the Chamber of Deputies, or Lower House (513 seats).[1] Although the Brazilian executive has arguably more discretionary power than his U.S. counterpart, the 1988 constitution empowered Congress to oppose the president and influence

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[1] This section is largely based on information provided by the International Foundation for Election Systems (2005) and IUJPER (2005).

policy and legislation significantly. As in the U.S., the president and vice-president are elected on the same ticket. However, in Brazil the president and the vice-president are directly elected by a simple, popular majority vote for a four-year term, whereas in the U.S. they are elected by a college of representatives who in turn are elected by popular majority vote from each state, with the number of representatives in proportion to the states' population. In terms of state elections, Brazil consists of 27 federal units, comprised of 26 states and the Federal District, with each unit electing its own governor. The Senate includes three senators from each federal unit (compared to two in the U.S.). They are elected by majority voting in staggered elections and serve eight-year terms. Members of the Chamber of Deputies are elected for a four-year term via a party-list, state-proportional system. Compared to the U.S., Brazil has a smaller Upper House (81 vs. 100 seats in the U.S.) and a larger Lower House (513 vs. 435 seats in the U.S.), and both senators and representatives in Brazil have longer terms in office (in the U.S. they serve six and two years, respectively). Another large difference between the two countries is that the U.S. has a two-party system, whereas Brazil has about 15 significant political parties. The most important parties are the Brazilian Social Democratic Party (PSDB), the Workers' Party (PT), the Liberal Front Party (PFL), and the Brazilian Democratic Movement Party (PMDB). Despite the large number of parties in Brazil, party discipline tends to be weak, resulting in individualized elections and few party votes.

Before 1993, it was prohibited for business and individuals to contribute to candidates directly. Triggered by campaign finance scandals, Congress passed a law (Law no. 8713) in 1993, which allowed contributions for all offices directly, but required candidates to submit an overview of all their campaign contributions and sources, at the donor level, to electoral courts. Non-compliance can result in fines or removal of candidacy/appointment and several state courts

have indeed imposed such penalties (e.g., Veja, 1998). Individuals can donate up to 10% and companies up to 2% of their gross annual income. Furthermore, campaign funding is individual-based and not channeled via the party to which the candidate is affiliated.

Because of weak party organization and limited party links, politicians cannot rely much on party branding and recognition to get elected. As a consequence, politicians take their own actions to get exposure to the public. To finance their campaign activities, candidates have strong demand for contributions. Individual firms in turn may be willing to make contributions because elected officials can provide political favors. Elected officials can presumably affect the distribution of export subsidies, bank recapitalization, financial sector regulations, the allocation of "pork-barrel" funds and other government contracts, and the provision of external financing from (state-owned) banks. While politicians have ex-post incentives to renege on promises (since it is impossible to write and enforce a contract for political favors based on campaign finance), repeated interactions of businesses with individual politicians are common in Brazil. Although politicians switch positions often, with turnover of deputies in elections consistently over 60%, many politicians have long lasting political careers in various representations. Typically, a politician spends a term in the Chamber and continues in state or local levels of government (Samuels, 2001, 2002). This practice provides for a credible commitment mechanism.[2]

Due to a constitutional amendment, the 1998 election was the first in which the existing president, Cardoso (PSDB), was allowed to run for re-election and he won the first round with 53.1% of votes. His close runner-up was Luiz Inácio (Lula) da Silva (PT) with 31.7% of votes. While the 1998 presidential election was not a big surprise, the election was close for many

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[2] In the United States, Kroszner and Stratmann (1998) argue that to overcome this commitment problem, legislators have an incentive to create specialized standing committees that enable repeated interaction between special interests and committee members. Standing committees give rise to a reputational equilibrium where special interests give high contributions to committee members who carry out favors for them.

deputies and the announcement of election results resolved much uncertainty about the political future of individual deputies. In the 2002 election, six presidential candidates participated in the first round and results were less predictable. Since no single candidate obtained a majority of the votes, the two candidates with the most votes advanced to the second round. These candidates were Lula da Silva with 46.4% and Jose Serra (PSDB) with 23.2% of votes. Lula da Silva won the second round with 61.3% of votes.

The following positions were open during the two elections: president (1 position), governors (27 positions), senators (27 positions in 1998 and 54 positions in 2002), and federal deputies (513 positions). In the empirical section, we focus on the results for elections of federal deputies, but we also report results where we control for contributions to candidates for all positions.

3. Methodology

This section discusses the specific hypotheses we test, the construction of measures of the strength of political connections, and the econometric methodology we use to explain the cross-sectional variation in stock returns and the degree of access to finance.

If the market expects that contributions lead to benefits for individual firms because of future political favors, firm value, i.e., its stock price, should increase at the announcement of the candidate supported being elected. If the election leads to the appointment of candidates with a certain political ideology, then we would expect to find more general valuation changes for entire industries or even for the economy as a whole. Therefore, *if* individual firms have strong connections *and* experience significant positive stock returns around the election announcement

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relative to other firms in their industries, we can conclude that the market expects firm-specific political favors.

Regarding the channels through which political connections pay off, we focus on access to finance. Political favors can come in many forms, but given the large market share of state-owned banks in Brazil[3] and the unattractive interest rate environment for borrowers,[4] preferential access to finance is a likely candidate. Specifically, we hypothesize that contributions gain a firm access to more bank loans, possibly at preferential terms. We therefore expect that the bank financing by firms with political connections increases more relative to a control group of firms in the four years following election.

Based on this discussion, we develop the following two main empirical hypotheses. The first hypothesis is that politically more active firms (i.e., those providing more campaign contributions) are more likely to receive future firm-specific political favors, which in turn means these firms' stock market value increases more following the announcement of the election result. Specifically, our VALUE hypothesis is: *Using contributions to federal deputy candidates as a proxy for political connections, better connected firms have significantly higher stock market returns*. The second main hypothesis is that firms with larger campaign contributors are more likely to receive preferential access to bank financing. Specifically, our ACCESS hypothesis is: *Using contributions to federal deputy candidates as a proxy for political connections, better connected firms have significantly greater increases in financing from banks in the four years following the election.*

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[3] According to La Porta et al. (2002), the share of the assets of the top 10 banks in Brazil controlled by the government at the 20% level was 57% in 1995 (a bank is considered controlled by the government if its stake in the bank is larger than 20% and the state is the largest shareholder).

[4] Brazilian interest rate spreads are among the highest in the world, averaging around 58% in 1998 and 44% in 2002, with lending rates averaging around 86% in 1998 and 63% in 2002 (source: WDI database of the World Bank).

We further develop two sub-hypothesis for our main hypotheses, based on which candidates receive contributions. First, we formulate the WINNERS sub-hypothesis because elected deputies are expected to be better able to extend political favors: *Using contributions to winning federal deputy candidates as a proxy for political connections, better connected firms have significantly higher returns and greater access to finance.* Because it is not a priori clear whether contributions to losing candidates destroy market value, we compare in our empirical work the effect of contributions to winning federal deputy candidates with both that of making no contributions and making contributions to losing federal deputy contributions. Similarly, we expect that contributions to deputy candidates who already served as a deputy (i.e., incumbent candidates) or who are related to the president are likely to have more impact than contributions in general. Therefore, we formulate the following POLITICAL sub-hypothesis: *Using contributions to federal deputy candidates who are incumbent deputies or who are affiliated to the president as a proxy for political connections, better connected firms have significantly higher returns and greater access to finance.*

Importantly, the two sub-hypotheses help us to identify whether there is a causal link from connections to firm value and access to finance, thereby alleviating concerns about endogeneity. If political contributions translate into political favors and therefore matter for firm value and access to finance, we would expect that contributions to winners, incumbents, and presidential affiliates systematically have a greater impact than contributions in general. After all, contributions to losing deputies can not be expected to lead to many gains from firm-specific political favors, and there was considerable uncertainty on who would win the elections. If, on the other hand, firms give more contributions merely because they are more highly valued or have better access to finance (for reasons other than political connections), then the effect of

contributions to winning deputies should not differ systematically from contributions to losing deputies. Similarly, if contributions matter irrespective of party affiliation, then it will be less likely that contributions are made for political favors.

To test our hypotheses, we construct a novel dataset of campaign contributions and collect financial data. As we argue, the aim of campaign finance is to acquire political influence. However, the functional form of how campaign contributions translate into political influence is non-trivial. Therefore, using contribution data, we construct three different, yet simple and intuitive measures of how contributions may translate in terms of strength of political connections for donors.

Our first measure is simply the absolute amounts a firm donates altogether to candidates for the four different positions at stake in the 1998 election. Arguably, a donor will benefit more if she contributed to winning rather than to losing candidates. Hence, we also split each of the measures into the amount provided to winners and to losers.

Our second measure is based on the relative contributions among donors where we consider competition between donors to gain political influence with a specific candidate. To build a connection with a candidate may require a larger contribution if this candidate already receives a large amount of contributions from other firms. As an alternative measure of the strength of a political connection, we therefore consider the firm's contribution as a fraction of total contributions received by the candidate. This measure gives equal weight to each candidate's share in total contributions.

Our third measure is based on the relative amounts among donors and candidates. In addition to acknowledging competition among donors, we consider heterogeneity of the political influence of candidates. That is, politicians differ in their ability to define, lobby, and decide over

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issues on the political agenda. Compared to entrants, for example, incumbents may be better able to exert political influence. As a consequence, some politicians attract more and some fewer contributions and we can think of the total contributions received by a candidate as proxy for its overall political influence. We thus construct a new measure defined as the firm's contribution for all candidates in a state as a ratio of all contributions by all firms to all candidates in a state.

For our dependent variables, we use abnormal rates of return and increased access to finance. For the rates of return, we use a standard event study approach to construct cumulative abnormal returns (MacKinlay, 1997). This approach mitigates the simultaneity problem that firm value and political connections may be correlated. We define the estimation window as the period (τ_0, τ_1) and the event window as (τ_1, τ_2). The event itself is at $\tau = 0$ when the election results became publicly known, and where $\tau_0 < \tau_1 < 0 < \tau_2$. Next, we calculate daily stock returns for companies listed on the Brazilian stock market BOVESPA using $R_{i,t} = \ln(\dfrac{P_{i,t}}{P_{i,t-1}})$, where $P_{i,t}$ is the stock price index of company i at time t. To calculate the abnormal returns, we estimate a simple CAPM market model using the market return on the whole São Paolo stock market as measured by the BOVESPA index. We adopt this methodology to calculate cumulative abnormal returns for both elections in 1998 and 2002. The event dates are the days when the election results for federal deputies became known, October 9, 1998 and October 8, 2002, respectively (Reuters, 1998, 2002).

We estimate the following regression model for the cumulative abnormal returns:

$$y_{it} = \beta' x_{it-1} + \gamma z_{it} + \theta_t + \eta_j + \lambda_k + \varepsilon_{it}, \qquad (1)$$

where y_{it} is the cumulative abnormal return (CAR) of firm i around the elections in year t; x_{it-1} is a vector of firm-level control variables averaged over the electoral cycle; z_{it} is a measure of

campaign contributions made by firm i for the elections at the beginning of electoral cycle t; θ_t is an election year fixed effect; η_j is an industry fixed effect for industry j in which firm i operates; λ_k is a state fixed effect for state k in which the headquarters of firm i are located; and ε_{it} is the error term. Firm-level control variables are lagged to the previous electoral cycle. In the base regression, we estimate this model over the two election periods as pooled OLS with clustering of standard errors at the firm level. In robustness checks, we also estimate the model using a balanced sample.

In addition, we analyze the impact of contributions on access to finance. As a proxy for access to finance, we use the growth in bank financing scaled by total assets of firm i over the four-year electoral cycle t, the period that the representatives were elected to office and able to extend political favors.[5] We call it l_{it}, growth in bank leverage, and define it as:

$$l_{it} = \frac{\text{Bank debt}_{t+1}}{\text{Total assets}_{t+1}} - \frac{\text{Bank debt}_t}{\text{Total assets}_t}. \tag{2}$$

Using this access to finance indicator, we estimate the following regression model:

$$l_{it} = \beta' x_{it-1} + \gamma z_{it} + \theta_t + \alpha_i + \varepsilon_{it}, \tag{3}$$

where x_{it-1} is a vector of firm-level control variables, lagged to the previous electoral cycle; z_{it} is a measure of campaign contributions made by firm i at the beginning of electoral cycle t; θ_t is an electoral cycle fixed effect; α_i is a firm fixed effect; and ε_{it} is the error term. We estimate the regression model over the two electoral cycles using pooled OLS with firm fixed effects and clustering of standard errors at the firm level. By including firm fixed effects, we mitigate an

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[5] It is likely that deputies will extend such political favors during their term in office following the elections because many deputies are not reelected. Deputy turnover is high at over 60% in both the 1998 and 2002 elections. Samuels (1998) reports that turnover has been similarly high in all democratic elections since 1945.

omitted variables problem. In robustness checks, we also estimate the model using a balanced sample.

The VALUE hypothesis predicts that the coefficient γ for the campaign contribution measures to deputy candidates in Model (1) is positive and statistically and economically significant. The ACCESS hypothesis predicts that the coefficient γ for the amount of campaign contributions in Model (3) is positive and statistically and economically significant. According to the WINNERS hypothesis, this coefficient is positive and significant in both models for political connection measures for winning deputy candidates, and is significantly larger than the coefficient for political connection measures for losing deputy candidates. Lastly, the POLITICAL sub-hypothesis predicts that the coefficient γ for the campaign contribution measures for incumbent candidates or candidates affiliated with the president in both models is positive and larger than that for non-incumbents and non-affiliates, respectively. Although we already include firm fixed effects, there is still the possibility that changes over time in firm-level characteristics may affect the result. We therefore include several firm characteristics as control variables. Following the capital structure literature (e.g., Rajan and Zingales, 1995), we include the following control variables: log of total assets (proxy for firm size), ratio of fixed assets to total assets (proxy for asset tangibility), ratio of total liabilities to total assets (proxy for firm leverage), ratio of earnings before interest and taxes to total assets (proxy for operating profitability), and sales growth (proxy for growth opportunities). All firm-level control variables are four-year averages and lagged to the previous electoral cycle. We also consider separately the effect of contributions on bank debt of different maturity and on other types of debt financing.

4. Data

This section describes the sources of the firm-level campaign contributions, the stock market and financial data, and provides some descriptive statistics.

4.1. Data sources

The data for both the 1998 and 2002 elections are collected by the Brazilian national election court, the *Tribunal Superior Eleitoral* (TSE) (Tribunal Superior Eleitoral, 2005), and contains detailed information about donors and recipients. Each entry corresponds to a single contribution. For each documented candidate we know the name, the state, candidate number, party, and position (federal deputy, senator, governor or president). Furthermore, we know the name of the donor, the size of its contribution and the type (individual, corporate, political party or unknown). Most contributions come from individuals and are relatively small. The database does not provide information on contributions of firms to political parties, which are thought to be small given the limited role of parties in Brazil. Data on whether deputy candidates lost or won were taken from the TSE. In each election, there were 513 deputy candidates to be appointed. In compiling our campaign contributions dataset, we had to correct some trivial differences in donor names.[6]

In the construction of our political connection measures, we assume that if a listed firm does not appear in the official contribution data, the firm did not donate in any way to political candidates, and hence becomes part of the control group. This should bias downward the coefficients on contributions in the regressions. We converted all data to 1998 Brazilian Reais (BRL), which had an average exchange rate of $0.86 per BRL.

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[6] For example, Companhia Siderurgica Nacional occurs in several ways in the deputy contribution data. These include, Campanha Siderurgica Nacional, Companhia Siderurgica Nacional, Companhia Siderurgica Nacional, Cia Siderúrgica Nacional – CSN, or just CSN.

For the CAR tests, we use data on publicly traded firms taken from Thomson's Financial Datastream. For 159 actively traded listed firms in 1998 and 216 firms in 2002 we have data on campaign contributions, stock prices, and market capitalization. We use the sectoral classification as defined by Datastream: Basic Industries, Cyclical Consumer, Financials, General Industrials, Information Technology, Non-cyclical Consumer, Non-cyclical Services, Resources, and Utilities. To estimate state fixed effects, we collect from company websites the name of the state in which the company's headquarters is located.

To construct time-varying, firm-level controls we use accounting data from Economatica, a private financial information service, which covers Latin American countries. We collect data on total assets, fixed asset tangibility ratio, profitability ratio, financial leverage ratios, and other basic financial ratios.

4.2. Descriptive statistics

The contribution database organizes contributions by source: corporate, private, political party or unknown. We focus on corporate contributions since they are most numerous and largest, and relate closest to our hypotheses of political connections. Table 1 provides the definitions and the sources of the variables we use. Table 2 presents some descriptive statistics of corporate contributions. The descriptive statistics show that corporate campaign contribution activity was larger and more focused in 2002 than in 1998. Arguably, the reason is that the shape of the political landscape in 2002 was more uncertain because by law president Cardoso could not be re-elected. In 1998, 889 federal deputy candidates received 5,580 corporate contributions for a total amount of 65,315,860 BRL, or an average per candidate of 73,471 BRL, while in 2002, 493 federal deputy candidates received 8,223 corporate contributions for a total amount of

108,572,813 BRL, or an average per candidate of 220,229 BRL. The average size of a corporate contribution was 11,705 BRL in 1998 and 13,204 BRL in 2002.

Contribution activity of listed firms did not increase as much: the 540 listed firms in our sample account for 15.9% in 1998 (10,372,432 BRL) and 12% in 2002 (13,000,882 BRL) of total corporate contributions to federal deputies. Deputy candidates received campaign contributions from 60 listed firms in 1998 and from 72 listed firms in 2002. The average size of a corporate contribution for listed firms is significantly larger: 24,521 BRL in 1998 and 19,580 BRL in 2002. The total contribution per listed firm was 172,874 BRL in 1998 and 180,568 BRL in 2002. There is no evidence of party loyalty among listed firms. On average, listed firms spread their contributions over 2.6 parties in 1998 and over 3.5 parties in 2002, and made 2.0 contributions on average to candidates belonging to the same party in each election. Taken together, we conclude that listed firms tried to hedge their bets in 2002 to deal with increased political uncertainty.

Although we have 540 listed firms in our sample for both 1998 and 2002, we have data on cumulative abnormal returns for only 159 firms in 1998 and 216 firms in 2002. Of those firms, 39 contributed in 1998 and 56 contributed in 2002. These firms represent almost all political activity of listed firms: they account for around 90% of contributions of listed firms in both elections. In terms of political influence, there are a few firms who stand out in their size and spread of contributions. Consider the 1998 elections: large contributors included Ipiranga, Banco Itau, Siderurgica Nacional, and Gerdau, well-known Brazilian blue-chips, with Gerdau contributing to the equivalent of 161 deputies.

Appendix Table 1 shows the number and average amount of contributions by political party. We find that the three main parties, PFL, PSDB, and PMDB, ranked highest as recipient in

terms of number and size of contributions. The data also show that there is little party loyalty among contributors as firms donate to multiple and different parties in both election years. Again, the low loyalty between 1998 and 2002 is likely due to expectations that the political direction would change dramatically after the second and last term of president Cardoso.

Table 3 shows descriptive statistics for the dependent and independent variables used when pooled over 1998 and 2002. We have a total of 375 firm-year observations, of which 159 and 216 for 1998 and 2002, respectively. Panel A starts with the statistics for the contributions. The table shows that winning deputy candidates received significantly larger contributions than losers did; the average contribution to a winner is 40,000 BRL and only 16,700 BRL to a loser. This difference is statistically significant at a 1% level, suggesting that on the whole campaign donors successfully targeted future winners. However, there was remaining uncertainty about future winners and losers, since a lot of contributors gave to losers as well. This suggests there was enough uncertainty to elicit a stock market response after the announcement of results if the market expected firm-specific political favors as a result of contributions. Furthermore, there is evidence of some tenure and party affiliation effects since the average contribution to an incumbent candidate or a candidate affiliated with a coalition party of the president is significantly larger than the average contribution to non-incumbent or non-affiliates, respectively (both differences are statistically significant at the 5% level). This suggests that contributors expected incumbents and presidential affiliates to be more effective in granting political favors and/or have a higher probability to be elected.

In Panel B, we provide summary statistics for our main dependent variables, starting with the cumulative abnormal returns (CAR) variable. For the main analysis, we choose the window for estimating the normal returns to be 100 trading days and the event window for the CAR to be

41 trading days, i.e., $(\tau_0, \tau_1, \tau_2) = (-120, -20, 20)$. The average CAR was negative, -4.34%, but not statistically different from zero. The second main dependent variable is the average growth in bank leverage over the election cycle. Growth in bank leverage was slightly negative on average for both cycles, but not statistically different from zero, and displayed a large dispersion, possibly because of variation in political connections. In terms of our other access to finance variables, we find that average growth varied: short-term bank debt declined, long-term bank debt increased, other liabilities increased, total liabilities increased, and interest expense declined (with only the latter three representing statistically significant changes). In terms of the asset side of the balance sheet, there are no clear patterns. Fixed assets and assets that are easily collateralizable (such as cash, receivables, and inventories) declined as a share of firms' total assets, although the change is statistically significant only for fixed assets; at the same time, total capital expenditures as a ratio to total assets increased on average (statistically significant at 1%). The average return on assets was positive, and significantly different from zero at the 1% level.

Panel C pertains to firm-level control variables, where we always use data lagged by one election cycle. Average log of total assets (reported in thousands of BRL) is about 13.8, indicating that the average firm has about 1 billion BRL in total assets. EBIT ratio and sales growth are positive on average (although only EBIT growth is statistically significant) and firms are on average for 26% financed by banks (as indicated by the ratio of bank debt to total assets).

Table 4 shows simple correlations between the most important dependent and independent variables. Both cumulative abnormal returns and increases in financial leverage are positively correlated with campaign contributions to deputies, although the correlations are not statistically significant. Contributions to winners are highly correlated with contributions to

losers (0.78 and significant at the 1% level), confirming that contributors could not perfectly distinguish future winners from losers.

5. Empirical results

In this section, we provide results of our empirical analyses whether the market expected firm-specific future political favors and whether contributions were associated with (preferential) future access to finance.

5.1. Campaign contributions and stock returns

Table 5 presents OLS regressions for the VALUE hypothesis that the market expects political firm-specific future favors for firms who contributed to deputy candidates. The dependent variable is the CAR, expressed in percentage points, for each listed firm for which we have non-zero data on stock returns. Our pooled sample of both 1998 and 2002 data contains 375 observations which represent 238 firms. The advantage of the pooled approach is that we use all information available, although we do not estimate a firm fixed effect for firms for which we only have information for one election cycle. Hence, we prefer to use the unbalanced panel in the results that follow. Besides pooled regressions, however, we also analyze a balanced panel of 274 observations for 137 firms. The drawback of using a balanced panel is that we lose a lot of firms (101 firms out of 238 firms). As our main explanatory variable, we use the amount of contributions to all deputies. For all our CAR regressions, we report White (1981) heteroskedasticity-consistent standard errors corrected for clustering at the firm level. In addition, industry, state, and time fixed effects are included in each regression, but not reported.

Regression (1) confirms our VALUE hypothesis by showing a positive coefficient of 1.749 for total contributions made by a firm (in 100,000 BRL). The effect is statistically significant at the 1% level and economically important. A one standard deviation increase in contributions implies an increase in the CAR of 3.5% (2.014*1.749). This effect is substantial because the average CAR for the 1998 and 2002 elections pooled was -4.3%, with an average of -6.8% in 1998 and -2.6% in 2002. We find a significant positive industry-effect for General Industrials and significant state-effects for Rio Grande do Norte (positive) and Sergipe (negative). In addition, the dummy for the 2002 election cycle enters positively, but not significantly.

Regression (2) supports the WINNER sub-hypothesis by showing a coefficient of 2.458 for contributions to winners that is larger than the coefficient for total contributions in regression (1), although the difference in the coefficients in not statistically significant. In regressions (3) we also control for contributions to losing deputies because it could be that stock prices react negatively to news that connected deputy candidates lost the election. While it is hard to disentangle the effect of contributions to winning deputies from that of losing deputies because the correlation between the two variables is high (0.78), we find that the effect of contributions to winning deputies is even larger once we control for contributions to losing deputies. This result implies that a one standard deviation increase in contributions to winners lead to an CAR increase of about 4.0% (1.496*2.849). The coefficient for contributions to losing deputies enters negatively, though not statistically different from zero. Together, these results support the WINNER sub-hypothesis and confirm the importance of political connections. They also provide additional support that contributions buy firm-specific political favors, i.e., there exists a causal link from contributions to firm outcomes.

In Regressions (4) to (6), we use a balanced panel and replicate the results of Regression (1) to (3). The coefficients in Regressions (4) and (5) are significant at the 1% level and not substantially affected by the reduction in sample size. The result in Regression (6) is also qualitatively similar to that in Regression (3), although the significance of the result is somewhat reduced.

Next, we investigate the effect of contributions in each election cycle separately by splitting the sample into the two election periods. Regressions (7) and (8) show that our main result is primarily driven by the 1998 election (coefficients are significant at the 1% level). For the 2002 election, contributions do not have a significant impact on CARs. This is not surprising, given that the political landscape was expected to change dramatically because Cardoso was not eligible for a third term. In addition, it became more likely that the left-wing presidential candidate Lula would represent a completely different ideology. Consequently, markets were not able to price the value of political connections as easily as in 1998. In Regression (9) for the 1998 election, we control for firm attributes used in the capital structure literature and for sales growth, our proxy for growth opportunities. This makes the main result less susceptible to the critique that the results are due to firms gaining value in anticipation of future investment opportunities. The main caveat of this robustness test is that our sample decreases significantly from 159 to 56 firms due to a lack of accounting information for many firms. Nevertheless, the regression shows that the effect of contributions is significant at the 1% level and more than three times as large when compared to the coefficient in Regression (1).

In Table 6, we subject our main result to a more detailed analysis by using alternative measures of political connections. First, we refine our contribution measures. In Regression (1), we take into account possible competition among donors for political influence. We create a new

variable that sums the contributions that a firm gave to each winning candidate as a fraction of total contributions to that candidate to create a proxy for the strength of political connections. For example, if a firm provided 80% of all campaign funds to winning candidate A and 30% of winning candidate B, then this contribution variable takes a value of 1.1. We create a similar variable for contributions to losing candidates. When including these two alternative measures of contributions, we find a positive effect of contributions to winners on CARs, although the effect is not statistically significant.

In Regression (2), we further refine the analysis by also taking into account the intra-state competition between donors to establish a political connection with a specific candidate. For each firm, we use the firm's contribution to each candidate in a particular state as a fraction of total contributions received by all candidates in that state, aggregated over all candidates and states, as an alternative measure of political connections. For example, if a firm provided 1,000 BRL of campaign funds to winning candidate A in state S1 and 2,000 BRL of winning candidate B in state S2, and total contributions in state S1 were 10,000 BRL and total contributions in state S2 were 20,000 BRL, then this contribution variable would take a value of 0.2. We create a similar variable for contributions to losing candidates in the state. We find that the coefficient for this alternative variable of contributions to winning deputies is positive and significant at the 1% level. These results imply that not only absolute amounts matter for firm valuation, but that the distribution of contributions over candidates is important as well.

Next, we test the POLITICAL sub-hypothesis, i.e., we assess whether the tenure of the deputy candidate and the affiliation to the coalition parties of the president matter for the relationship between contributions and firm value. Therefore, in Regressions (3) and (4) we include separately contributions to (non)-incumbent candidates and (non)-affiliated candidates.

First, in Regression (3) we find that the effect on the CARs of the contributions to incumbent deputies (i.e., candidates that were in power at the time of the election) is significant at the 5% level. The effect of contributions to non-incumbent deputies is insignificant. Taken together, these results suggest that incumbent deputies are expected to affect firm-specific favors more than non-incumbents do. Second, in Regression (4) we analyze the effect of deputy party affiliation. In doing so, we create a new variable Contributions to deputies affiliated to the president. For 1998, we define this as those contributions that went to candidates of PSDB (the party of Cardoso), or parties who were part of the Cardoso coalition: PMDB, PSDB, PFL and PPB. For 2002, we define this as those contributions that went to candidates of PT (the party of Lula), or parties who were part of the Lula coalition: PL, PCdoB, PMN, and PPS. We find that contributions to deputies affiliated to the president translate into higher market valuation (significant at the 1% level) whereas contributions to unaffiliated deputies do not have a statistically significant effect. Note that the coefficients of the incumbency and affiliation variables are larger than the coefficient of total contributions in the basic regression (2.77 and 2.87 compared to 1.75). These results suggest that a deputy was more likely expected to deliver favors when he was an incumbent or a member of a presidential coalition party. Similar to the logic already described, this shows that the distribution of contributions matters and strengthens our hypothesis that contributions cause firm-specific political favors and not that better performing firms are merely able to donate more.

One concern with our results could be that contributions to a deputy candidate proxy for connections with politicians at other levels of government. However, Regression (5) shows that the main result is unaffected when we control for contributions to candidates at other levels of government, i.e., president, governor, and senator. While the positive coefficient on contributions

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to candidates at other levels suggests that markets also expected political favors from them, this effect is not statistically significant. Hence, we conclude that contributions to individual deputy candidates pay off in terms of higher firm valuation surrounding the elections.

In Table 7, we subject our main result to several additional robustness checks. First, in Regression (1) we shorten the event window to avoid possible contamination of the CAR by other events after the elections. In doing so, we adjust the event window to 20 days before and 5 days after the announcement of the election results. We find that contributions still matter (significant at the 5% level), although the coefficient is of smaller magnitude, perhaps because the effects of political favors are assessed by the markets over a longer period. Second, in Regression (2) we use the buy-and-hold return (BHR) of the firm's stock as an alternative dependent variable. The main result is confirmed although the statistical significance is somewhat weaker (significant at the 10% level). The economic impact of the result is significant: a one standard deviation increase in contributions implies an increase in the BHR of 4.6% (2.014*2.263). Third, in Regression (3), we drop banks and utilities since these firms are more regulated by the government and could potentially distort the main result. The results, however, again do not change qualitatively and remain significant at the 5% level. Fourth, in Regression (4), we re-run our main specification on the sub-sample of firms who contributed to deputies, excluding firms that do not contribute. Again, our results are significant (at the 10% level) and do not change qualitatively, although the sample is obviously much reduced, to less than 100 observations. Finally, in Regression (5) we re-run Regression (2) of Table 5 when excluding firms that do not contribute and find similar results, offering additional support for the WINNERS hypothesis.

5.2. Preferential access to finance as a political favor

In the previous section we have established that campaign contributions are associated with higher stock returns around the time of election, suggesting that the market expected future, firm-specific political favors. In this section we investigate whether access to finance is such a favor.

As our basic test of the ACCESS hypothesis, we analyze whether the financial leverage over the election cycles of 1998 and 2002 (spanning the years 1998-2001 and 2002-2005, respectively) of firms that made higher contributions to (elected) federal deputies increased more during the four years following the election relative to a control group of listed firms that did not contribute to deputy candidates. Since our hypothesis is that firms benefit via preferential access to bank credit, we focus on financing that is provided by banks and use the growth in bank financing as a share of total assets (*growth in bank leverage*) over an election cycle as our dependent variable, as per the model specification in Equation (2). In all leverage regressions, we drop financial companies such as banks and insurance companies because they are suppliers of finance. Since we do not have accounting data for some firms, the size of the pooled sample decreases to 168 observations that represent a balanced panel of 84 firms. In all our access to finance regressions, standard errors of coefficients are corrected for heteroskedasticity following White (1981) and for clustering at the firm level. In addition, firm and time fixed effects are included in each regression, but these are not reported. We use firm fixed effects to control for time-invariant, unobserved firm characteristics to mitigate the problem of omitted variables. In addition, the time fixed effect controls for election-specific influences.

Table 8 presents our main leverage regressions. Regression (1) confirms the ACCESS hypothesis: campaign contributions positively affect a firm's access to finance, as measured by

the growth rate in bank leverage, following an election. The coefficient on contributions is 0.047 and highly significant, at the 1% level. The result also has economic significance: a one standard deviation increase in contributions to deputies implies a 9.4% increase in bank leverage growth in the four-year period following an election (2.014*0.047). Since average leverage growth was almost zero, this is a large effect, also relative to the individual election cycles (i.e., an average leverage growth of 6.4% over the first and -6.6% over the second election cycle).

Regression (2) confirms the WINNER sub-hypothesis: political connections to winning deputies paid off more in terms of higher access to financing. The coefficient is significant at the 1% level and almost twice as large as in Regression (1), indicating that giving to winners matters more. The winners finding further mitigates concerns about simultaneity problems. Similarly as for the CAR regression, the fact that the coefficient for winners is greater than that for total contributions serves as a robustness check of our hypothesis that contributions imply political favors: a higher coefficient does not support the idea that some firms were just better able to give contributions and increase their access to finance, because it clearly mattered to whom the contributions were given. Correspondingly, the economic effect of giving to winners is substantial: a one standard deviation increase in contributions to winners translates into a 12.1% increase in bank leverage growth over the four-year period following an election (1.496*0.081).

When we further split contributions to winning deputies from contributions to losing deputies in Regression (3), we still find a positive coefficient for contributions to winning deputies although the effect is no longer statistically significant. It appears hard to disentangle the effect between winners and losers because the two variables are highly correlated at 0.78.

Our results could be influenced by time-varying firm characteristics. Therefore in Regression (4), we add one-election period lagged firm characteristics to control for any changes

over the election cycle in size, asset tangibility, total leverage, profitability, and sales growth. Including past sales growth may be especially relevant because it controls for the possibility that leverage merely increases in anticipation of future investment opportunities, not as a result of political favors. Our main result is confirmed, as the coefficient for contributions has the same order of magnitude and is significant at the 5% level. We also find that firms substitute other liabilities for bank debt.

Regression (5) repeats Regression (4) for the balanced sample. Our results are almost identical. Note that Regressions (1) to (3) are based on a pooled sample that is already balanced, so we do not repeat those regressions for a balanced sample. When we add firm control variables, we lose observations in the balanced panel due to missing data. Hence, we continue our analyses with the pooled approach, which includes more observations.

Regression (6) reports similar results when we do not include initial Liabilities to total assets as a control variable, although the coefficient for contributions is slightly less significant with a p-value of 5.6%. Regression (7) shows that the results are robust to using contemporaneous control variables. Although contemporaneous variables may be contaminated by the effects of access to finance during the period studied, the advantage of using contemporaneous control variables is that we do not lose as many observations. We find that the coefficient for contributions is not affected.

Similar to the CAR regressions in Table 6, we subject our main result to further analyses by using alternative measures of political connections. Table 9 shows the results. First, we use the refined contribution measures that take the distribution of contributions across candidates into account. Regression (1) shows the results when using contribution measures that correct for competition among firms in contributions to the same deputy and Regression (2) shows the

results when correcting for intra-state competition for contributions among candidates. In both cases, we make a distinction between contributions to winning and losing deputies, as before. We find that our main results are confirmed as the coefficients for the alternative contribution measures to winning deputies are positive and statistically significant.

Next, we want to assess the validity of the POLITICAL sub-hypothesis, i.e., whether the tenure of the deputy candidate and the candidate's affiliation to the president matter for the relationship between contributions and access to finance. Regressions (3) and (4) report that contributions to incumbents and affiliation to the coalition parties of the president clearly matter for bank leverage growth, while contributions to non-incumbents and non-affiliates have an insignificant effect. We conclude that incumbency and affiliation of deputies translate into improved access to finance. These results are in line with the results for the CARs where we also found that incumbency and affiliation are important.

To make sure that contributions to deputies do not simply capture contributions to other candidates, we control in Regression (5) for contributions to candidates at other levels of government (including senator, governor, and president). Our results for contributions to deputies are not affected. The coefficient for contributions to candidates at other levels is not statistically different from zero, suggesting that the access to finance channel operates mostly at the deputy level.

Table 10 reports robustness checks similar to Table 7 regarding the impact of contributions on bank leverage growth. In Regression (1) we include the year before the election as an alternative base year to calculate the change in bank debt, to make sure that the result we find is not driven by changes in bank leverage during the election year. The coefficient is still significant and of the same order of magnitude as in earlier regressions. In Regression (2) we

exclude utilities because they tend to be heavily regulated (we already exclude financial companies, that also tend to be regulated, from all leverage regressions) and find results that are virtually identical to those reported in Regression (1) of Table 8. In Regression (3) we exclude firms that were not reported as contributors to deputies in our data. Again, our results are unaffected. Of course, the number of observations falls dramatically when considering only those firms that have contributed. Finally, in Regression (4) we consider contributions to winning deputies while excluding firms that did not contribute to deputies. We again confirm our earlier result.

Next, in Table 11, we investigate whether the influence of contributions can also be found for other forms of debt financing and for the price of bank financing. First, we check whether the results differ between short-term and long-term bank debt. Short-term bank debt represents that portion of bank debt payable within one year, including the current portion of long-term bank debt, while long-term bank debt represents all interest bearing bank debt obligations, excluding amounts due within one year. Since much of long-term bank credit in Brazil is extended by state-owned banks, it could be that the political access to bank finance channel operates mostly through the extension of long-term bank credit. On the other hand, the effect could be more pronounced for short-term bank loans, because short-term debt contracts are more likely to be renegotiated than long-term debt contracts during the four-year election cycle. We find that both short-term and long-term bank debt increase following contributions to deputies (Regressions 1 and 2), suggesting that contributions buy improved access to bank finance irrespective of the maturity of the debt.

Second, to check for any effects on other forms of debt, we next use the growth in other liabilities (i.e., liabilities other than bank debt) relative to total assets as our dependent variable.

Other liabilities include accounts payables, bonds, debentures, and arrears. If preferential access would come strictly from bank credit, we should not find a significant effect from contributions on these other forms of debt. Regressions (3) shows that contributions indeed do not have a significant effect on the growth of other liabilities, suggesting that political connections operate mostly through access to bank credit. Regression (4) shows that the effect of contributions on the growth of overall liabilities (i.e., the sum of bank debt and other liabilities) is still positive and statistically significant, indicating that while politically connected firms may substitute some liabilities for bank debt, their overall liabilities still increase relative to other firms.

Third, in addition to gaining access to an increased amount of debt financing, firms could also benefit from making contributions to politicians by gaining access to debt financing at preferential terms. Therefore we assess the impact of contributions on the cost of debt, as measured by the change in the ratio of interest expense on total interest-bearing debt obligations to total sales over the election cycle. Regression (5) finds a negative effect, suggesting that contributions lower the cost of all debt financing. The effect is, however, not statistically significant. Note that we only have data on total interest expenses and not a breakdown of interest expenses by type of debt, including bank debt. We can therefore not rule out that politicians may have some sway over the cost of bank financing as well.

The positive impact on access to bank financing we found in Table 11 could also be driven by an increase in assets that serve as collateral for attracting financing. The increase in assets in turn could be due to politicians influencing government contracts, concessions or other interventions that lead to preferential investment (opportunities) that in turn allow the firm to attract financing. We have no specific evidence whether increased access to financing arises through favors extended by politicians directly (via their connections with banks and/or other

financial institutions) or indirectly because a political connection with a deputy increases the collateral or the franchise value of the firm via enhanced business opportunities. However, the data do not support the view that improved access to finance is the result of an increase in assets that can serve as collateral for debt finance: Regression (1) in Table 12 shows that contributions do not significantly impact the growth in fixed assets relative to growth in total assets. Regression (2) even reports that collateralizable assets as a share of total assets decrease in a statistically significant way over the election cycle the more firms contribute. These results also do not lend support for the notion that assets increase in response to improved investment opportunities.

This raises the question what firms do with the increased financing? The increased access to bank financing could be used for an increase in investment or it could serve to finance lower operational cash flows. We find from Regression (3) that firms that make more political contributions invest at a somewhat higher rate as measured by the ratio of capital expenditures to total assets, although the coefficient is not significant. This suggests that the improved access to finance led to some degree to enhanced investment and was not simply used to cover operational losses or to tunnel firm resources away from investors.

Next, we analyze the allocational efficiency of the investment of contributing firms relative to other firms. From an overall resource allocation point of view, it is important to know whether contributions imply that more productive firms end up investing more as their financing constraint is released, or whether it is the less efficient firms that benefit from more external financing. Regression (4) shows that the relationship between firm performance, as measured by the change in the average pre-tax return on assets over the election cycle, and contributions is negative and statistically significant. In other words, the performance of firms during the post-

election period is significantly lower, the more contributions they provide. Regression (5) repeats the analysis with the initial Tobin's Q at the beginning of the election cycle as the dependent variable and shows that firms' valuation before the election was significantly lower the more contributions they made. Together, these regression results suggest that contributing firms perform worse and that the additional investment generated by improved financing has not been efficient.

The results so far suggest that political favors do not mostly come in the form of increased business opportunities, as one would expect this to be reflected in higher profits and an increase in fixed and collateralizable assets over total assets, but rather that political favors come in the form of improved access to finance for often poorly performing firms. Further evidence of the possible links between contributions and preferential investment opportunities comes from the distribution of contributions across industries. If political favors come in the form of large contracts or concessions by the government, then one would expect highly-regulated industries or industries dependent on government contracts to be the main contributors of campaign finance. However, the data are not consistent with this prediction either (Appendix Table 2 reports the share of firms in each 3-digit industry that contributed to the campaigns of deputy candidates). While contributions are common in some highly regulated industries, such as the financial sector, in other highly regulated industries, such as the electricity and telecom sectors, there are no contributing firms. Also, while contributions appear to be quite common in industries like basic industries (which includes the construction industry) and the oil and mining industries, where government concessions are quite common, other industries where government concessions are less common, such as the engineering and equipment manufacturing industries, also appear major campaign finance contributors. In other words, campaign contributions are not

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an industry-specific phenomenon that can be easily related to the occurrence of government regulation or contracts. Taken together, this suggests that the political economy channel of contributions goes predominantly directly through increased access to financing.

5.3. Economic costs of political rents

While it is rather heroic to infer the cost to the economy at large of the rents extracted by contributing firms, let alone to assess the welfare implications of such rents, in this section we make an attempt to quantify the cost of the investment distortion that may arise by extending preferential bank credit to contributing firms. A welfare loss would arise if the rate of return on investment financed by this credit is lower than that on resources invested elsewhere. We estimate this investment distortion cost by comparing the return on investment generated by contributing firms with that of non-contributing firms. This is a lower bound measure as there are likely a variety of other costs associated with the investment distortion that we do not capture. Our intention is just to estimate those costs that can be inferred from our analysis.

Following Khwaja and Mian (2005), we use the differential in Tobin's Q to gauge the difference in investment returns. Regression (6) of Table 12 shows that the Tobin's Q of contributing firms at the time of the election is 0.07 lower than that of non-contributing firms (after taking out firm fixed and election year effects), suggesting that there is some misallocation of credit. This difference in Tobin's Q is substantial given that the average Tobin's Q in both election years is about 0.63 (see Table 3, Panel B). We next estimate the cost of the investment distortion by calculating how much additional return would have been generated if the bank financing extended to contributing firms would have financed investments of non-contributing firms. This depends on how much investment was the result of the financing generated by the

contributions. Regression (7) of Table 12 shows that the annual investment rate (as measured by the ratio of capital expenditure to total assets) at the time of the election is 0.048 higher for contributing firms (after taking out firm fixed and election year effects). If we next assume that a reallocation of resources would not affect the return on investment (Tobin's Q) of both contributing and non-contributing firms, we can get a welfare measure. This simple measure suggests that the investment distortion over the two election cycles is 0.34% (=0.048*0.07) *per annum* of the average firm's total assets.

On average, the firms in our sample have about 1.0 billion 1998 BRL in total assets (Table 3 presents the summary statistics for the log of total assets). If we assume that the investment distortion is similar for all 540 listed firms, including those that are not included in our sample, then the gross cost of the investment distortion arising from contributions by listed firms is about 1.8 billion 1998 BRL (=540*1.0*0.0034) per annum. Brazil's GDP in 1998 was 914 billion BRL, so this figure amounts to about 0.2% of GDP per annum. This is somewhat less than the 0.3-1.9% of GDP per annum cost of preferential access to financing computed for Pakistan by Khwaja and Mian (2005). We should keep in mind, though, that our estimate is a lower bound because it only includes the listed firms and therefore a subset of the firms in the country.[7] In any case, 0.2% of GDP per annum is a substantial welfare loss.

6. Conclusions

This paper addresses the question whether campaign contributions made by firms are associated with future firm-specific favors. We provide empirical support for the existence of such a link based on an analysis of the 1998 and 2002 elections in Brazil. We find robust evidence that

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[7] On average, the listed firms in our sample are responsible for about 14% of total corporate contributions made to federal deputies, so (by simple extrapolation) the cost could be as much as 1.4% of GDP per annum.

higher campaign contributions to federal deputy candidates are associated with higher stock returns around the announcement of the election results. Contributing to deputy candidates that win the election has an even larger positive impact on stock returns.

Besides establishing a link between campaign finance and political favors at the firm level using candidate-level campaign data, we investigate the possible channel for political favors. We study the relationship between campaign contributions and future access to finance. Using a firm fixed effects framework to mitigate the problem of omitted variables, we find that the bank leverage of firms that made contributions to (elected) federal deputies increased substantially during the four years following the election. This suggests that contributing firms gained preferential access to finance from banks. Although we do not have direct evidence of preferential lending and associated benefits for contributing firms, it is reasonable to assume given the high interest rate environment in Brazil that the gross benefits of increased access to finance likely exceeded the cost paid by firms in the form of campaign contributions, the more so because contributions tend to be small compared to the size of contributing firms. In a crude way, we estimate the cost of the investment distortion associated with extending preferential bank credit to contributing firms to be at least 0.2% of GDP per annum.

While finance may not be the only channel through which firms benefit from political favors, our results support the notion that it is an important channel through which contributing firms benefit from political connections. More generally, our findings provide new evidence on the value of political connections in emerging markets like Brazil. It corroborates other evidence that the operation of corporations in these environments, including their financing and financial structure, importantly depends on their relationships with politicians, with negative welfare effects.

References

Acemoglu, D., 2005. The form of property rights: oligarchic vs. democratic societies. Mimeo, MIT.

Ansolabehere, S., Snyder, J., Ueda, M., 2004. Campaign finance regulations and the return on investment from campaign contributions. Mimeo, MIT.

Bertrand, M., Kramarz, F., Schoar, A., Thesmar, D., 2004. Politically connected CEOs and corporate outcomes: evidence from France. Mimeo, University of Chicago.

Coate, S., 2004. Pareto-improving finance policy. *American Economic Review* 94, 628-655.

Chappell, H., 1982. Campaign contributions and congressional voting: a simultaneous probit-tobit model. *Review of Economics and Statistics* 64, 77-83.

Charumilind, C., Kali, R., Wiwattanakantang, Y., 2006. Connected lending: Thailand before the financial crisis. *Journal of Business* 79, 181–218.

Cole, S., 2004. Fixing market failures or fixing elections? Agricultural credit in India. Mimeo, MIT.

Dinc, S., 2005. Politicians and banks: political influences on government-owned banks in emerging countries. *Journal of Financial Economics* 77, 453-479.

Durden, G., Silberman, J., 1976. Determining legislative preferences for the minimum wage: an economic approach. *Journal of Political Economy* 84, 317-329.

Faccio, M., 2006. Politically connected firms. *American Economic Review* 96, 369-386.

Faccio, M., Parsley, D., 2006. Sudden deaths: taking stock of political connections. Mimeo, Vanderbilt University.

Ferguson, T., Voth, H., 2005. Betting on Hitler: the value of political connections in Nazi Germany. Working Paper, University of Massachusetts and Universitat Pompeu Fabra.

Fisman, R., 2001. Estimating the value of political connections. *American Economic Review* 91, 1095-1102.

Fisman, D, Fisman, R., Galef, J., Khurana, R., 2006. Estimating the value of connections to Vice-President Cheney. Mimeo, Columbia University.

Grenzke, J., 1989. PACs and the congressional supermarket: the currency is complex. *American Journal of Political Science* 33, 1-24.

Grossman, G., Helpman, E., 1996. Electoral competition and special interest politics. *Review of Economic Studies* 63, 265-286.

Instituto Universitário de Pesquisas do Rio de Janeiro, 2005. Dados eleitorais do Brasil, http://www.iuperj.br/.

International Foundation for Election Systems (IFES), 2005. http://www.electionguide.org.

Jayachandran, S., 2004. The Jeffords effect. Mimeo, UCLA and UC Berkeley.

Johnson, S., Mitton, T., 2003. Cronyism and capital controls: evidence from Malaysia. *Journal of Financial Economics* 67, 351-382.

Kroszner, R., Stratmann, T., 1998. Interest-group competition and the organization of congress: theory and evidence from financial services' political action committees. *American Economic Review* 88, 1163-1187.

Krueger, A., 1974. The political economy of the rent-seeking society. *American Economic Review* 64, 291-303.

Khwaja, A., Mian, A., 2005. Do lenders favor politically connected firms? Rent provision in an emerging financial market. *Quarterly Journal of Economics* 120, 1371-1411.

La Porta, R., Lopez-de-Silanes, F., Zamarripa, G., 2003. Related lending. *Quarterly Journal of Economics* 118, 231-268.

MacKinlay, C., 1997. Event studies in economics and finance. *Journal of Economic Literature* 35, 13-39.

Morck, R., Wolfenzon, D., Yeung, B., 2005. Corporate governance, economic entrenchment, and growth, *Journal of Economic Literature* 43, 655-720.

Rajan, R., Zingales, L., 1995. What do we know about capital structure? Some evidence from international data. *Journal of Finance* 50, 1421-1460.

Rajan, R., Zingales, L., 2003. The great reversals: The politics of financial development in the 20th century. *Journal of Financial Economics* 69, 5-50.

Ramalho, R., 2003. The effects of an anti-corruption campaign: evidence from the 1992 Presidential impeachment in Brazil. Mimeo, MIT.

Reuters, 1998. Final results for Brazilian general election. October 9, 1998.

Reuters, 2002. Final results for Brazilian general election. October 8, 2002.

Roberts, B., 1990. A dead senator tells no lies: seniority and the distribution of federal benefits. *American Journal of Political Science* 34, 31–58.

Samuels, D., 1998. Careerism and its consequences: federalism, elections, and policy-making in Brazil. Ph.D. dissertation, University of California at San Diego.

Samuels, D., 2001. Does money matter? Credible commitments and campaign finance in new democracies: theory and evidence from Brazil. *Comparative Politics* 34, 23-42.

Samuels, D., 2002. Pork barreling is not credit claiming or advertising: campaign finance and the sources of the personal vote in Brazil. *Journal of Politics* 64, 845-863.

Shleifer, A., Vishny, R., 1995. Politicians and firms. *Quarterly Journal of Economics*, 109, 995-1025.

Shon, J., 2006. Do stock return vary with campaign contributions? The Bush versus Gore 2000 presidential elections. Working paper, City University of New York.

Snyder, J., 1990. Campaign contributions as investments: the U.S. House of Representatives, 1980-1986. *Journal of Political Economy* 98, 1195-1227.

Stratmann, T., 1995. Campaign contributions and congressional voting: does the timing of contributions matter? *Review of Economics and Statistics* 771, 127-136.

Tribunal Superior Eleitoral (TSE), 2005. http://www.tse.gov.br/.

Veja, 1998. Castigo Rápido. August 12, 45.

Table 1: Definition of Variables

This table reports the variables used in our regression analyses and their description. Data sources: D=Datastream; T=TSE; E=Economatica. Exchange rate in 1998: 1BRL $\approx 0.86\$$.

Variable	Description	Source
CAR	Cumulative abnormal return (in %). Event window covers from 20 days before to 20 days after the election.	D
Contributions to deputies	Total absolute amount the firm contributed to federal deputy candidates, in 100,000 of 1998 BRL.	T
Contributions to winning deputies	Total absolute amount the firm contributed to federal deputy candidates that won the election.	T
Contributions to losing deputies	Total absolute amount the firm contributed to federal deputy candidates that lost the election.	T
Cumulative share in contributions to winning deputies	Firm's share in total contributions to winning federal deputy candidates.	T
Cumulative share in contributions to losing deputies	Firm's share in total contributions to losing federal deputy candidates.	T
Cumulative share in contributions to winning deputies in the state	Firm's contribution to winning candidates in a particular state as a fraction of total contributions received by winning candidates in that state, aggregated over all winning candidates and states.	T
Cumulative share in contributions to losing deputies in the state	Firm's contribution to losing candidates in a particular state as a fraction of total contributions received by losing candidates in that state, aggregated over all losing candidates and states	T
Contributions to (non)-incumbent deputies	Total amount the firm contributed to (non)-incumbent federal deputy candidates.	T
Contributions to deputies (non)-affiliated to president coalition	Total amount the firm contributed to federal deputy candidates that are (not) affiliated to the coalition parties of the presidential candidate that won the elections (Cardoso in 1998 and Lula in 2002).	T
Contributions to candidates at other levels	Total amount the firm contributed to candidates at other levels of government (senator, governor, president).	T
Growth in bank leverage	The average growth in the ratio of bank debt to total assets during the 4 years following the election.	E
Growth in short-term bank leverage	Average growth in the ratio of short-term bank debt to total assets during the 4 years following the election.	E
Growth in long-term bank leverage	Average growth in the ratio of long-term bank debt to total assets during the 4 years following the election.	E
Growth in other liabilities to total assets	Average growth in the ratio of liabilities other than bank debt to total assets during the 4 years following the election.	E
Growth in debentures to total assets	Average growth in the ratio of debentures to total assets during the 4 years following the election.	E
Growth in liabilities to total assets	Average growth in the ratio of liabilities to total assets during the 4 years following the election.	E
Growth in interest expense to sales	Average growth in the ratio of interest expense to total sales during the 4 years following the election.	E
Growth in fixed assets to total assets	Average growth in the ratio of fixed assets to total assets during the 4 years following the election.	E
Growth in collateral to total assets	Average growth in the ratio of cash, receivables, inventories, and fixed assets to total assets during the 4 years following the election.	E
CAPEX to total assets	Average ratio of capital expenditures to total assets during the 4 years following the election.	E
Return on assets	Average ratio of pre-tax profits to total assets during the 4-years following the election.	E
Log of total assets	Average of the logarithm of total assets during the 4 years following election (we use the one-election period lag of this variable), in thousands of 1998 BRL.	E
Fixed assets ratio	Average of the ratio of fixed assets to total assets during the 4 years following the election.	E
Liabilities to total assets	Average of the ratio of total liabilities to total assets during the 4 years following the election.	E
EBIT ratio	Average of the ratio of earnings before interest and taxes during the 4 years following the election.	E
Sales growth	Average of real sales growth during the 4 years following the election.	E
Bank debt to total assets	Average of the ratio of bank debt to total assets during the 4 years following the election.	E
Initial Tobin's Q	Tobin's Q (ratio of market value of equity plus book value of total liabilities to book value of total assets) in the election year.	E

Table 2: Descriptive Statistics of Campaign Contributions to Federal Deputy Candidates

This table reports summary statistics of campaign contributions for the whole universe of contributions and for the sub-sample of listed firms who officially contributed to candidates who ran for the position of federal deputy during the Brazilian elections of 1998 or 2002. Amounts are in 1998 Brazilian Reais (1BRL ≈ 0,86$).

	1998	2002
UNIVERSE OF CORPORATE CONTRIBUTIONS		
Total amount of contributions (BRL)	65,315,860	108,572,813
Total number of contribution	5,580	8,223
Average size of a contribution	11,705.4	13,203.6
Number of candidates	889	493
Average sum of contributions per candidate (BRL)	73,471	220,229
LISTED FIRMS		
Total number of firms (including non-contributors)	540	540
Total amount of contributions (BRL)	10,372,432	13,000,882
	(15.9 % of universe)	(12 % of universe)
Number of contributions	423	664
Average size of contribution per firm (BRL)	24,521	19,580
Number of listed donor firms	60	72
Average number of contributions per firm	7.1	9.2
Average total of contributions per firm (BRL)	172,874	180,568
Average number of parties to which a firm contributed	2.6	3.5
Average number of contributions per party per firm	2.0	2.0
LISTED FIRMS WITH DATA ON CAR IN SAMPLE		
Number of firms	159	216
Number of donor firms	39	56
Average amount per firm (BRL)	238,980	213,020
Total contributions by firms (BRL)	9,320,211	11,929,130

Table 3: Descriptive Statistics of Listed Brazilian Firms that Contributed to Campaigns of Federal Deputy Candidates

This table reports summary statistics of campaign contribution variables, dependent variables and control variables for the sample of all listed Brazilian firms for which we have data. This includes both contributing and non-contributing firms. Reported numbers pertain to both the 1998 and 2002 election cycles.

Panel A:

MEASURES OF POLITICAL CONNECTIONS (1998 and 2002)	Obs	Mean	Std. Dev.	Min	Max
Contributions to deputies (in 100,000 BRL)	375	0.567	2.014	0.000	15.200
Contributions to winning deputies (in 100,000 BRL)	375	0.400	1.496	0.000	13.000
Contributions to losing deputies (in 100,000 BRL)	375	0.167	0.617	0.000	5.236
Cumulative share in contributions to winning deputies	375	0.096	0.845	0.000	15.565
Cumulative share in contributions to losing deputies	375	0.055	0.461	0.000	8.170
Cumulative share in contributions to winning deputies in the state	375	0.008	0.064	0.000	1.062
Cumulative share in contributions to losing deputies in the state	375	0.004	0.060	0.000	1.155
Contributions to incumbent deputies (in 100,000 BRL)	375	0.335	1.290	0.000	10.400
Contributions to non-incumbent deputies (in 100,000 BRL)	375	0.232	0.827	0.000	6.956
Contributions to deputies affiliated to president coalition (in 100,000 BRL)	375	0.343	1.362	0.000	13.400
Contributions to deputies not affiliated to president coalition (in 100,000 BRL)	375	0.224	0.923	0.000	8.122
Contributions to candidates at other levels (in 100,000 BRL)	375	0.652	3.378	0.000	55.185

Panel B:

DEPENDENT VARIABLES (1998 and 2002)	Obs	Mean	Std. Dev.	Min	Max
CAR (in %)	375	-4.341	64.240	-982.353	110.474
Growth in bank leverage	168	-0.001	0.259	-0.701	1.594
Growth in short-term bank leverage	168	-0.023	0.311	-1.032	0.837
Growth in long-term bank leverage	168	0.020	0.406	-1.897	1.938
Growth in other liabilities to total assets	168	0.051	0.135	-0.346	0.498
Growth in liabilities to total assets	168	0.024	0.107	-0.271	0.446
Growth in interest expense to sales	158	-0.086	0.468	-2.106	1.550
Growth in fixed assets to total assets	168	-0.043	0.098	-0.533	0.271
Growth in collateral to total assets	164	-0.012	0.142	-0.972	1.053
CAPEX to total assets	160	0.052	0.040	0.000	0.212
Return on assets	168	0.029	0.093	-0.200	0.200
Initial Tobin's Q	166	0.628	0.272	0.100	2.035

Panel C:

CONTROL VARIABLES (1998 and 2002)	Obs	Mean	Std. Dev.	Min	Max
Log of total assets (in BRL)	168	13.806	1.824	9.472	18.900
Fixed assets ratio	168	0.381	0.202	0.000	0.905
Liabilities to total assets	168	0.601	0.228	0.011	1.000
EBIT ratio	168	0.072	0.070	-0.100	0.200
Sales growth	165	0.018	0.168	-0.500	0.387
Bank debt to total assets	168	0.261	0.185	0.000	1.000
Short-term bank debt to total assets	168	0.139	0.153	0.000	1.000
Long-term bank debt to total assets	168	0.133	0.144	0.000	1.000

Table 4: Correlations between Dependent Variables and Contributions

This table reports correlations between the main dependent variables, cumulative abnormal returns (CAR) and growth in bank leverage, and several measures of political connections based on campaign contribution data. P-values are reported between brackets. Total number of observations is 375 for all pairwise correlations, except for correlations with Growth in bank leverage, where the number of observations is 168. Data cover both the election cycles of 1998 and 2002.

	CAR	Growth in bank leverage	Contributions to deputies	Contributions to winning deputies
Growth in bank leverage	-0.078			
	(0.336)			
Contributions to deputies	0.061	0.006		
	(0.241)	(0.934)		
Contributions to winning deputies	0.061	0.022	0.981	
	(0.241)	(0.778)	(0.000)	
Contributions to losing deputies	0.056	-0.017	0.885	0.779
	(0.279)	(0.825)	(0.000)	(0.000)

Table 5: Impact of Contributions on Cumulative Abnormal Returns

This table reports OLS regressions of the form: $y_{it} = \beta' x_{it-1} + \gamma z_{it} + \theta_t + \eta_j + \lambda_k + \varepsilon_{it}$, where y_{it} is the cumulative abnormal return of firm i around the elections in year t; x_{it-1} is a vector of firm-level control variables averaged over the electoral cycle; z_{it} is a measure of campaign contributions made by firm i for the elections at the beginning of electoral cycle t; θ_t is an election year fixed effect; η_j is an industry fixed effect; λ_k is a state fixed effect; and ε_{it} is the error term. Firm-level control variables are lagged to the previous electoral cycle. The dependent variable is the cumulative abnormal return (in %), calculated with an event window covering the 20 days before and 20 days after the election. We include data for the two election cycles (1998-2001 and 2002-2005) and estimate the model as pooled OLS with clustering of standard errors at the firm level. We exclude firms with no stock price variation over the event window. Contributions to (winning/losing) deputies is the total absolute amount firms contributed to all (winning/losing) federal deputy candidates. Regressions (7) and (8) only include observations for 1998 and 2002, respectively. Regression (9) includes observations for 1998 and the following firm-level control variables, calculated as averages over the previous election cycle: logarithm of total assets; ratio of fixed assets to total assets; ratio of total liabilities to total assets; ratio of earnings before interest and taxes (EBIT) to total assets; and real growth in sales. Industry, state, and time fixed effects are included in all regressions, but these are not reported. White (1981) heteroskedasticity-consistent standard errors corrected for clustering at the firm level are reported in parentheses. *, **, *** indicate significance at 10%, 5%, and 1% level, respectively.

	(1) Basic (pooled)	(2) Winners (pooled)	(3) Winners and losers (pooled)	(4) Basic (balanced)	(5) Winners (balanced)	(6) Winners and losers (balanced)	(7) 1998	(8) 2002	(9) Firm controls
				Cumulative Abnormal Returns					
Contributions to deputies	1.749*** (0.486)			1.797*** (0.510)			2.331*** (0.816)	0.988 (0.626)	7.451*** (2.675)
Contributions to winning deputies		2.458*** (0.654)	2.849** (1.166)		2.300*** (0.654)	1.883* (1.095)			
Contributions to losing deputies			-1.243 (2.740)			1.526 (3.356)			
Log of total assets									-4.378 (3.694)
Fixed assets to total assets									-45.665 (32.149)
Liabilities to total assets									10.834 (37.083)
EBIT to total assets									-91.500 (127.994)
Sales growth									71.781 (49.533)
Industry fixed effects?	Y	Y	Y	Y	Y	Y	Y	Y	Y
State fixed effects?	Y	Y	Y	Y	Y	Y	Y	Y	Y
Time fixed effects?	Y	Y	Y	Y	Y	Y	N	N	N
Number of observations	375	375	375	274	274	274	159	216	56
Number of firms	238	238	238	137	137	137	159	216	56
R-squared	0.06	0.06	0.06	0.11	0.11	0.11	0.15	0.08	0.46

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Table 6: Impact of Alternative Measures of Contributions on Cumulative Abnormal Returns

This table reports pooled OLS regressions of the form: $y_{it} = \gamma z_{it} + \theta_t + \eta_j + \lambda_k + \varepsilon_{it}$, where y_{it} is the cumulative abnormal return of firm i around the elections in year t; z_{it} is a measure of campaign contributions made by firm i for the elections at the beginning of electoral cycle t; θ_t is an election year fixed effect; η_j is an industry fixed effect; λ_k is a state fixed effect; and ε_{it} is the error term. Firm-level control variables are lagged to the previous electoral cycle. The dependent variable is the cumulative abnormal return (in %). We include data for the two election cycles (1998-2001 and 2002-2005) and estimate the model as pooled OLS with clustering of standard errors at the firm level. Cumulative share in contributions to (winning/losing) deputies (in the state) is the firm's cumulative share in total contributions to (winning/losing) federal deputy candidates (in the state). Contributions to (non)incumbent deputies is the total amount the firm contributed to (non)incumbent federal deputy candidates. Contributions to deputies (not) affiliated to the coalition parties of the president is the total amount the firm contributed to federal deputy candidates that are (not) affiliated to the coalition parties of the presidential candidate that won the elections. Contributions to candidates at other levels is contributions to candidates at other levels of government (governor, senate or president). Industry, state, and time fixed effects are included in all regressions, but these are not reported. White (1981) heteroskedasticity-consistent standard errors corrected for clustering at the firm level are reported in parentheses. *, **, *** indicate significance at 10%, 5%, and 1% level, respectively.

| | Cumulative abnormal returns | | | | |
	(1)	(2)	(3)	(4)	(5)
	Share of deputy	Share of deputy in state	Incumbents	Affiliation	Other candidates
Cumulative share in contributions to winning deputies	5.023				
	(3.210)				
Cumulative share in contributions to losing deputies	-7.509				
	(6.136)				
Cumulative share in contributions to winning deputies in the state		60.779***			
		(23.348)			
Cumulative share in contributions to losing deputies in the state		-49.405**			
		(19.672)			
Contributions to incumbent deputies			2.765**		
			(1.253)		
Contributions to non-incumbent deputies			0.063		
			(2.006)		
Contributions to deputies affiliated to president coalition				2.871***	
				(0.947)	
Contributions to deputies not affiliated to president coalition				-0.131	
				(1.278)	
Contributions to deputies					1.268**
					(0.622)
Contributions to candidates at other levels					0.428
					(0.396)
Industry fixed effects?	Y	Y	Y	Y	Y
State fixed effects?	Y	Y	Y	Y	Y
Time fixed effects?	Y	Y	Y	Y	Y
Number of observations	375	375	375	375	375
Number of firms	238	238	238	238	238
R-squared	0.06	0.06	0.06	0.06	0.06

Table 7: Impact of Contributions on Cumulative Abnormal Returns: Robustness

This table reports pooled OLS regressions of the form: $y_{it} = \gamma z_{it} + \theta_t + \eta_j + \lambda_k + \varepsilon_{it}$, where y_{it} is the cumulative abnormal return of firm i around the elections in year t; z_{it} is a measure of campaign contributions made by firm i for the elections at the beginning of electoral cycle t; θ_t is an election year fixed effect; η_j is an industry fixed effect; λ_k is a state fixed effect; and ε_{it} is the error term. Firm-level control variables are lagged to the previous electoral cycle. The dependent variable in Regression (1) is the cumulative abnormal return (in %), calculated with an event window covering the 20 days before and 5 days after the election. The dependent variable in Regression (2) is the buy-and-hold return (in %), calculated with an event window covering the 20 days before and 20 days after the election. The dependent variable in Regressions (3) to (5) is the cumulative abnormal return (in %), calculated with an event window covering the 20 days before and 20 days after the election. In Regression (3), we exclude firms that operate in the financial services and utilities industries. In Regressions (4) and (5), we exclude firms that made no contributions to federal deputy candidates. Contributions to deputies is the total absolute amount the firm contributed to federal deputy candidates in one-hundred thousands of 1998 Brazilian Reais at the beginning of the election cycle. Industry, state, and time fixed effects are included in all regressions, but these are not reported. White (1981) heteroskedasticity-consistent standard errors corrected for clustering at the firm level are reported in parentheses. *, **, *** indicate significance at 10%, 5%, and 1% level, respectively.

	(1)	(2)	(3)	(4)	(5)
			Cumulative abnormal returns		
	Cumulative abnormal returns with shorter window	Buy-and-hold strategy	Excluding banks and utilities	Exclude firms that did not contribute	Exclude firms that did not contribute
Contributions to deputies	0.825**	2.263*	1.404**	1.259*	
	(0.362)	(1.196)	(0.708)	(0.699)	
Contributions to winning deputies					1.663*
					(0.886)
Industry fixed effects?	Y	Y	Y	Y	Y
State fixed effects?	Y	Y	Y	Y	Y
Time fixed effects?	Y	Y	Y	Y	Y
Number of observations	375	375	292	95	95
Number of firms	238	238	189	72	72
R-squared	0.06	0.05	0.08	0.26	0.26

Table 8: Impact of Contributions on Growth in Bank Leverage

This table reports OLS regressions of the form: $l_{it} = \beta' x_{it-1} + \gamma z_{it} + \theta_t + \alpha_i + \varepsilon_{it}$, where l_{it} is the growth in bank leverage of firm i over the electoral cycle t; x_{it-1} is a vector of firm-level control variables; z_{it} is a measure of campaign contributions made by firm i for the elections at the beginning of electoral cycle t; θ_t is an electoral cycle fixed effect; α_i is a firm fixed effect; and ε_{it} is the error term. The dependent variable is the growth in bank leverage (defined as the ratio of total bank debt to total assets) over the election cycle (either the period 1998-2001 or the period 2002-2005). Contributions to deputies is the total absolute amount in one-hundred thousands of 1998 Brazilian Reais firms contributed to federal deputy candidates at the beginning of the election cycle. We include the following firm-level control variables, calculated as averages over the previous election cycle: Log of total assets is the logarithm of total assets; Fixed assets to total assets is the ratio of fixed assets to total assets; Liabilities to total assets is the ratio of total liabilities to total assets; EBIT to total assets is the ratio of earnings before interest and taxes to total assets; and sales growth is real growth in sales. Firm-level control variables are lagged to the previous electoral cycle, except in Regression (7) where we include contemporaneous values of the control variables. Firm fixed effects and election period fixed effects are included in the regressions, but these are not reported. White (1981) heteroskedasticity-consistent standard errors corrected for clustering at the firm level are reported in parentheses. *, **, *** indicate significance at 10%, 5%, and 1% level, respectively.

	Growth in bank leverage						
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
	Basic (pooled)	Winners (pooled)	Winners and losers (pooled)	Firm controls (pooled)	Firm controls (balanced)	Without liabilities to total assets (pooled)	Contemporaneous control variables (pooled)
Contributions to deputies	0.047***			0.030**	0.030**	0.042*	0.039**
	(0.015)			(0.014)	(0.014)	(0.022)	(0.017)
Contributions to winning deputies		0.081***	0.099				
		(0.028)	(0.073)				
Contributions to losing deputies			-0.033				
			(0.089)				
Log of total assets				-0.090	-0.090	-0.108	0.026
				(0.056)	(0.057)	(0.077)	(0.088)
Fixed assets to total assets				0.310	0.310	0.381	0.398
				(0.477)	(0.481)	(0.528)	(0.380)
Liabilities to total assets				-0.917***	-0.917**		
				(0.343)	(0.345)		
EBIT to total assets				0.122	0.122	0.608	-1.234
				(0.616)	(0.621)	(0.776)	(0.753)
Sales growth				0.125	0.125	0.050	0.170
				(0.168)	(0.169)	(0.172)	(0.238)
Firm fixed effects?	Y	Y	Y	Y	Y	Y	Y
Time fixed effects?	Y	Y	Y	Y	Y	Y	Y
Number of observations	168	168	168	143	120	143	165
Number of firms	84	84	84	83	60	83	84
R-squared	0.04	0.04	0.04	0.08	0.08	0.06	0.02

Table 9: Impact of Alternative Measures of Contributions on Growth in Bank Leverage

This table reports OLS regressions of the form: $l_{it} = \gamma z_{it} + \theta_t + \alpha_i + \varepsilon_{it}$, where l_{it} is the growth in bank leverage of firm i over the electoral cycle t; z_{it} is a measure of campaign contributions made by firm i for the elections at the beginning of electoral cycle t; θ_t is an electoral cycle fixed effect; α_i is a firm fixed effect; and ε_{it} is the error term. The dependent variable is the growth in bank leverage (defined as the ratio of total bank debt to total assets) over the election cycle (either the period 1998-2001 or the period 2002-2005). Cumulative share in contributions to (winning/losing) deputies (in the state) is the firm's share in total contributions to (winning/losing) federal deputy candidates (in a particular state). Contributions to (non)incumbent deputies is the total absolute amount the firm contributed to (non)incumbent federal deputy candidates. Contributions to deputies (not) affiliated to president coalition is the total absolute amount the firm contributed to federal deputy candidates that are (not) affiliated to the coalition parties of the Presidential candidate that won the elections (Cardoso in 1998 and Lula in 2002). Contributions to candidates at other levels is contributions to candidates at other levels of government (governor, senate or president). Firm fixed effects and election period fixed effects are included in the regressions, but these are not reported. White (1981) heteroskedasticity-consistent standard errors corrected for clustering at the firm level are reported in parentheses. *, **, *** indicate significance at 10%, 5%, and 1% level, respectively.

	Growth in bank leverage				
	(1)	(2)	(3)	(4)	(5)
	Share of deputy	Share of deputy in state	Incumbents	Affiliation	Other candidates
Cumulative share in contributions to winning deputies	0.428*				
	(0.224)				
Cumulative share in contributions to losing deputies	-0.297				
	(0.180)				
Cumulative share in contributions to winning deputies in the state		5.119**			
		(2.298)			
Cumulative share in contributions to losing deputies in the state		-5.269			
		(4.347)			
Contributions to incumbent deputies			0.053***		
			(0.008)		
Contributions to non-incumbent deputies			0.037		
			(0.040)		
Contributions to deputies affiliated to president coalition				0.046**	
				(0.022)	
Contributions to deputies not affiliated to president coalition				0.048	
				(0.031)	
Contributions to deputies					0.059**
					(0.016)
Contributions to candidates at other levels					-0.008
					(0.009)
Firm fixed effects?	Y	Y	Y	Y	Y
Time fixed effects?	Y	Y	Y	Y	Y
Observations	168	168	168	168	168
Number of firms	84	84	84	84	84
R-squared	0.06	0.06	0.04	0.04	0.04

Table 10: Impact of Contributions on Growth in Bank Leverage: Robustness

This table reports OLS regressions of the form: $l_{it} = \gamma z_{it} + \theta_t + \alpha_i + \varepsilon_{it}$, where l_{it} is the growth in bank leverage of firm i over the electoral cycle t; z_{it} is a measure of campaign contributions made by firm i for the elections at the beginning of electoral cycle t; θ_t is an electoral cycle fixed effect; α_i is a firm fixed effect; and ε_{it} is the error term. The dependent variable is the growth in bank leverage (defined as the ratio of total bank debt to total assets) over the election cycle. In Regression (1), the election cycles are defined as the periods 1997-2001 and 2001-2005 (i.e., we include the growth rate during the election year); in all other regressions, the election cycles are the periods 1998-2001 and 2002-2005. Contributions to deputies is the total absolute amount the firm contributed to federal deputy candidates in one-hundred thousands of 1998 Brazilian Reais at the beginning of the election cycle. Contributions to all candidates is the total absolute amount the firm contributed to all types of election candidates (federal deputy, governor, senate or president). In Regression (2), we exclude firms that operate in the utilities industries (note that firms that operate in the financial services industries are not included in any of the leverage growth regressions). In Regressions (3) and (4), we exclude firms that did not make contributions to Federal deputies. Firm fixed effects and election period fixed effects are included in the regressions, but these are not reported. White (1981) heteroskedasticity-consistent standard errors corrected for clustering at the firm level are reported in parentheses. *, **, *** indicate significance at 10%, 5%, and 1% level, respectively.

	Growth in bank leverage			
	(1)	(2)	(3)	(4)
	Include election year to compute growth of bank leverage	Excluding utilities	Exclude firms that did not contribute to deputies	Exclude firms that did not contribute to deputies
Contributions to deputies	0.034**	0.047***	0.046***	
	(0.016)	(0.015)	(0.007)	
Contributions to winning deputies				0.061***
				(0.020)
Firm fixed effects?	Y	Y	Y	Y
Time fixed effects?	Y	Y	Y	Y
Observations	168	146	43	43
Number of firms	84	73	32	32
R-squared	0.03	0.04	0.02	0.04

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Table 11: Impact of Contributions on Bank Debt of Different Maturity, Other Types of Debt, and Interest Expenses

This table reports OLS regressions of the form: $p_{it} = \gamma z_{it} + \theta_t + \alpha_i + \varepsilon_{it}$, where p_{it} is the dependent variable for firm i over the electoral cycle t; z_{it} is a measure of campaign contributions made by firm i for the elections at the beginning of electoral cycle t; θ_t is an electoral cycle fixed effect; α_i is a firm fixed effect; and ε_{it} is the error term. The dependent variable in Regression (1) is the growth in short-term bank leverage (defined as the ratio of short-term bank debt to total assets) over the election cycle. The dependent variable in Regressions (2) is the growth in long-term bank leverage (defined as the ratio of long-term bank debt to total assets) over the election cycle. The dependent variable in Regression (3) is the growth in the ratio of liabilities other than bank debt to total assets over the election cycle. Other liabilities include accounts payables, bonds, debentures, and arrears. The dependent variable in Regression (4) is the growth in the ratio of total liabilities to total assets over the election cycle. The dependent variable in Regression (5) is the growth in the ratio of total interest expense on debt to total assets over the election cycle. Contributions to deputies is the total absolute amount the firm contributed to Federal deputy candidates in one-hundred thousands of 1998 Brazilian Reais at the beginning of the election cycle. Firm fixed effects and election period fixed effects are included in the regressions, but these are not reported. White (1981) heteroskedasticity-consistent standard errors corrected for clustering at the firm level are reported in parentheses. *, **, *** indicate significance at 10%, 5%, and 1% level, respectively.

	(1)	(2)	(3)	(4)	(5)
	Growth in short-term bank leverage	Growth in long-term bank leverage	Growth in other liabilities to total assets	Growth in total liabilities to total assets	Growth in interest expense to total sales
Contributions to deputies	0.050*	0.033*	-0.008	0.014**	-0.007
	(0.026)	(0.019)	(0.005)	(0.007)	(0.029)
Firm fixed effects?	Y	Y	Y	Y	Y
Time fixed effects?	Y	Y	Y	Y	Y
Observations	168	168	168	168	158
Number of firms	84	84	84	84	82
R-squared	0.03	0.01	0.01	0.05	0.14

Table 12: Impact of Contributions on Allocation and Quality of Investments

This table reports OLS regressions of the form: $p_{it} = \gamma z_{it} + \theta_t + \alpha_i + \varepsilon_{it}$, where p_{it} is the dependent variable for firm i over the electoral cycle t, unless otherwise noted; z_{it} is a measure of campaign contributions; θ_t is an electoral cycle fixed effect; α_i is a firm fixed effect; and ε_{it} is the error term. The dependent variable in Regression (1) is the growth in fixed assets to total assets, averaged over the election cycle t. The dependent variable in Regression (2) is the growth in collateral to total assets (where collateralizable assets are defined as the sum of cash and cash-equivalent investments, accounts receivables, inventories, and fixed assets), averaged over the election cycle t. The dependent variable in Regression (3) is capital expenditure to total assets, averaged over the election cycle t. The dependent variable in Regression (4) is the ratio of pre-tax profits to total assets, averaged over the election cycle t. Contributions to deputies is the total absolute amount the firm contributed to federal deputy candidates in one-hundred thousands of 1998 Brazilian Reais at the beginning of the election cycle. The dependent variable in Regressions (5) and (6) is the Tobin's Q of firm i at the beginning of the electoral cycle t. The dependent variable in Regression (7) is capital expenditure to total assets of firm i at the beginning of the electoral cycle t. In Regressions (1)-(5), z_{it} is the campaign contributions made by firm i for the elections at the beginning of the electoral cycle t. In regressions (6) and (7), z_{it} is a dummy variable indicating whether firm i has made any campaign contributions to federal deputy candidates for the elections at the beginning of electoral cycle t. Firm fixed effects and election period fixed effects are included in the regressions, but these are not reported. White (1981) heteroskedasticity-consistent standard errors corrected for clustering at the firm level are reported in parentheses. *, **, *** indicate significance at 10%, 5%, and 1% level, respectively.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
	Growth in fixed assets to total assets	Growth in collateral to total assets	Capital expenditure to total assets	Return on assets	Initial Tobin's Q	Initial Tobin's Q	Initial capital expenditure to total assets
Contributions to deputies	-0.007	-0.009*	0.002	-0.014***	-0.040***		
	(0.010)	(0.005)	(0.002)	(0.003)	(0.012)		
Contributions (yes=1; no=0)						-0.070*	0.048*
						(0.037)	(0.027)
Firm fixed effects?	Y	Y	Y	Y	Y	Y	Y
Time fixed effects?	Y	Y	Y	Y	Y	Y	Y
Observations	168	164	160	168	166	166	141
Number of firms	84	84	84	84	84	84	78
R-squared	0.06	0.01	0.01	0.01	0.12	0.17	0.11

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Appendix Table 1

This table lists the number of contributions of firms and the average amount of contributions by political party. Amounts are in 1998 Brazilian Reais (1BRL ≈ 0,86$).

Name of Political Party	Listed firms in 1998 and 2002		Listed firms in 1998		Listed firms in 2002	
	Number of contributions	Average amount of contribution	Number of contributions	Average amount of contribution	Number of contributions	Average amount of contribution
Independent	0	0	-	-	-	-
PAN	0	0	-	-	-	-
PC do B	4	8,304.5	3	12566	5	4043
PDT	33.5	9,870.5	13	7037	54	12704
PFL	112.5	16,0517	112	297889	113	23145
PGT	0.5	2,244	-	-	1	4488
PHS	0.5	669	-	-	1	1338
PL	7	6,375.5	1	682	13	12069
PMDB	74.5	24,442	67	29768	82	19116
PPB	42	10,799	-	-	84	21,598
PMN	0	0	-	-	-	-
PP	24.5	9,398.55	49	18797.1	-	-
PPS	19.5	16,800.5	4	13750	35	19851
PRTB	3	12,657	-	-	6	25314
PRONA	0	0	-	-	-	-
PRP	0.5	1,655	1	3310	-	-
PSB	25	17,715.5	16	20844	34	14587
PSC	1.5	387	-	-	3	774
PSDB	129.5	24,444	123	25610	136	23278
PSDC	3	8,009	-	-	6	16018
PST	0.5	3,674	-	-	1	7348
PSL	0	0	-	-	-	-
PSTU	0	0	-	-	-	-
PT	31	17,384	16	14715	46	20053
PT do B	0	0	-	-	-	-
PTB	27	13,578	18	11861	36	15295
PTN	0	0	-	-	-	-
PV	4	2963.5	-	-	8	5927
Total	543.5	14723	423	15727	664	13719

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Appendix Table 2

This table reports for each industry the total number of listed firms for which we have data on campaign contributions, the number of firms that contributed to the campaign finance of deputy candidates, the number of firms that did not contribute, and the share of firms that contributed. Data are for the years 1998 and 2002 for our sample of listed firms. Contributions are in 1998 Brazilian Reais.

1998

Industry	Number of firms	Contributors	Non-contributors	Contributors as share of total number of firms	Total contributions
Basic Industries (incl. Metals, Steel, Chemicals, Building Materials, Paper, Construction)	40	16	24	0.40	5,409,987
Cyclical Consumer Goods (incl. Textile, Leisure Goods, Leather, Clothing, Footwear)	21	6	15	0.29	399,802
Cyclical Services (incl. Retail, Hotels, Entertainment, Publishing)	8	0	8	0.00	0
Financials (incl. Banks, Insurance)	14	4	10	0.29	2,314,500
General Industries (incl. Engineering, Electric Equipment, Diversified)	20	5	15	0.25	975,000
Information Technology (incl. Computer Hardware)	1	1	0	1.00	20,000
Investment Companies	12	2	10	0.17	21,000
Non-Cyclical Consumer Goods (incl. Food, Tobacco, Healthcare)	10	2	8	0.20	87,422
Non-Cyclical Services (incl. Telecom Fixed Line, Telecom Wireless)	5	0	5	0.00	0
Resources (incl. Oil, Gas, Mining)	6	3	3	0.50	92,500
Utilities (incl. Electricity, Water)	22	0	22	0.00	0
Total	159	39	120	0.25	9,320,211

2002

Industry	Number of firms	Contributors	Non-contributors	Contributors as share of total number of firms	Total contributions
Basic Industries (incl. Metals, Steel, Chemicals, Building Materials, Paper, Construction)	45	21	24	0.47	7,143,643
Cyclical Consumer Goods (incl. Textile, Leisure Goods, Leather, Clothing, Footwear)	30	7	23	0.23	303,500
Cyclical Services (incl. Retail, Hotels, Entertainment, Publishing)	7	0	7	0.00	0
Financials (incl. Banks, Insurance)	18	4	14	0.22	1,504,935
General Industries (incl. Engineering, Electric Equipment, Diversified)	30	13	17	0.43	1,838,486
Information Technology (incl. Computer Hardware)	1	1	0	1.00	76,810
Investment Companies	13	3	10	0.23	45,852
Non-Cyclical Consumer Goods (incl. Food, Tobacco, Healthcare)	14	5	9	0.36	861,598
Non-Cyclical Services (incl. Telecom Fixed Line, Telecom Wireless)	21	0	21	0.00	0
Resources (incl. Oil, Gas, Mining)	8	0	8	0.00	0
Utilities (incl. Electricity, Water)	29	2	27	0.07	154,309
Total	216	56	160	0.26	11,929,130

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