**Does campaign finance imply political favors? The case of the 1998 Brazilian elections**

Feijen, E.H.B.

# Does Campaign Finance Imply Political Favors?

# The Case of the 1998 Brazilian Elections

Erik Feijen*

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## Abstract

This paper provides empirical evidence that campaign contributions are strongly associated with expectations of future firm-specific political favors. Using a novel dataset, we find that during the 1998 elections in Brazil higher campaign contributions to federal deputies were robustly associated with higher stock returns of contributing firms around the announcement of the election results, even after controlling for industry-specific effects. This suggests that the stock market expects federal deputies to shape policy according to the benefits of their campaign donors, not to their a priori political ideology. In addition, we find some support for a positive effect of contributions to governors and senators on stock returns of contributors.

**Introduction**

This paper studies the political influence that firms gain by contributing to election campaigns of legislative candidates. It addresses one of the most important, long-standing questions in political economy: do higher campaign contributions imply more future *firm-specific* political favors? We find supporting empirical evidence for this hypothesis by exploiting a novel dataset based on candidate-level contribution data from the 1998 Brazilian elections in which President Fernando Henrique Cardoso (1995-2002) was convincingly re-elected.

Indeed, Brazil is notorious for the odious relationships between politicians and firms. Ramalho (2003) finds that negative news about the impeachment of President Collor de Mello in 1992 had a negative impact on the stock returns of firms who were connected to the president, whereas competitors of these firms enjoy positive returns. Ramalho also finds no long-term effects of the impeachment, suggesting it is hard to eradicate corruption in Brazil.

Brazil is an ideal test case to assess the impact of a campaign finance system on the link between politicians and firms in emerging countries, since it is one of the few that registers campaign contributions on the candidate-level. In addition, in the Brazilian system campaign contributions are an effective means to influence politicians, although there are certainly other ways to influence politicians. The reason is that Brazilian law dictates individual justification of campaign expenditures of each candidate. Hence, it is more difficult for a politician to spend unofficial money on campaigning, making it a less effective tool for firms to increase the candidate's probability of winning office.

Using several proxies of the strength of political connections to federal deputies based on campaign contributions, we are able to explain the cross-sectional variation of

stock market responses at the time of the announcement of the election results after controlling for industry-specific effects. This finding suggests that the stock market expects deputies to shape policy according to the benefits of their campaign donors, not to their a priori political ideology.

Our paper makes at least three contributions to the existing literature. First, our findings complement the literature that studies the relationship between campaign contributions and policy outcomes. Empirical findings in the U.S. tend to be mixed, because, for example, of simultaneity bias (Durden and Silberman (1976) and Grenzke (1989)) or the problem of disentangling ideological voting dispositions of politicians and their incentive to provide contributors with political favors (Chappell (1982) and Wawro (2001)). Hence, it is difficult to unambiguously establish whether contributions are used to forge "cozy" alliances between politicians and contributors (Stratmann (1995) and Krozner and Stratmann (1998)) or simply do not have a substantial influence on political decision making at all (Chappell (1982); Milyo, Primo and Groseclose (2000)). The event study methodology may be more suitable to address some of these problems. For example, in an event study similar to ours, Jayachandran (2004) documents that the political landscape does matter for the value of U.S. firms. In May 2001, Senator Jim Jeffords suddenly left the Republican Party, and hence shifted control of the Senate towards the Democrats. Jayachandran shows that firms who made soft money donations[1] to the Republicans (Democrats) lost (gained) market capitalization proportionately to the amount of their contributions. In an event study on the value of ties between firms and politicians in Indonesia, Fisman (2001) concludes that a considerable portion of the value of firms comes from political connections. He shows that the stock value of politically

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[1] Unregulated contributions to parties, donated to a non-federal account.

connected firms in Suharto's Indonesia declined more when adverse rumors circulated about the health of the president. Roberts (1990) conducts an event study and analyzes the impact of Senator Henry Jackson's unexpected death in 1983 on firms connected to him and firms connected to his successor in the Armed Services Committee. Roberts finds that share prices of firms affiliated with Jackson declined whereas prices surged of firms who were connected to his successor. However, using an event study and exploiting variation campaign finance law some find that soft money contributions do not affect firm value substantially (Ansolabehere et al, 2004a, 2004b).

Based on our results, we argue that the system of campaign contributions in Brazil is likely to support the view that deputies provide favors *specifically* to their campaign contributors, not all players in an industry.

Second, the results could shed light on the relationship between campaign finance as a channel to ultimately affect economic development in countries like Brazil. There exists a vast literature that describes the influence of special interests on economic outcomes. For example, a classic macro study by Mauro (1995) reveals that corruption has detrimental repercussions on economic development. More recently, He, Morck, and Yeung (2000) suggest that political rent-seeking by large established firms, especially in countries with fewer creditor rights, explains the relative stability in the list of top firms, which is associated with slower economic growth in a Schumpeterian sense. Acemoglu (2005) shows in a theoretical model a fascinating mechanism how in a society where political power is in the hands of a few producers, economic growth is initially higher than in a society where political power is more diffused, but later loses its economic comparative advantage and declines.

Third, our empirical results add to the debate on the virtues of a system of campaign contributions in a relatively young democracy like Brazil. Although the costs of campaigning in Brazil are very high, implying fierce political competition, Samuels (2001a) concludes that overall, the campaign finance system seems to support the status quo of a high power concentration in Brazil by *"[...] tightening the links between conservative political elites and business interests and limiting the ability of new interests to gain a voice in Brazil's representative institutions"*. Our interpretation corroborates Samuels' analysis and may provide more insight into how these links emerge. Our results also put the current corruption scandals around campaign finance in a broader context.[2]

In this paper, we study campaign contributions and stock market reactions around the announcement of the results of the 1998 elections of listed firms to candidates for the positions of president (1 position), governor (27 positions), senator (27 positions), and federal deputy (513 positions). In the empirical section we focus on federal deputies, but we carried out the analyses for all positions. The main idea is that the announcement of election results resolves uncertainty in the stock market about the political landscape. As a proxy for the strength of connections between firms and politicians, we build a novel dataset by constructing several measures based on campaign contributions. Hence, if the market expects that contributions lead to beneficial connections to firms because of future political favors, firm value and therefore its stock price should increase at the announcement date of the election results. More specifically, *if* firms have strong connections *and* have a significant positive effect on stock returns around the election

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[2]The current government allegedly made big monthly payments to rightwing parties that have voted in the governments favor. Indeed, the Worker's party of President Luiz Inácio da Silva admitted: "*[...] irregular fundraising and is accused of having siphoned off public funds to finance campaigns of its candidates and allies*" (Financial Times, 2005). This scandal may have repercussions far beyond the political realm. Although foreign investors are still relatively calm, this may soon change, since a recent poll by the National Transport Confederation concludes that the current political crisis seriously damages public's approval of the government and already affects consumer confidence (Reuters, 2005).

announcement *relative to their competitors,* we conclude that the market expects firm-specific political favors.

We test several hypotheses. First, we hypothesize that politically active firms (i.e. large absolute campaign contributors) are perceived as more likely to receive future firm-specific political favors which should have a positive effect on a firm´s value. However, it obviously matters its value whether a candidate to whom the firm contributes wins or loses the election. Therefore, our second hypothesis is that we expect a positive effect on the value of the firm when the candidate wins. Naturally, our third hypothesis is that contributing to losing candidates should have a negative impact on returns. Second, we address the channel through which contributions have an effect. The data allow us to test two specific hypotheses. Our fourth hypothesis is that contributions could be perceived as a signal of determination of establishing political connections. Hence the size of contributions relative to firm size is important. Our last hypothesis conjectures that firms within a sector compete to win the attention. Therefore contributions relative to total sector contributions should matter.

Based on this discussion, we formulate five impact and channel hypotheses. For the impact hypotheses we test that, after controlling for industry-specific effects:

1. TOTAL: Using the absolute amount of contributions to federal deputies as a proxy for political connections, better connected firms have significantly higher returns

2. WINNERS: Using several proxies for political connections to winning federal deputies, better connected firms to winners have significantly higher returns

3. LOSERS: Using several proxies for political connections to losing federal deputies, better connected firms to losers have significantly lower returns

The channel hypotheses test that that, after controlling for industry-specific effects:

1. <u>SIGNAL:</u> Using total contributions and contributions to winning federal deputies relative to the market capitalization at the start of the event window as a proxy for connections, better connected firms have significantly higher returns

2. <u>TOURNAMENT:</u> Using total contributions and contributions to winning federal deputies relative to the total amount of contributions in the sector as a proxy for connections, better connected firms have significantly higher returns

We find that the data strongly and robustly support the TOTAL, WINNERS, and LOSERS hypotheses. Our results indicate that for every 100,000BRL (about US\$ 86,000) donated to federal deputy candidates, the CAR of a firm increases by approximately 2-3%. This is both statistically and economically significant. Going from the 25th tot the 75th percentile of our several proxies of political connections to deputies, implies an increase in the CAR between 6.5-30%. In addition, we calculated the abnormal buy-and-hold returns over the event window. We find that going from the 25th tot the 75th percentile of contributions to winning deputies is associated with an increase of the buy-and-hold-returns of about 18%, after controlling for market capitalization at the start of the event window. We do not find support for the TOURNAMENT hypothesis, but find some support for the SIGNAL hypothesis. Furthermore, we find that TOTAL, WINNERS are also supported for the governor, and senator levels. However, lack of robust support for these and the president levels is probably due to the fact that there is less uncertainty about the election outcomes: there are only 1 and 27 candidates to be appointed for the president and governor and senator levels, respectively. Therefore, the market is fairly good at anticipating the value of connections with politicians on the higher levels and hence has less impact on returns.

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To argue that contributions imply higher returns and not vice versa, we have to address the problem of causality. Perhaps firms who exceeded market expectations around the elections were able to contribute more? Although we cannot unequivocally falsify this interpretation, it does not seem to be very likely. Donors are never significantly different from non-donors regarding their Return on assets, Current ratio, Liabilities, Book to price, and Income. In fact, on the 7% confidence level, profit of donors is *lower* than that of non-donors.

The results do come with provisos. Our interpretations are reasonable as long as the data are reliable. Skeptics will doubt the validity of campaign contribution data for a country that has a reputation of being one of the largest, most corrupt democracies in the world[3]. Samuels (2001b) also studies these data and points out that: *"[…] the data conform to common-sense expectations regarding cross-candidate, cross-office, and cross-partisan differences […]. […] if the declared contributions where wholly false, we would expect no patterns to emerge."* The fact that we find strong correlations with stock market returns supports this claim. Furthermore, the results do not measure contemporaneous corruption, but only reflect market expectations. Therefore, our interpretation is valid as long as the judgment of the market is correct. Lastly, although we establish that campaign finance *does* matter for the firm value of the contributors, we only scratched the surface as to *how* campaign finance matters, suggesting ample space for future research.

The remainder of the paper is structured as follows. Section I describes the context of the 1998 elections. Section II reviews the related literature. Section III lays out the

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[3] According to the Corruption Perception Index 2004 of Transparency International, Brazil scores 3,9 out of 10 and does slightly better than Belize and Columbia and slightly worse than Latvia and Slovakia.

methodology used and Section IV describes the data. Section V provides a discussion of the results and the robustness checks. Section VI concludes.

## I. The Context of the 1998 Elections in Brazil

This section sketches the context of the Brazilian elections. It deals with the basics of the Brazilian election system, describes the political situation of the 1998 elections, reviews the Brazilian campaign finance law, and discusses the interaction between firms and politicians in Brazil.

### 1. The Brazilian Election System[4]

Brazil has a bicameral National Congress (*Congresso Nacional*) consisting of the Federal Senate (81 seats) and the Chamber of Deputies (513 seats). Brazil has 27 federal units, which are comprised of 26 states and one Federal District. Each unit elects its own Governor. The president is directly elected by a simple majority vote for a four-year term. The 1988 Constitution introduced the two-round rule for president and governor candidates: if no candidate received 50% + 1 of the votes in the first round, a runoff is held between the two candidates with the most votes. The Senate includes three Senators from each federal unit. Senators are elected via majority voting in staggered elections. In 1994 two-thirds of the Senate (54 seats) was up for election; in 1998 one-third of the Senate (27 seats) was up for election. Members serve eight-year terms. All members of the Chamber of Deputies are elected for a four-year term via a party-list proportional system according to D'Hondt largest averages formula. In proportional representation

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

elections, state-level parties compose federal deputy candidate lists. Voters have the option of making a party vote. However, in practice, these campaigns are very individualized in Brazil, so the number of party votes is small.

The constitutional revision of May 1994 reduced the presidential term from five to four years. This amendment ensured the alignment of the terms of the president, federal deputies, senators and state governors. The national elections lag two years behind the municipal elections.

2. The Political Situation

The last national election before the 1998 election was held in 1994. Presidential candidate Fernando Henrique Cardoso (Brazilian Social Democratic Party, PSDB) received 52.97% of the vote and defeated Luiz Inácio (Lula) da Silva (Worker's Party, PT), his closest competitor with 26.39%. Due to a constitutional amendment, the October 1998 election was the first in which the current president was allowed to run for re-election. Cardoso took advantage of this possibility and won the presidential election of 1998 as well with 53.06% of the vote in the first round. Again, his close runner up was Lula da Silva with 31.71% of the vote. The October 1998 election was the first time in which the majority of Brazil's voters used computerized electronic voting machines.

During his term, Cardoso has put Brazil on the path of economic reform. His *Plano Real* established economic stability. It managed to curb inflation and to control government spending on the state level, which used to be a large source of fiscal instability. However, Cardoso did not solve all problems he bequeathed, and created additional ones in the process (Samuels, 2003). For instance, internal debt under Cardoso grew faster than GDP. This debt was vulnerable since most of it had a short maturity and

was linked to the US Dollar. Hence the size of Brazil's central government debt limited the options available for future administrations.

3. Brazilian Campaign Finance Law

Before 1993, it was prohibited for business and individuals to contribute to candidates directly. However, currently, Brazilian law permits contributions to candidates for all offices directly. Individuals can donate up to ten percent of their gross annual income whereas companies can donate a maximum amount of two percent of gross annual income. These relatively high limits together with accounting smoothing possibilities imply contributions are virtually unconstrained. Triggered by campaign finance scandals, Congress passed a law[5] in 1993, which requires candidates to submit an overview of *all* their campaign contributions –a *prestação de contas*- and its sources on the donor level to the regional electoral court. The regional court passes the data on to the *Tribunal Superior Eleitoral* (TSE), the Superior Electoral Court who oversees the elections. Non-compliance with these laws can result in, amongst others, fines or removal of candidacy/appointment. These laws are not purely symbolical: several state courts have actually enforced them (Veja, 1998).

4. Interaction between Politicians and Firms in Brazil

Samuels (2001a) shows that large campaigns expenditures are associated with more votes. Indeed, Brazilian election campaigns are very expensive. This is largely explained by the fact that the democratization in the 1980s increased intra- and interparty competition substantially. The effective number of parties increased from 2.4 to 8.1 from

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[5] Law number 8,713, dating from September 1993.

1982 to 1998 and the number of candidates per seat increased from 3.2 to 6.6 (TSE 1999). In addition, Brazilian parties are famed for their low coherence and bad organization. Therefore, individual candidates have to spend a lot of money to distinguish themselves and cannot solely rely on party reputation and organizational infrastructure for their campaigns. Furthermore, candidates themselves are responsible for registering their campaign funding, which is not channeled via the party to which the candidate is affiliated. These factors are the most important determinants for the highly individualistic nature of campaigns.

Since money leads to votes and elections are expensive, candidates have a strong demand for campaign contributions. In principle, firms are willing to make these contributions because elected officials control the distribution of, for example, export subsidies, banking regulations and pork-barrel funds. Indeed politicians want to establish themselves as competent providers of pork barrel to both voters and to the firms that thrive on government contracts to collect campaign contributions (Samuels, 2002).

But how do Brazilian political candidates credibly commit to provide future benefits to campaign donors? Obviously, enforcing contracts based on campaign finance is legally impossible and is even harder to do so in newer democracies, since an institutional context has not yet fully developed. However, repeated interaction provides an answer to a campaign funding equilibrium in Brazil. Scholars agree that Brazilian politicians strive to construct strong personal reputations for delivering particularistic goods (Samuels, 2002). Politicians in Brazil seek to establish iterated, long-term relationships with potential campaign financiers in order to develop reputations. Politicians have long lasting political careers, although the turnover of the Chamber of Deputies with each election is 50%. Typically, they spend a few terms in Congress and

then continue their careers in state or local levels of government. Most campaign contributions come from a small number of firms implying that Brazilian politicians are more likely to have a tight personal relationship with financiers. Hence the campaign finance market is relatively closed and has a relatively small number of donors, which makes familiarity between contributors and politicians more likely (Samuels, 2001a). Of course, this structure provides for an effective sanctioning mechanism, and thus a credible commitment device for politicians.

## II. Related literature

This section gives an overview of the literature relevant for this paper. The literature is vast, so by no means do we claim to be exhaustive. We restrict the discussion to the literature on 1) the value of political connections 2) the interplay between contributors, politicians, and voters, 3) empirical studies which focus on campaign contributions and policy outcomes, and 4) how politicians are able to credibly commit to provide contributors with ex post political favors.

First, there seems to be consensus in the literature that political connections matter for firm value. Firms have a strong incentive to forge alliances with politicians. For example, Rajan and Zingales (2003) hypothesize that incumbents have incentives to oppose financial development via political channels because it breeds competition, hence eroding their rents. Faccio (2005) documents that connections between firms and politicians are more pervasive in countries which are perceived as being corrupt. In addition, she shows that firm value increases when large shareholders or officers enter politics. This is consistent with Shleifer and Vishny (1994) who hypothesize that

politicians extract rents from the companies they manage. Johnson and Mitton (2003) provide empirical evidence that the imposition of the September 1998 Malaysian capital controls during the Asian financial crises benefited primarily firms with strong connections to Prime Minister Mahathir. Kwahja and Mian (2004) study a loan-level dataset from Pakistan and find that that politically connected firms –firms with a director participating in an election- borrow twice as much and have 50% higher default rates. Interestingly, these favors to firms occur exclusively for loans at government banks. They show that this is unlikely to be motivated by the desire of the government to increase social welfare. A recent paper finds an increase of firm value and market share of firms owned by family members of tycoons turned politicians in Thailand and identifies the channels through which the administration provided these firms with economic rents (Bunkanwanicha and Wiwattanakantang, 2005).

Second, there is a large literature that studies the interaction between campaign contributors, politicians, and voters. We distinguish two branches. Some papers focus on the relationship between campaign finance and election outcomes, which include Ben-Zion and Eytan (1974) and Baron (1994), while others focus on modeling the effect of campaign finance on policy outcomes such as Welch (1980) and Snyder (1990). Both branches take the view that there exists a type of contributor who views his contribution as an investment, expecting some benefit in return. Candidates seek funds by contributors to enhance the probability to win office. For simplicity, most theoretical models assume that once candidates are elected to office, they will keep their word and carry out their promises of supplying benefits. Typically, these models make the distinction between informed and uninformed voters (Grossman and Helpman, 1996). Baron (1994) offers a model where only voters who are not aware of the policy stance of the candidate can be

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persuaded by spending money[6]. Therefore Coate (2004) takes the view that campaign finance is also used to convey truthful information about the quality of the candidate to persuade swing voters. This is the basis for the argument that campaign financing is beneficial since it provides competent, but otherwise unknown candidates with the possibility to convey their qualities to a broad public.[7]

Third, there is a large empirical literature that seeks is a relationship between campaign financing and policy outcomes. Most of these studies focus on the United States. In one of the first empirical studies on the topic, Durden and Silberman (1976) study congressional voting behavior on minimum wage legislation in the 1973 amendment to the Fair Labor Standards Act and found that campaign contributions of the organized labor (AFL-CIO) significantly affected voting behavior on the issue: legislators who received more contributions from organized labor were more likely to vote in favor for higher minimum wages (amongst others). However, one needs to take the simultaneity bias into account: it is likely that voting behavior has an impact on contributions. Chappell (1982) examines a narrow legislative issue that is of concern for only few groups and finds that there does not seem to be a significant impact of

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[6] Note this does not imply conveying information about the policy stance, because decisions of uninformed voters are assumed to be policy independent by definition. Hence, candidates like to raise campaign finance by promising future beneficial policy decisions to contributors. However, informed voters base their vote on the candidate's policy. Therefore, the politician trades off the contributions and the number of informed votes. In conclusion, contributions induce political parties to bias policy choices to attract campaign finance. Arguably, this takes the policy outcome away from the maximum aggregate welfare, which would gain the maximum number of votes. However, note this argument rests on the assumption that uninformed voters are not rational, else they would realize that the party distorted their policy stance to attract money and hence switch to non-advertised parties. In equilibrium, we would therefore not observe campaign contributions at all!

[7] However, the drawback of unlimited campaign finance possibilities is that the electorate becomes rationally cynical towards the promises candidates make because they anticipate that policy will be influence to a large extent by the wishes of contributors. Hence, in such a context money is not spent in the most effective way since voters will be less likely to swing. This may be an explanation for the long standing puzzle of the ineffectiveness of incumbent campaign spending in U.S. House congressional elections on voters (Jacobson (1978), Levitt (1994), Coates (1998)). Indeed, Stratmann (2003, 2004) finds evidence that campaign expenditures of candidates are more productive when candidates run in states with campaign contribution limits as opposed to in states without limits.

contributions on voting decisions. There also does not seem to be persistence of the relationship over a longer period of time. Grenzke (1989) collects data for the period 1975-1982 and uses a two-stage least squares technique to overcome endogeneity problems and concludes there the relationship between campaign finance and voting behavior is insignificant.[8] Stratmann (1995) takes the effect of timing of contributions on congressional voting into account. He analyzed roll-call data on agricultural related issues and finds that contemporaneous contributions have a larger effect on voting behavior than previous contributions. This finding suggests the existence of a spot market for political favors. The main difficulty in all these studies is to disentangle the effect of contributions and the effect of the predisposition of a member to vote on a particular issue, i.e. it is hard to establish whether interests of donors and receivers are identical, regardless the contribution. To overcome this problem, Wawro (2001) corrects for the voting disposition and finds no significant impact of contributions on voting behavior. If this strand of the literature concludes that contributions do not have a significant impact on voting behavior, why then do PAC[9]s donate? Hence some scholars concluded that PAC contributions are irrational, because they seem to give to legislators who vote in their interests anyway (e.g. Chappell, 1982). One would expect donations to legislators who are more likely to disagree with their views. However, Stratmann (1992) argues otherwise and shows that farm PACs are more likely to give to legislators whose constituents are less likely to have made up their mind on how to vote. They give less to legislators who represent districts with large farm populations. Alternatively, Grenzke

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[8] Wayman (1985) finds weak support for the idea that campaign contributions of defense-related political action committees influenced voting behavior on arms control and strategic arms in the U.S Senate.

[9] Political Action Committee.

(1989) argues that PACs try to influence the outcome of the elections and gain access to politicians to present their case (Grenzke (1989)).

Fourth, there is a strand that addresses the question: But how do politicians credibly promise to return favors for campaign contributions? Obviously, politicians have strong ex post incentives to renege on their promises since it is impossible for the contributor to write and enforce a contract. Krozner 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 interest and committee members. Hence standing committees give rise to a reputational equilibrium where special interests give high contributions to committee members who carry out favors for them. Krozner and Stratman show that members of the House Banking Committee were able to attract significantly higher contributions from financial interests than other legislators. Furthermore, they document that uncertainty about a committee member gradually resolves resulting in the fact that the sources of his contributions become more concentrated over time. In addition, when membership is likely to be terminated, for example because of age, the concentration and level of contributions decline. In another paper, Krozner and Stratmann (2004) address reputational development of legislators. On the one hand, politicians benefit from reputational clarity to attract contributions from favored interests. On the other hand, such clarity could result in a lower ability to raise contributions from both sides of an issue. Analyzing contributions of the U.S. House they find that high reputational development generates high contributions.

## III. Methodology

This section discusses the construction of several measures of the strength of political connections campaign finance buys. In addition, it elaborates on the econometric methodology with which we explain the variation in cumulative abnormal stock returns with these measures of political influence. Some listed firms did not make any official contributions to candidates. Hence we use these firms as a control group.

### 1. Measures of Campaign Finance as a Proxy for a Firm's Political Influence

Presumably, the aim of campaign finance is to buy direct or indirect political influence. However, to define a functional form of political influence with campaign contributions as an argument is non-trivial. Therefore, using contribution data, we construct three classes of simple and intuitive measures of the strength of political connections donors bought with their donations. Others used similar measures. For example, Jayachandran (2004) uses soft money donations to Republicans and Democrats as explanatory variables in an event study.

In the construction of these proxies we made the following important assumption: if a listed firm did not appear in the official contribution data we assume that it did <u>not</u> donate in any way to political candidates, and hence is part of the control group. This is a strong assumption, given the reputation Brazil has for political corruption. We will show statistical patterns supporting the hypotheses emerge nevertheless.

Our first class contains four absolute measures of political influence a firm asserts, which simply use as a proxy the absolute amount a firms donated to all candidates for different positions: federal deputy (DTOT), president (PTOT), governor (GTOT), and senator (STOT). Arguably, it should benefit a donor more if he contributed

to a winning than to a losing candidate. Hence, as a refining step, we split up each of our first four measures into the total absolute amount to winners and the total absolute amount to losers. The definition of these proxies is straightforward. For example, for deputy candidates we use DAMOUNT1 and DAMOUNT0, respectively.

Our second class contains eight measures based on relative contributions between donors. In this class we take into account the fact that donors compete with each other to gain the political influence of a specific candidate. To gain political influence of a popular candidate requires less money than for a relatively unknown candidate. Therefore, the absolute amount can be a misleading proxy for political influence. Hence we here take the view that a donor buys a 'piece' of the political candidate in question. We define that piece to be the fraction of the amount the donor contributed to the total sum of contributions to the candidate. Therefore, we define our new proxy of political influence to be the sum of all the 'pieces' of winning and losing candidates. Again, the definition is straightforward. For example, to construct the proxy of winning deputy candidates for firm $i$, $DFRAC1_i$, we calculate $DFRAC1_i = \sum_{j=1}^{n_{d,w}} \frac{CONTRIBUTION_{i,j}}{TOTAL_j}$, where $CONTRIBUTION_{i,j}$ denotes the contribution from firm $i$ to candidate $j$, $TOTAL_j$ is the total amount of contributions candidate $j$ received, and $n_{d,w}$ is the number of winning deputy candidates. Note that with this second set of proxies we implicitly assume homogeneity of the political influence of all candidates.

Our third class of measures extends the second class and contains eight measures based on relative amounts between donors and candidates. In addition to acknowledging the effect of competition between donors, we take into account the intra-state heterogeneity of the political influence of candidates. That is, politicians compete

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amongst themselves to (re)define, lobby, and decide over issues on the political agenda. For example, incumbents are perhaps better able to exert political influence than newcomers. Therefore, we assume that the total amount of contributions for a candidate as a fraction of the total amount of contributions to all candidates in a state is a proxy for overall political influence. To construct the new proxy of winning deputy candidates for firm $i$, $DFRACTOT1_i$, we calculate $DFRACTOT1_i = \sum_{j=1}^{n_{d,w}} DFRAC1_i \dfrac{TOTAL_j}{TOTAL\ IN\ STATE_j}$

or $DFRACTOT1_i = \sum_{j=1}^{n_{d,w}} \dfrac{CONTRIBUTION_{i,j}}{TOTAL\ IN\ STATE_j}$, where $TOTAL\ IN\ STATE_j$ is the total amount all deputy candidates in the state of candidate $j$ received. For presidential candidates we use $TOTAL$, the total amount of contributions to presidential candidates, instead of $TOTAL\ IN\ STATE_j$.

2. Calculating Cumulative Abnormal Stock Returns of Donors and the Control Group

We take an event study approach to construct the cumulative abnormal returns (MacKinlay, 1997). In doing so, we define the estimation window in the period $(\tau_0, \tau_1)$, the event window in the period $(\tau_1, \tau_2)$ and the event itself at $\tau = 0$, where $\tau_0 < \tau_1 < 0 < \tau_2$. On 9 October 1998, the election results became publicly known (Reuters, 1998). Next we calculate daily stock returns for 160 listed companies in the Brazilian stock market in the estimation and event windows using $R_{i,t} = \ln(\dfrac{P_{i,t}}{P_{i,t-1}})$, where $P_{i,t}$ is the stock price of company $i$ at time $t$. To calculate the abnormal returns we estimate the following market model in the estimation window:

$$R_{i,t} = \alpha_0 + \beta_0 R_{B,t} + \varepsilon_{i,t}, \text{ where } E[\varepsilon_{i,t}] = 0 \text{ and } Var[\varepsilon_{i,t}] = \sigma_i^2 \qquad , \qquad (.1)$$

where $R_{B,t}$ is the return São Paolo stock exchange index (BOVESPA) at time $t$. In the event window, the abnormal return for company $i$ is defined as:

$$AR_{i,t} = R_{i,t} - \hat{R}_{i,t}, \qquad (.2)$$

where $\hat{R}_{i,t}$ is the predicted return according to Equation (.1). The cumulative abnormal return for company $i$ is given by:

$$CAR_i(\tau_1, \tau_2) = \sum_{\tau=\tau_1}^{\tau_2} AR_{i,t}. \qquad (.3)$$

Second, we develop the basis regression model used in this paper:

$$CAR_i = \alpha + B \text{ Campaign Contribution Items}_i + \\ \Gamma \text{ Industry Dummies}_i + \mu_{i,t} \qquad , \qquad (.4)$$

where Campaign Contribution Items$_i$ is a vector containing proxies from the three classes of measures for political influence as defined in the previous subsection, like DTOT, PFRAC0, and SFRACTOT1.

The TOTAL hypothesis predicts that the coefficients in vector B regarding the amount of campaign contributions to federal deputies should be positive and statistically

and economically significant. According to the WINNERS hypothesis, these coefficients should also be positive and significant for political connection measures regarding winning deputy candidates. Following the LOSER hypothesis, coefficients regarding political connections with losing deputy candidates have a negative sign.


**IV. Data**


This section describes the sources and the construction of the dataset we used in the analysis. It is based on Brazilian stock market data, data on the outcomes of the 1998 election, and firm-level campaign contribution data.


1. Data Sources

At the heart of this paper is the data collected by the Brazilian national election court, the *Tribunal Superior Eleitoral* (TSE) (Tribunal Superior Eleitoral, 2005). The dataset contains detailed information about the donor and the recipient. More specifically, for each candidate we know his/her 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 the contribution and the type (individual (*pessoa fisica*), corporate, political party or unknown). Each entry corresponds with a single contribution. Contributions are given in Brazilian Reais, which has an average 1998 US dollar exchange rate of $0.86. There are 5,675, 26,199, 5,992, and 1,360 entries in the dataset on the presidential, federal deputy, governor, and senator level, respectively. Most donations are from individuals. There are 378, 4,053, 1,101, and 307 entries of listed and

non-listed companies on the presidential, federal deputy, governor, and senator level, respectively.

Data on whether deputy candidates lost or won were also taken from the TSE. There were 513 deputy candidates to be appointed. Data on whether governor, senator and president candidates lost or won are from Instituto Universitário de Pesquisas do Rio de Janeiro (IUPERJ), a Brazilian academic social sciences research institute (IUPERJ, 2005). In 1998, there were 27 candidates -one for each district- to be chosen for both the Senate and governor positions.

Unfortunately, we don't have access to balance sheet information of all corporate campaign donors to assess the effect of campaign finance. Therefore, we restrict ourselves to easily accessible information on traded, public firms. For the relevant period, we collected stock market data from Thomson's Financial Datastream. The data consists of 160 actively traded stocks of 160 listed firms. We also collected accounting data from Datastream for these firms: total assets, current liabilities, gross profit margin, current ratio, basic net income, and the book to price ratio. There are a lot of missing values for these variables.

A big obstacle in compiling the final dataset was formed by regular typos or inconsistencies in donor names of the campaign contribution dataset. Therefore, the process of matching and merging the campaign contribution data with stock data was done by hand.[10]

## 2. Descriptive Statistics

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[10] For example, Companhia Siderurgica Nacional occurs in 12 different ways in the deputy contribution data. These include, <u>CAMPANHA</u> SIDERURGICA NACIONAL, <u>COMPANHIA</u> SIDERURGICA NACIONAL, COMPANHIA SIDERURGICA NACIONAL, <u>CIA</u> SIDERÚRGICA NACIONAL – CSN, or just CSN.

This subsection discusses descriptive statistics of cumulative abnormal returns and contributions on the industry level and of contributions on the position level.

*A. Variables*

The final dataset contains 292 entries of listed firms. Table I contains an overview of all variables used in the analysis.

Table II presents pairwise correlations between the accounting variables and measures of political influence: the absolute amount given to winners and losers for each position. Panel A presents correlation between accounting variables. They display correlation patterns according to expectations. Panel B shows the amounts given to winners and losers for all positions are highly positively correlated. This is intuitive. First, assuming that election results are not fully predictable (for which we will show some evidence shortly), amounts to winners and losers should be highly correlated. Second, the result implies firms diversify their contributions over positions.

Table III contains descriptive statistics for accounting data and some political influence measures (for definitions, see the Methodology section). Panel A shows that there are no significant differences at the 5% level in the mean of accounting variables between campaign donors and non-donors. In fact, the strongest result is that profits of donors are lower than profits of non-donors at the 5% level. This finding mitigates the problem of a selection bias in explaining the returns. However, as can be seen from the first two columns, there are a lot of missing values. Panel B shows there is substantial variation in campaign contributions.

In terms of political influence in the Chamber of Deputies, there are a few firms who stand out like Ipiranga, Banco Itau, Siderurgica Nacional and Gerdau. Using

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DFRAC1, Gerdau contributed to the equivalent of 160 deputies. However, when we correct for inter-state competition between candidates Banco Itau has most political influence: an equivalent of 18 deputies (DFRACCAN1). Summing up, the four largest contributors bought influence over 3.23 deputies on average, and account in total for about 33 deputies. The other proxies also confirm that a few firms have bought disproportional influence.[11]

*B Cumulative Abnormal Returns and Contributions on the Industry-Level*

The cumulative abnormal returns where calculated according to the methodology laid out in Section II. For the basic analysis, we choose the estimation window to be 100 and the event window to be 40 trading days, i.e. $(\tau_0, \tau_1, \tau_2)$=(-120, -20, 20). We distinguish the following sectors which are defined by Datastream: Basic Industries, Cyclical Consumer, Financials, General Industrials, Information Technology, Non-cyclic Consumer, Non-cyclical Services, Resources, and Utilities. Descriptive statistics can be found in Table IV. Panel A shows descriptive statistics for the cumulative abnormal returns on the industry level. The overall average CAR was 1.47%, which is not statistically different from zero. This can be explained by a relatively large standard error of 4%, which indicates a large variation in the CARs. Interestingly, only basic industries and cyclical services have a significant negative performance, while for other industries the effect is

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[11] The largest fraction PFRACTOT1 - about 10%- of the president was bought by Pronor. Other firms who bought a sum of fractions larger than 0.05 were Copesul, Bradesco, and Banco Itau. This implies these four companies bought about 0.31 of president influence.

The largest fraction of governor influence GFRACTTOT1 was bought by Coteminas: 0.34. Other firms who bought a sum of fractions larger than 0.14 include Companhia Brasileira de Distribucao, Gradiente, and Klabin. Together the four companies account for about 0.91 governors.

The largest sum of fractions, SFRACTTOT1, was bought by Banco Itau: 3.9 senators. Other firms who bought a sum of fractions larger than 0.95 include Gerdau, Ipiranga, and, Votorantin Celulose e Papel. Together the four companies bought a sum of fractions of about 0.91 governors.

In conclusion, Banco Itau and Gerdau have bought the largest overall political influence according to our measures.

not statistically different from zero. Panel B contains descriptive statistics for listed campaign donors on the industry level. The highest number of firms which provided contributions for all positions came from Basic Industries, followed by firms from Financials. There were few contributors for all positions from the Information Technology, Cyclical Services and Non-Cyclical Services sectors.

*C. Campaign Contributions on the Position Level*

In the campaign contribution data, we distinguish four different positions: Federal Deputy, President, Governor, and Senator. From these data we identify donors who are listed on the Brazilian stock exchange. Tabel V presents the descriptive statistics. From Table V we see that 889, 3, 47, and 48, federal deputy, president, governor, and senator candidates, respectively, received campaign contributions. There were 60, 23, 30, and 13 listed donors, respectively. As a group, they are by far the largest contributors for all positions, and were responsible for 15.9%, 32.4%, 10.6%, 24.9% of total contributions, respectively. Listed firms on average spent most on president candidates (610,497BRL) and fewest on deputy candidates (172,874BRL). Deputy candidates received most donations (5,580) and the highest total amount of contributions (65,315,860BRL). Senate candidates received fewest contributions (376) and the lowest total amount (11,552,263BRL). On average, presidential candidates received most (14,458,248BRL) and deputy candidates fewest (73,471BRL).

Panel C shows that for all positions winners received substantially larger amounts of contributions than losers; all p-values for t-tests of equality of means are significant on the 6% level. Strikingly, the incumbent presidential candidate was able to raise 41,656,385BRL as opposed to just an average of 859,179BRL for his competitors. These

findings suggest that campaign donors were fairly able to predict winners and losers for all positions. However, losers received substantial amounts, so is it is likely that there is enough uncertainty to elicit a stock market response after the announcement of results if the market indeed expects firm-specific political favors as a result of contributions.

**V. Empirical Results**

This section presents the main results and robustness checks of the paper. There is indeed support for the idea that the market expects firm-specific future political favors. All standard errors for OLS-regressions reported in the paper are robust to heteroskedasticity using the Huber-White estimator of variance. Unless stated otherwise, industry-specific effects and a constant were estimated in each regression.[12]

Table VI presents support for the TOTAL hypothesis that markets expects political firm-specific future favors for firms who actively contributed to political candidates. We use absolute amounts of contributions (DTOT, GTOT, etc.) as explanatory variables. The dependent variable is the CAR, expressed in percent points. Column (1) shows a significant coefficient on the 1%-level for the absolute amount of total contributions (in 100,000BRL) made by a firm. In other words, a contribution of 100,000BRL is associated with an increase in the CAR of 1.96%, which is of substantial economic significance as well. [13]

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[12] Before discussing the results, it is noteworthy to state that we expect the R-squared of the regressions to be low. This is natural in event studies since the calculated CARs are noisy by construction.

[13] Contributing to governors paid off even better: for every 100,000BRL of contributions a firm could expect an increase in the CAR of 3.1%. The result is significant on the 5%-level. Going from the 25th to the 75th percentile of contributions, a distance of approximately 1,000,000BRL, this implies an increase in the CAR of about 30%. Contributing to senators also had a significant impact on the CAR: every increase of 100,000BRL in contributions was associated with a 2.5% increase in CAR. Contributions to presidential

Next, we refine the analysis, by using total contributions to winning and losing candidates for each position. Hence we can test the WINNER and LOSER hypotheses. The results are presented in Table VII. Column (1) clearly shows a positive coefficient of contributions to winning candidates (2.66). The coefficient is significant on the 1%-level and is larger than the result in Table VI. Going from the 25th to the 75th percentile of contributions, a distance of approximately 700,000BRL, this implies an increase in the CAR of about 19%.[14] In Columns (5)-(8) we control for the contributions to losers. These regressions are likely to suffer from multicollinearity problems (see coefficients in Column (8)), but works well for federal deputies and has the expected signs (Column (5)). [15]

Next we further refine the analysis by taking into account competition amongst donors to establish a connection with a politician. Hence we take the sum of the relative amounts that a firm gave to winning and losing candidates (for example, for deputies, these measures are DFRAC1 and DFRAC0) as a proxy for the strength of political connections. For example, if a firm provided 20% of campaign funds to winning candidate A and 30% of winning candidate B, then DFRAC1=50. The results are presented in Table VIII. Column (1) shows a significant and positive coefficient (0.002). The interpretation is that when a firms finances 100% of the campaign of a deputy, his CAR increases with 0.2%. Going from the 25th to the 75th percentile of contributions, a distance of approximately 6,000 (expressed in percentage points), this implies an increase in the CAR of about 12%. When we control for the losers in Column (5) this increases

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candidates also had a positive impact on the CAR, but was only significant at the 10.2%-level. This is probably due to the fact that it was relatively clear Cardoso was going to be re-elected.

[14] In Columns (2) and (4) we see marginally significant results for governor and senator contributions.

[15] Although the results are not significant for governors and president candidates (Column (6) and (7)) we see that giving to losers also has a positive effect.

slightly to 0.3%. Again, this result is substantial given that there are 513 seats in the Chamber.[16]

As a final refinement, besides taking into account the competition between donors to get a "piece" of a candidate, we take into account the differences between politicians as they are perceived by donors: candidates who receive more contributions are probably more useful for firms. Therefore for each firm we sum the contributions as a percentage point of total contributions in a state (for example, these measures for deputies are DFRACTOT0 and DFRACTOT1). For example, if a firm provided 100,000BRL of campaign funds to winning candidate A and 200,000BRL of winning candidate B in state S, and total contributions in state S were 3,000,000BRL, DFRACTOT1=10. The results are presented in Table IX. Columns (1) and (5) show a positive and significant coefficient on the 1%-level which are virtually identical (0.02). Going from the $25^{th}$ to the $75^{th}$ percentile of contributions, a distance of approximately 323 (expressed in percentage points), this implies an increase in the CAR of about 6.5%. Again, giving to losing president and governor candidates has a positive and significant effect. Column (4) and (7) we also see strong support our Winner Corruption Hypothesis for the senator level.

But how do contributions matter? Table X provides results for two hypotheses. First, perhaps firms in the same industry compete for the attention of politicians on a particular policy area relevant to the whole sector. Hence, firms that donate most, gain most influence in this area (TOURNAMENT hypothesis). If true, this implies that contributions need to be scaled by total contributions in the sector. We test this hypothesis in Columns (1) and (2), where we scale total contributions and contributions

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[16] Giving to losers for the president and governor positions has a marginally significant positive effect, indicating that they are influential enough to provide political favors. Column (4) also shows a significant positive coefficient for senators (0.06).

to winners, respectively. The effect is positive, but not significant. Second, we hypothesize that the firm uses contributions as a signal to the market (SIGNAL hypothesis). In that case, the size of the contributions relative to the firm's market capitalization might be important. This is what we test in Columns (3) and (4). We weigh total contributions and contributions to winning candidates by market capitalization in Columns (3) and (4), respectively. Both are significant at the 10% level, providing some support for the SIGNAL hypothesis.

As a robustness check of the impact of contributions to deputies, we want to control for connections to candidates on other political levels. The results are displayed in Table XI. This table shows significant coefficients of several measures of political connections to deputies, controlling for connections with winning president, governor and senator candidates. The coefficients for political connections to deputies are similar to previous results. Column (1) shows results with the absolute contributions to winners. Column (2) shows results using the per firm sum of the percentage points of the relative contributions to a candidate as a fraction of total contributions to the candidate. Column (3) presents results using the per firm sum of the percentage points of contributions to winning candidates as a fraction of total contributions in the state of the candidate.

The hypothesis that contributions to winning deputies matters, also withstand some final robustness checks which are presented in Table XII. In Column (1) we ran a regression using industry clusters. In Column (2) we controlled for assets, liabilities, and market capitalization of the firm at the start of the event window. Column (3) shows the result for the sub-sample of firms who contributed to deputies. In Column (4) and (5) we use the abnormal buy-and-hold returns as the dependent variable. These returns are defined as

$$BHR_i(\tau_1, \tau_2) = \prod_{\tau=\tau_1}^{\tau_2} (1 + AR_{i,t}) \qquad (.5)$$

The results indicate that going from the 25th to the 75th percentile of contributions to winners, a distance of approximately 700,000BRL, this implies an increase in the BHR of about 18%.

## VI. Conclusion

This paper addressed the question whether campaign contributions made by firms are associated with future firm-specific favors. We provide empirical support in the case of the 1998 elections in Brazil. We find robust evidence that higher campaign contributions to federal deputy candidates are associated with higher stock returns around the announcement of the election results, after controlling for industry-specific effects and contributions to candidates on other levels (governor, senator, and president level). Going from the 25th tot the 75th percentile of our proxies of political connections, implies an increase in the CAR between 6.5-30% and about 18% in the abnormal buy-and-hold returns, after controlling for market capitalization. Specifically, giving to candidates who turn out to be winners had a large positive impact on stock returns. Giving to losing deputy candidates seems to have an adverse effect on stock returns. We find weaker support that contributions on the governor and senator levels mattered. This may be due to the fact there were less candidates to be elected than for the deputy level, hence the market was perhaps better able to anticipate losers and winners for these levels.

We made a first attempt to open the black box of the link between campaign finance and political favors. Although plausible, we found no support for the idea that

firms compete for the politician´s attention within a sector. We found some support for the conjecture that firms use their contributions as a signal, hence the amount of contributions relative to the value of the firm seems to matter. A lot of future research could be done here.

Given the current debate on campaign finance in Brazil, our findings may shed light on the market opinion on the value of campaign finance as an important channel to influence politicians.

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Table I

Definition and Source of Variables

This table describes all the variables we use. The first column gives the name of the variable. The second column describes the variable and provides the source from which it was collected.

| Variable | Description |
|---|---|
| DTOT | The sum of the absolute amounts a firm gave to all federal deputy candidates. Sources: TSE (2005), own calculations. |
| GTOT | The sum of the absolute amounts a firm gave to all governor candidates. Sources: TSE (2005), own calculations. |
| PTOT | The sum of the absolute amounts a firm gave to all president candidates. Sources: TSE (2005), own calculations. |
| STOT | The sum of the absolute amounts a firm gave to all senator candidates. Sources: TSE (2005), own calculations. |
| XAMOUNTY | This notation reflects four variables. The sum of absolute amounts a firm contributed to candidates for position X with a value of dummy win=Y $\in$ {0,1}, where Y=1 refers to winners and losers otherwise. X $\in$ {federal deputy, governor, senator, president}. Sources: TSE (2005), IUJPER (2005); own calculations. |
| XFRACY | This notation reflects four variables. The sum of the amounts as a fraction of total contributions by a firm contributed to candidates for position X with a value of dummy win=Y $\in$ {0,1}, where Y=1 refers to winners and losers otherwise. X $\in$ {federal deputy, governor, senator, president}. Sources: TSE (2005), IUJPER (2005); own calculations. |
| XFRACTOTY | This notation reflects four variables. The sum of the amounts as a fraction of total contributions taking into account inter-candidate competition by a firm contributed to candidates for position X with a value of dummy win=Y $\in$ {0,1}, where Y=1 refers to winners and losers otherwise. X $\in$ {federal deputy, governor, senator, president}. The inter-candidate competition is for all positions on the state-level, except for the president position. Sources: TSE (2005), IUJPER (2005); own calculations. |
| Market cap. start | Market capitalization 20 days before the election. Source: Datastream |
| Assets | Total assets. Source: Datastream |
| ROA | Return on assets. Source: Datastream |
| Profit | Gross profit margin. Source: Datastream |
| Current ratio | Current ratio. Source: Datastream |
| Income | Basic net income Source: Datastream |
| Liabilities | Current liabilities Source: Datastream |
| B2P | Book to price ratio Source: Datastream |

## Table II

## Correlations between the Absolute Measures of Political Influence for Listed Firms

This table reports summary statistics of 292 listed Brazilian firms. Panel A contains for each firms-specific variable the number of observations, its arithmetic mean, its standard deviation and its minimum and maximum values. The final column contains the p-values of a two-sided t-test for difference in means between donors and non-donors. Panel B presents correlations between the absolute measures of political influence; the total amount per firm to winners and losers per position.

**Panel A:**

|  | Assets | Roa | Profit | Cr | Liab | B2P | Income |
|---|---|---|---|---|---|---|---|
| Assets | 1.00 | | | | | | |
| ROA | -0.02 | 1.00 | | | | | |
|  | 0.88 | | | | | | |
| Profit | 0.24 | 0.27 | 1.00 | | | | |
|  | 0.02 | 0.01 | | | | | |
| CR | 0.08 | 0.36 | 0.10 | 1.00 | | | |
|  | 0.39 | 0.00 | 0.31 | | | | |
| Liabilities | 0.89 | -0.03 | 0.00 | 0.02 | 1.00 | | |
|  | 0.00 | 0.82 | 0.98 | 0.86 | | | |
| Book to price | -0.07 | -0.11 | -0.32 | -0.12 | -0.05 | 1.00 | |
|  | 0.52 | 0.39 | 0.01 | 0.34 | 0.67 | | |
| Income | 0.66 | -0.03 | 0.18 | -0.11 | 0.81 | -0.00 | 1.00 |
|  | 0.00 | 0.78 | 0.08 | 0.32 | 0.00 | 0.99 | |

**Panel B:**

|  | DA0 | DA1 | GA0 | GA1 | PA0 | PA1 | SA0 | SA1 |
|---|---|---|---|---|---|---|---|---|
| DAMOUNT0 | 1.00 | | | | | | | |
| DAMOUNT1 | 0.72 | 1.00 | | | | | | |
|  | 0.00 | | | | | | | |
| GAMOUNT0 | 0.53 | 0.69 | 1.00 | | | | | |
|  | 0.00 | 0.00 | | | | | | |
| GAMOUNT1 | 0.63 | 0.64 | 0.50 | 1.00 | | | | |
|  | 0.00 | 0.00 | 0.00 | | | | | |
| PAMOUNT0 | 0.35 | 0.62 | 0.34 | 0.70 | 1.00 | | | |
|  | 0.00 | 0.00 | 0.00 | 0.00 | | | | |
| PAMOUNT1 | 0.81 | 0.72 | 0.42 | 0.70 | 0.67 | 1.00 | | |
|  | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | | |
| SAMOUNT0 | 0.30 | 0.16 | 0.27 | 0.24 | -0.01 | 0.11 | 1.00 | |
|  | 0.00 | 0.05 | 0.00 | 0.00 | 0.88 | 0.16 | | |
| SAMOUNT1 | 0.69 | 0.75 | 0.68 | 0.73 | 0.62 | 0.74 | 0.33 | 1.00 |
|  | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |

Table III

Descriptive Statistics of Listed Firms on the Industry Level

This table reports summary statistics of 292 listed Brazilian firms on the industry-level. Amounts are in 1998 Brazilian Reais (1BRL ≈ 0.86$). The measures are restricted to winning candidates (hence the indicator "1"). Panel A contains for each firms-specific variable the number of observations, its arithmetic mean, its standard deviation and its minimum and maximum values. The final column contains the p-values of a two-sided t-test for difference in means between donors and non-donors. Panel B presents for the several measures of political influence of firms the number of observations, its arithmetic mean, its standard deviation and its minimum and maximum values. The first set of measures reflect the total amounts to candidates of the four positions: federal deputy, governor, president, and senator. The second set of measures is calculated by summing the fractions of total contributions of a firm to a candidate per position. The third set of measures is calculated by summing the contributions of a firm to a candidate as a fraction of total contributions per state to candidates from competing for a similar position. The final column denotes the sum FRACTOT1 for each position of the four companies with the largest XFRACTOT1.

**Panel A:**

| Variable | Observations | | Mean | | Standard Deviation | | P-value t-test difference in means between donors and non-donors |
|---|---|---|---|---|---|---|---|
| | Total | Donors only | Total | Donors only | Total | Donors only | |
| Assets | 131 | 45 | 6,594,898.00 | 6,548,932.00 | 1.74e+07 | 1.60e+07 | 0.98 |
| Return on assets | 99 | 30 | 5.23 | 8.16 | 16.32 | 7.76 | 0.24 |
| Profit | 99 | 33 | 28.79 | 24.86 | 15.43 | 7.45 | 0.07 |
| Current ratio | 114 | 40 | 1.36 | 1.63 | 1.41 | 0.97 | 0.13 |
| Liabilities | 114 | 40 | 762,853.10 | 627,603.30 | 1,562,397.00 | 1,366,399.00 | 0.50 |
| Book to price | 75 | 27 | 1.90 | 0.50 | 8.88 | 1.3 | 0.31 |
| Income | 100 | 32 | 190,404.40 | 91,492.13 | 472,484.60 | 205,628.90 | 0.15 |

**Panel B:**

| Variable | Observations | Mean | Std. Dev. | Min | Max | Sum of largest four |
|---|---|---|---|---|---|---|
| *Absolute amounts* | | | | | | |
| DAMOUNT1 | 292 | 26,839.41 | 134,800.7 | 0 | 1,300,000 | |
| GAMOUNT1 | 292 | 10,448.84 | 55,469.57 | 0 | 600,000 | |
| PAMOUNT1 | 292 | 46,007.32 | 239,288.7 | 0 | 2,600,000 | |
| SAMOUNT1 | 292 | 9,680.27 | 63,790.1 | 0 | 600,000 | |
| *Relative per candidate* | | | | | | |
| DFRAC1 | 292 | 2.17 | 1.40 | 0 | 160.93 | |
| GFRAC1 | 292 | 0.01 | 0.04 | 0 | 0.44 | |
| PFRAC1 | 292 | 0.00 | 0.01 | 0 | 0.10 | |
| SFRAC1 | 292 | 0.04 | 0.31 | 0 | 3.92 | |
| *Relative per total* | | | | | | |
| DFRACTOT1 | 292 | 0.14 | 1.19 | 0 | 18.00 | 33.3 |
| GFRACTOT1 | 292 | 0.01 | 0.03 | 0 | 0.34 | 0.91 |
| PFRACTOT1 | 292 | 0.00 | 0.01 | 0 | 0.10 | 0.31 |
| SFRACTOT1 | 292 | 0.04 | 0.29 | 0 | 3.9 | 8.87 |

## Table IV

### Descriptive Statistics of Campaign Contributions of Listed Firms on the Industry Level

This table reports summary statistics of listed Brazilian firms on the industry-level. Amounts are in 1998 Brazilian Reais (1BRL $\approx$ 0,86$). Panel A pertains to the cumulative abnormal returns per industry. It displays the number of observations, its arithmetic mean, its standard deviation and its minimum and maximum values. The final column contains the p-values of a two-sided one sample t-test to test the deviation from zero. Panel B presents the number of listed donors and the average amount per listed donor on the industry-level to federal deputy, president, governor, and senator candidates.

**Panel A:**

| Industry | Observations | Mean | Std. Dev. | Min | Max | P-value t-test |
|---|---|---|---|---|---|---|
| Basic industries | 40 | -0.12 | 0.33 | -0.86 | 0.87 | 0.03 |
| Cyclical consumer | 20 | 0.04 | 0.38 | -0.60 | 1.00 | 0.67 |
| Financials | 26 | -0.04 | 0.42 | -1.53 | 0.75 | 0.66 |
| General industrials | 20 | 0.01 | 0.33 | -0.41 | 1.10 | 0.85 |
| Information technology | 1 | 0.08 | - | 0.08 | 0.08 | - |
| Non-cyclic consumer | 10 | 0.22 | 1.22 | -0.63 | 3.58 | 0.58 |
| Non-cyclical services | 5 | -0.28 | 0.19 | -0.47 | -0.02 | 0.03 |
| Resources | 6 | 0.06 | 0.14 | -0.09 | 0.31 | 0.31 |
| Utilities | 22 | 0.21 | 0.59 | -0.49 | 2.29 | 0.10 |
| Unknown | 1 | 0.03 | - | 0.03 | 0.03 | - |
| All | 160 | 0.01 | 0.51 | -1.53 | 3.58 | 0.72 |

**Panel B:**

| Industry | Federal Deputy | | President | | Governor | | Senator | |
|---|---|---|---|---|---|---|---|---|
| | # Donors | Amount | # Donors | Amount | # Donors | Amount | # Donors | Amount |
| Basic industries | 19 | 308,807 | 13 | 535,610 | 12 | 202,824 | 7 | 274,393 |
| Cyclical consumer | 11 | 48,005 | 2 | 265,000 | 5 | 167,489 | 1 | 60,000 |
| Cyclical services | 1 | 1,500 | 0 | - | 1 | 43,290 | 0 | - |
| Financials | 8 | 309,438 | 5 | 889,700 | 5 | 294,000 | 3 | 273,333 |
| General industrials | 11 | 106,160 | 1 | 1500,000 | 4 | 82,500 | 1 | 30,000 |
| Information technology | 1 | 20,000 | 0 | - | 0 | - | 1 | 50,000 |
| Non-cyclic consumer | 5 | 20,956 | 0 | - | 2 | 319,500 | 0 | - |
| Non-cyclical services | 1 | 115,000 | 1 | 450,000 | 1 | 505,000 | 0 | - |
| Resources | 3 | 30,833 | 1 | 150,000 | 0 | - | 0 | - |

## Table V

## Descriptive Statistics of All Corporate Campaign Contributions on the Position Level

This table reports summary statistics of campaign contributions by listed and non-listed firms to candidates who officially received contributions and ran for the position of federal deputy, president, governor, or senator. Amounts are in 1998 Brazilian Reais (1BRL ≈ 0,86$). Panel A contrasts total number of donations, the average size of a donation for *all* firms with the number of donations, the number of donors, the average size of a donation and the average total amount for *listed* firms. Panel B presents the number of candidates, the total amount they received, the average total amount per candidate, the amount received from listed firms, and the average number of donations per candidate. Panel C contrasts the number of candidates and the average total amount they received for winners and losers. The final column contains the p-values of a two-sided two sample t-test, assuming equal variances.

**Panel A:**

|  | All firms | | | Listed firms | | |
|---|---|---|---|---|---|---|
|  | # donations | Avg. size donation | # donations (% of total) | # donors | Avg. size donation | Avg. amount per firm |
| Federal Deputy | 5,580 | 11,705 | 423 (7.6%) | 60 | 24,521 | 172,874 |
| President | 378 | 114,748 | 44 (11.6%) | 23 | 319,123 | 610,497 |
| Governor | 1,313 | 44,777 | 82 (6.3%) | 30 | 76,325 | 208,621 |
| Senate | 376 | 30,724 | 36 (9.6%) | 13 | 80,021 | 221,597 |

**Panel B:**

|  | # Candidates | Total received | Avg. amount per candidate | Received from listed (% of total) | Avg. # donations per candidate |
|---|---|---|---|---|---|
| Federal Deputy | 889 | 65,315,860 | 73,471 | 10,372,432 (15.9%) | 6.28 |
| President | 3 | 43,374,744 | 14,458,248 | 14,041,429 (32.4%) | 126 |
| Governor | 47 | 58,791,612 | 1,250,885 | 6,258,630 (10.6%) | 27.9 |
| Senate | 48 | 11,552,263 | 240,672 | 2,880,755 (24.9%) | 7.8 |

**Panel C:**

|  | Winners | | Losers | | P-value t-test for difference in means |
|---|---|---|---|---|---|
|  | # candidates | Avg. amount | # candidates | Avg. amount |  |
| Federal Deputy | 385 | 118,014 | 501 | 39,463 | 0.00 |
| President | 1 | 41,656,385 | 2 | 859,179 | - |
| Governor | 15 | 1,973,383 | 32 | 912,214 | 0.06 |
| Senate | 20 | 448,989 | 28 | 91,874 | 0.00 |

## Table VI

### Average Impact of Absolute Size of the Sum of Campaign Contributions on Cumulative Abnormal Returns

This table reports OLS regressions. 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. The independent variables are the total absolute amounts (in 100,000BRL) firm contributed to candidates. A constant and industry-specific effects are included in the regressions, but these are not reported. *, **. *** indicate significance at 10%, 5%, and 1% level, respectively. Heteroskedasticity robust standard errors are reported in parentheses.

| | Cumulative abnormal returns for listed Brazilian firms | | | |
| --- | --- | --- | --- | --- |
| | (1) | (2) | (3) | (4) |
| Total to deputies cand. | 1.958 (2.93)*** | | | |
| Total to governor cand. | | 3.077 (2.25)** | | |
| Total to senator cand. | | | 2.496 (1.78)* | |
| Total to president cand. | | | | 0.868 (1.64) |
| Industry-specific effects? | Y | Y | Y | Y |
| Observations | 159 | 159 | 159 | 159 |
| R-squared | 0.07 | 0.07 | 0.07 | 0.06 |

Table VII

Average Impact of Absolute Size of Campaign Contributions to Winners and Losers on Cumulative Abnormal Returns

This table reports OLS regressions. 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. The independent variables are the absolute amounts (in 100,000BRL) firm contributed to candidates who turned out to be winners and to losers. A constant and industry-specific effects are included in the regressions, but these are not reported. *, **. *** indicate significance at 10%, 5%, and 1% level, respectively. Heteroskedasticity robust standard errors are reported in parentheses.

| | Cumulative abnormal returns for listed Brazilian firms | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) |
| Sum dep. winners | 2.659 (3.32)*** | | | | 4.057 (3.03)*** | | | |
| Sum. dep. losers | | | | | -6.734 (1.72)* | | | |
| Sum gov. winners | | 3.908 (1.67)* | | | | 0.692 (0.19) | | |
| Sum. gov. losers | | | | | | 4.787 (1.38) | | |
| Sum pres. winner | | | 0.900 (1.53) | | | | 0.628 (0.70) | |
| Sum pres losers | | | | | | | 5.127 (0.67) | |
| Sum sen. winners | | | | 2.721 (1.97)* | | | | 4.703 (2.65)*** |
| Sum. sen losers | | | | | | | | -192.363 (3.71)*** |
| Industry-specific effects? | Y | Y | Y | Y | Y | Y | Y | Y |
| Observations | 159 | 159 | 159 | 159 | 159 | 159 | 159 | 159 |
| R-squared | 0.07 | 0.06 | 0.06 | 0.06 | 0.07 | 0.07 | 0.07 | 0.07 |

Table VIII

Average Impact of Campaign Contributions to Winners and Losers as a Fraction of Total Contributions per Candidate on Cumulative Abnormal Returns

This table reports OLS regressions. 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. The independent variables are the sum of percentage points of campaign contributions to winners and losers as a fraction of total contributions per candidate. A constant and industry-specific effects are included in the regressions, but these are not reported. *, **. *** indicate significance at 10%, 5%, and 1% level, respectively. Heteroskedasticity robust standard errors are reported in parentheses.

| | Cumulative abnormal returns for listed Brazilian firms | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) |
| Sum frac. dep. winners | 0.002 (2.28)** | | | | 0.003 (2.19)** | | | |
| Sum. frac. dep. losers | | | | | -0.004 (1.22) | | | |
| Sum frac. gov. winners | | -0.285 (0.75) | | | | -0.423 (1.31) | | |
| Sum. frac. gov. losers | | | | | | 0.086 (3.31)*** | | |
| Sum frac. pres. winner | | | 1.956 (1.52) | | | | 1.475 (1.11) | |
| Sum frac. pres losers | | | | | | | 0.139 (1.90)* | |
| Sum frac. sen. winners | | | | 0.057 (2.68)*** | | | | 0.088 (3.37)*** |
| Sum.frac sen losers | | | | | | | | -2.766 (5.50)*** |
| Industry-specific effects? | Y | Y | Y | Y | Y | Y | Y | Y |
| Observations | 159 | 159 | 159 | 159 | 159 | 159 | 159 | 159 |
| R-squared | 0.07 | 0.06 | 0.06 | 0.06 | 0.07 | 0.07 | 0.07 | 0.07 |

Table IX

Average Impact of Campaign Contributions to Winners and Losers as a Fraction of Total Contributions to All Candidates on Cumulative Abnormal Returns

This table reports OLS regressions. 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. The independent variables are the sums of of percentage points of campaign contributions to winners and losers as a fraction of total contributions to all candidates in a state (with the exception of president candidates). A constant and industry-specific effects are included in the regressions, but these are not reported. *, **. *** indicate significance at 10%, 5%, and 1% level, respectively. Heteroskedasticity robust standard errors are reported in parentheses.

| | Cumulative abnormal returns for listed Brazilian firms | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) |
| State frac. dep. winners | 0.021 (3.28)*** | | | | 0.021 (2.89)*** | | | |
| State frac. dep. losers | | | | | 0.011 (0.07) | | | |
| State frac. gov. winners | | -0.377 (0.62) | | | | -0.548 (1.08) | | |
| State frac. gov. losers | | | | | | 0.134 (3.64)*** | | |
| Total  frac. pres. winner | | | 2.036 (1.52) | | | | 1.524 (1.10) | |
| Total frac. pres. losers | | | | | | | 7.486 (1.89)* | |
| State frac. sen. winners | | | | 0.062 (2.88)*** | | | | 0.097 (2.75)*** |
| State frac. sen losers | | | | | | | | -7.559 (1.48) |
| Industry-specific effects? | Y | Y | Y | Y | Y | Y | Y | Y |
| Observations | 159 | 159 | 159 | 159 | 159 | 159 | 159 | 159 |
| R-squared | 0.07 | 0.07 | 0.07 | 0.07 | 0.07 | 0.07 | 0.07 | 0.07 |

Table X

Channels

This table reports OLS regressions. 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. The independent variables are the total absolute amounts (in 100,000BRL) firm contributed to all federal deputy candidates and winning candidates, as a fraction of the industry total of contributions and market capitalization before elections, respectively. A constant and industry-specific effects are included in the regressions, but these are not reported. *, **. *** indicate significance at 10%, 5%, and 1% level, respectively. Heteroskedasticity robust standard errors are reported in parentheses.

| | Cumulative abnormal returns for listed Brazilian firms | | | |
| | (1) | (2) | (3) | (4) |
|---|---|---|---|---|
| Total to deputy cand. as fraction of industry total | 44.150 | | | |
| | (1.24) | | | |
| Total to deputy winners as fraction of industry total | | 51.653 | | |
| | | (1.41) | | |
| Total to deputy cand. as fraction of market cap. | | | 7,446.066 | |
| | | | (1.77)* | |
| Total to deputy winners as fraction of market cap. | | | | 7,264.631 |
| | | | | (1.80)* |
| Industry-specific effects? | Y | Y | Y | Y |
| Observations | 137 | 127 | 159 | 159 |
| R-squared | 0.06 | 0.07 | 0.07 | 0.07 |

Table XI

Robustness: Average Impact of Contributions to Deputies using Several Measures Controlling for Contributions to Other Winning Candidates for Other Positions on Cumulative Abnormal Returns

This table reports OLS regressions. 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. The independent variables are the sums of percentage points of campaign contributions to winners and losers as a fraction of total contributions to all candidates in a state (with the exception of president candidates). A constant and industry-specific effects are included in the regressions, but these are not reported. *, **. *** indicate significance at 10%, 5%, and 1% level, respectively. Heteroskedasticity robust standard errors are reported in parentheses.

| | Cumulative abnormal returns for listed Brazilian firms | | | | | | |
|---|---|---|---|---|---|---|---|
| | (1) | | | (2) | | | (3) |
| Sum dep. winners | 3.660 | | Sum frac. dep. Winners | 0.002 | | State frac. dep. winners | 0.035 |
| | (2.37)** | | | (2.10)** | | | (1.88)* |
| Sum gov. winners | 0.995 | | Sum frac. gov. winners | -0.428 | | State frac. gov. winners | -0.616 |
| | (0.22) | | | (1.32) | | | (1.23) |
| Sum pres. winner | -0.024 | | Sum frac. pres. winner | 1.381 | | Total frac. pres. winner | 1.451 |
| | (0.02) | | | (1.12) | | | (1.13) |
| Sum sen. winners | -3.466 | | Sum frac. sen. winners | - | | State frac. sen. winners | -0.077 |
| | (0.80) | | | | | | (0.96) |
| Industry-specific effects? | Y | | | Y | | Y | Y |
| Observations | 159 | 159 | 159 | 159 | 159 | 159 | 159 |
| R-squared | 0.07 | 0.07 | 0.07 | 0.07 | 0.07 | 0.07 | 0.07 |

## Table XII

## Other Robustness Checks

This table reports OLS regressions. The dependent variable is the cumulative abnormal return and the buy-and-hold return (in %), respectively, calculated with an event window covering the 20 days before and 20 days after the election. The independent variables are the total absolute amounts (in 100,000BRL) firm contributed to candidates, the value of assets and liabilities and the market capitalization at the start of the event window. A constant and industry-specific effects are included in the regressions, but these are not reported. *, **. *** indicate significance at 10%, 5%, and 1% level, respectively. Heteroskedasticity robust standard errors are reported in parentheses.

| | Cumulative abnormal returns for listed Brazilian firms | | | Abnormal buy-and-hold returns for listed Brazilian firms | |
|---|---|---|---|---|---|
| | (1) | (2) | (3) Sub-sample without control group | (4) | (5) |
| Sum dep. winners | 2.659 | 1.725 | 4.503 | 2.618 | 1.450 |
| | (3.25)** | (3.49)*** | (2.56)** | (2.21)** | (2.30)* |
| Assets | | 0.000 | | | 0.000 |
| | | (1.15) | | | (0.54) |
| Liabilities | | -0.000 | | | -0.000 |
| | | (0.81) | | | (0.37) |
| Market cap. start | | -0.000 | | -0.000 | -0.000 |
| | | (4.36)*** | | (1.20) | (3.30)** |
| Industry-specific effects? | Y | Y | Y | Y | Y |
| Industry clusters? | Y | Y | N | N | Y |
| Observations | 159 | 75 | 39 | 159 | 75 |
| R-squared | 0.07 | 0.34 | 0.21 | 0.08 | 0.19 |