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THE SPOILS OF VICTORY: CAMPAIGN DONATIONS AND GOVERNMENT CONTRACTS IN BRAZIL*

Taylor C. Boas, F. Daniel Hidalgo and Neal P. Richardson

Working Paper # 379 – August 2011

Taylor C. Boas is assistant professor of political science at Boston University and was a visiting fellow at the Kellogg Institute for International Studies from 2009 to 2010. His research focuses on electoral campaigns, political parties, and political communication in Latin America. He is presently working on a book manuscript on the evolution of presidential campaign strategies in Chile, Brazil, and Peru since their transitions to democracy. His research on Latin American politics is published or forthcoming in the *American Journal of Political Science*, *World Politics*, *Studies in Comparative International Development*, and *Latin American Research Review*. He holds a PhD in political science from the University of California, Berkeley.

F. Daniel Hidalgo, a PhD candidate in political science at the University of California, Berkeley, will be joining the Massachusetts Institute of Technology Department of Political Science in summer 2012. His research focuses on political institutions and elections in the developing world, the statistics of causal inference, and field experimentation in the social sciences. His current empirical research is on the political consequences of electronic voting, the effects of fraud-reducing electoral reforms, the political economy of campaign finance, and the causes of rural conflict. His methodological research is on developing new methods for assessing the quality of observational research designs. His articles are published or forthcoming in the *American Journal of Political Science* and *Review of Economics and Statistics*.

Neal P. Richardson is a PhD candidate in political science at the University of California, Berkeley. His research centers on Latin American political economy, with a focus on large businesses and the rural sector. In particular, he examines the political economy of agricultural commodities in Argentina and Brazil, exploring how surging grain production for export has reshaped political coalitions and altered the fiscal bases of the state in these two countries. Related areas of research include rural land conflict and subnational political institutions in Brazil. His publications include articles in the *Review of Economics and Statistics* and *Studies in Comparative International Development.*

* For helpful comments, we are grateful to Olivia Miljanic, Timothy Power, David Samuels, an anonymous reviewer, and participants in the following: the Research in American and Comparative Politics Workshop, Boston University; the Tuesday Seminar on Latin American Politics, Harvard University; and the Latin American Politics Research Workshop, University of California, Berkeley. Thanks to Yuri Kasahara and Eduardo Leoni for data assistance. For research support, we are grateful to the Kellogg Institute for International Studies, University of Notre Dame, and the Center for the Comparative Study of Right-Wing Movements, University of California, Berkeley.

ABSTRACT

When firms give money to candidates for public office, what return can they expect on their investment? The answer may depend on the party in power and whether it rewards longstanding contributors, pays back all donors on equal terms, or refuses to be swayed by corporate money. In this analysis of Brazil, we use a regression discontinuity design to identify the effect of an electoral victory on government contracts for a candidate's corporate donors. Firms specializing in public works projects can expect a substantial boost in government contracts—at least 8.5 times the value of their contributions—when they donate to a federal deputy candidate from the ruling Workers' Party (PT) and that candidate wins office. We find no effect among allied parties, suggesting that the PT uses pork to favor its members rather than to maintain a governing coalition. The profile of public works donors to major parties implies that under the PT's stewardship, smaller firms were able to break into the traditionally oligopolistic donations-for-contracts market, presumably taking advantage of the party's lack of relationships with established players.

RESUMO

Quando empresas fazem doações eleitorais, que retorno sobre investimento podem esperar? A resposta depende de que partido que está no governo, e se ele premia seus contribuintes históricos, recompensa doadores de igual para igual, ou recusa-se a ser influenciado por dinheiro corporativo. Neste artigo, aplicamos o método de descontinuidade de regressão a dados eleitorais brasileiros para identificar o efeito de uma vitoria eleitoral na obtenção de contratos públicos por empresas que fizeram doações de campanha. As empreteiras podem esperar um grande aumento nos seus contratos públicos—pelo menos 8,5 vezes o valor das suas contribuições—quando fazem doações a um candidato a deputado federal do Partido dos Trabalhadores (PT) e esse candidato vence a eleição. Não encontramos qualquer efeito entre os partidos aliados, sugerindo que o PT usa os contratos públicos para favorecer a seus filiados, não para manter uma coalizão de governo. O perfil das empreteiras que doam aos principais partidos sugere que, sob o controle do PT, pequenas e médias empresas conseguiram entrar no mercado tradicionalmente oligopolístico de doações e contratos, provavelmente aproveitando a falta de relações do PT com os veteranos daquele jogo.

INTRODUCTION

When firms give money to candidates for public office, what return can they expect on their investment? The answer is likely to depend, in part, on institutional features of the country in question. Research on American politics has had difficulty demonstrating a link between campaign contributions and tangible benefits for donor firms, leading some studies to conclude that corporations give money as a form of political consumption, with no explicit quid pro quo (Ansolabehere, de Figueiredo, and Snyder 2003). In developing countries and newer democracies, such altruism seems less likely. Individual donors tend to give less money to politics, meaning that corporate money carries more weight. Relationships between firms and politicians are less well established, so there may be more room to establish one's market position. State spending may be a larger share of GDP, such that bigger prizes are up for grabs. Favoritism toward certain firms is subject to less scrutiny, so politicians can repay their benefactors without the same risk of public sanction.

A particularly relevant question for low- and middle-income democracies concerns the nature of the political market in which donor firms are presumably investing: a competitive one where entrepreneurs and established players square off against one another on a level playing field, or an oligopolistic market where insider firms and establishment politicians collude to keep out new entrants and distribute the spoils of office for their mutual benefit? Competitive political investment may be problematic from the perspective of democratic theory since it implies that money can buy public policy outcomes, but it also suggests that participants in this market are treated fairly. An oligopolistic political market may be of greater normative concern. It may also be the more common scenario, judging from the prevalence of corruption in many developing democracies and the manner in which insider firms have often been favored in episodes such as the privatization of state-owned enterprises.

Within individual countries, the returns to political investment and the competitiveness of this market are likely to vary according to the party in power. Some governing parties may refuse to be swayed by corporate contributions, dispensing no special favors to those who gave money to their campaigns. Others may disproportionately reward longtime contributors, which would produce a more oligopolistic market for government favors, or treat all campaign donors equally, making the market more competitive. Different governing parties might also distribute the spoils of office for different strategic purposes. Some might favor the campaign donors of allied parties in the governing coalition, as a form of payment for legislative cooperation. Other governing parties might choose to "go it alone," paying back only their own corporate donors in an effort to cement these relationships and ensure a large war chest for the next election.

In this paper we examine the effect of corporate campaign donations on government contracts in Brazil, a country with a long history of insider firms dominating the spoils system of state spending. Using a regression discontinuity design, we compare candidates for the Chamber of Deputies who went on to barely win or barely lose the 2006 election, looking at the effect of an electoral victory on government contracts for the firms who donated to those candidates' campaigns. Among candidates from the ruling Workers' Party (Partido dos Trabalhadores, PT) who received donations from public works firms, we find that an electoral victory brings an additional 147,000 *reais* (US $78,400) in government contracts for their benefactors, or 8.5 times the amount received.[1] We find no effect among other parties' candidates, including the PT's legislative allies. This finding challenges existing arguments that Brazilian presidents use pork as a form of currency in order to maintain a fractious governing coalition.

While the generous benefits for PT donors shows that the party has been willing to play "politics as usual," the profile of these donor firms suggests that the PT's first-ever turn at governing Brazil has helped to level the pork-barrel playing field. Compared to public works donors to other major party candidates, those giving to the PT tended to contribute less money overall and to have received less in government contracts during the prior congressional term. We argue that control of the federal government by a new party—in particular, a center-left party that corporate donors had previously shunned—opened up the traditionally oligopolistic market for government contracts to new players who were able to compete on more even terms than in the past.

Our strategy for the analysis of campaign contributions and their effect on public policy circumvents several methodological problems that have plagued prior studies. A common approach—regressing a measure of policy outcomes, such as legislators' roll call votes, on the amount of corporate donations received—risks endogeneity bias because shared ideological proclivities may be the cause of campaign contributions as well as legislators' votes (Bronars and Lott 1997; Ansolabehere, de Figueiredo, and Snyder 2003). By contrast, we argue that in the context of the regression discontinuity design, our treatment of interest—whether the recipient of corporate donations barely wins or barely loses an election—can be considered "as if" it were randomly assigned. We examine a different question than most prior studies—the effect of an electoral victory versus the effect of an additional dollar donated—but it is one that better lends itself to causal inference.

Our research also improves upon prior studies of both Brazil and the United States by examining an outcome that is directly related to firms' economic interests and can also be readily influenced by legislators. Specific roll call votes and other legislative actions by politicians, while clearly under their direct control, are often difficult to link back to the interests of individual donor firms (Gordon, Hafer, and Landa 2007). In an analysis of Brazil, Claessens, Feijen, and Laeven (2008) look instead at the effect of campaign contributions on firms' stock market valuations and overall access to bank financing. These outcomes are more directly related to their economic interests, but only the latter can be influenced by politicians and only indirectly via their influence over state-owned banks, which are only part of a lending market also served by private banks.[2] Government contracts, however, are clearly in the economic interest of donor firms, especially those that specialize in large public works projects for which there may be few private sector clients. And since federal government spending is authorized by congress through the annual budgeting process, contracts with private firms are also under legislators' direct influence.

Though our finding that campaign donations can buy government contracts comes with the silver lining of a more competitive market, this silver lining is a thin one at best. As new donor firms establish ongoing relationships with PT politicians and benefit from their largesse, these firms will join the ranks of established players. Looking forward, all of the parties best positioned to win future presidential elections will probably enjoy ties to major public works firms, making it difficult for outsiders to break into the circle.

BACKGROUND AND THEORY

Corporate Campaign Financing in Brazil

Given the nature of its political system, Brazil is a case in which we should expect corporate campaign donations to influence subsequent government policy. In this section, we examine the features of Brazilian democracy that facilitate ongoing, mutually beneficial relationships between politicians and the firms that contribute to their campaigns.

Brazilian legislative campaigns are expensive and public and party financing of elections is minimal, generating a strong demand for corporate donations. Brazil's system of open-list proportional representation for legislative elections pits candidates not only against those from opposing parties but also against their list-mates, meaning that successful candidates must develop a capacity for individual campaigning—and fundraising. Furthermore, deputies are elected in single state-wide districts, increasing the number of other candidates with whom they must compete. Winning an election to the Chamber of Deputies thus implies significant expenses in the form of flyers, buttons, posters, gifts for constituents, and cash payments to local politicians who can deliver blocks of votes (Samuels 2001b). In 2006, victorious candidates for federal deputy spent an average of US $234,891—about a fifth of the equivalent quantity for the US House of Representatives (Ornstein, Mann, and Malbin 2008, 74). This figure is impressively high, given differences in the cost of labor and the fact that, unlike their US counterparts, Brazilian candidates do not purchase television airtime or compete in primary elections.[3] Moreover, public funding in Brazil is allocated only to parties, not individual candidates, and quantities are small in relation to the cost of campaigns (Bourdoukan 2010). Parties can give money to candidates, but they give very little to those running for federal deputy; only about 5 percent of deputy candidates' total fundraising in 2006 came from parties or other candidates' committees. In order to run an effective individual campaign for the Chamber of Deputies, therefore, Brazilian candidates must raise large sums of money from private donors.

Brazil's political system not only generates a strong demand for corporate campaign contributions but also allows for an extensive supply. In contrast to the United States, where firms cannot contribute directly to campaigns and their political action committees (PACs) can only donate $5,000 per candidate, in Brazil corporations can give directly to candidates, up to 2 percent of their gross annual revenues. Tying the contribution limit to a firm's income means that large corporations can potentially give vast sums of money; it also makes these limits harder to enforce, since they vary across firms or within one firm from year to year. Moreover, unions (as well as business associations) are prohibited from giving money directly to political campaigns in Brazil. The only other major source of campaign financing consists of individual donations, which are limited to 10 percent of the contributor's gross annual income. As with the limit on corporate donations, this figure is very high in comparative perspective, and some individuals do give generously to Brazilian candidates. But in contrast to the United States, where the sum of individual contributions dwarfs PAC contributions (Ansolabehere, de Figueiredo, and Snyder 2003), corporate money constitutes the predominant source of campaign financing in Brazil. In 2006, 56.5 percent of funds raised by federal deputy candidates came from corporate donors, versus 32.3 percent from individuals.

The nature of Brazil's political system also means that candidates can make credible commitments that they will repay corporate donations in the form of future legislative favors. The importance of individual campaigning in Brazil means that politicians have incentives to develop a personal "brand name"—a reputation for looking after the interests of their major campaign donors while in office. Most Brazilian politicians are career politicians rather than one-shot amateurs and those who leave the House of Deputies typically continue their careers at the state level, so repeat interactions between candidates and donors is likely. Because of the potential long-term nature of candidate-donor relationships, each actor has the capacity to sanction the other if he or she reneges (Samuels 2001a). A deputy who helps a firm acquire government contracts and receives no contributions in the next campaign can withhold future legislative favors or even pressure the executive to halt the disbursement of funds previously authorized. Likewise, firms who are jilted by victorious candidates can refuse to contribute the next time around or even fund the opposition. Given this repeated game, firms and politician are likely to cultivate long-term, mutually beneficial relationships based on trust and reciprocity.

Traditionally, donors and politicians have taken their reciprocal obligations quite seriously, setting up carefully specified agreements about the exchange of government contracts for kickbacks or campaign donations. In a massive scandal uncovered in 1993, senior members of the congressional Joint Budget Committee were found to have been accepting payment from a cartel of construction firms for getting pork-barrel projects inserted into the federal budget. Internal documents from the firm that led the cartel, Construtora Norberto Odebrecht, specified a fee schedule for successful budget appropriations: the committee's most powerful member, the general rapporteur (*relator-geral*), would receive kickbacks totaling 3 percent of the value of every approved project, while others would receive 0.5 percent to 3 percent for those contracts to which they contributed. Initial payments were made in cash, but when corporate campaign donations were legalized in 1993, compensation continued through this less risky route (Krieger, Rodrigues, and Bonassa 1994, 185–205). In return, federal deputies would do their patrons' bidding during future budget negotiations. A company memo described a meeting with one federal deputy on the budget committee: "He asked us to inform him of other projects whose values we would like to see increased.… He says he is certain that the amount he requests from the general rapporteur will be fully funded" (Bezerra 1999, 242, authors' translation).

The unveiling of Brazil's 1993 budget scandal may have encouraged firms and politicians to be more circumspect in their corruption schemes, but evidence suggests that the practice continues on a widespread basis. In subsequent years, other scandals have been uncovered involving some form of payment for budget appropriations, including the 2006 "bloodsuckers" scandal that involved federal funding for municipal ambulance purchases (Tollini 2009, 9). In a recent interview, a legislative staffer mentioned a standing agreement between one public works firm and a federal deputy from the state of Mato Grosso to return 20 percent of the value of all government contracts in the form of campaign donations.[4]

Government Contracts and the Budgetary Process

As is suggested by Brazil's history of budget scandals, the primary commodity legislators can offer in exchange for corporate campaign donations consists of pork-barrel spending inserted into the federal budget. Brazil's annual budget process begins with the executive sending a budget bill to congress; this bill is first reviewed and amended by the Joint Budget Committee. Next, amendments can be submitted by individual legislators, permanent committees of the Senate and Chamber of Deputies, and delegations of senators and deputies from individual states or the Federal District. The budget committee then votes on whether to approve these amendments (largely a rubber-stamp process), at which point the amended budget is sent to both houses of congress for a vote (Tollini 2009). Once the budget bill is signed into law, the game enters a new phase focused on the executive, who during the fiscal year can choose to reduce spending for any line item in the budget or eliminate it entirely. Though lacking decision-making power at this point, legislators play a key role in lobbying the executive for budgeted funds to actually be spent. They also can lobby the executive at the front end of the process, proposing that their spending priorities be inserted into the initial budget bill. Thus, legislators' efforts can influence the distribution of pork-barrel funds in multiple ways.

The budgeting process is technically prior to the awarding of government contracts, through there is often little question as to who will be hired to carry out a particular project. A line item in the budget authorizes the federal government to sign a contract with the winner of a bidding process or to transfer funds to state or municipal governments that will solicit bids and carry out the contracting. At the state and local level, it is not uncommon for the winner of a bidding process to have been chosen before federal funding is actually approved (Santos, Machado, and Rocha 1997); firms may even draft the actual amendment that will authorize the spending (Krieger, Rodrigues, and Bonassa 1994). In the 1993 budget scandal, major constructions firms were found to have been rigging the bidding process for government contracts, arranging for a winner and multiple losers from among their ranks (Krieger, Rodrigues, and Bonassa 1994). Thus, for corporations that stand to benefit from government contacts, getting funds authorized and disbursed by the federal government may be a more crucial game than getting hired in the first place.

Traditionally, firms with a prior history of work for the government have had significant advantages in obtaining new contracts. Large-scale infrastructure projects, such as improvements to railroads, navigable waterways, and interstate highways, typically extend over multiple years, and renewal of funding is proposed annually as a matter of course. Barring gross incompetence, the firms initially hired for such projects are likely to see their contracts renewed when spending is re-authorized in subsequent years. Moreover, insider firms are more likely to get such contracts in the first place. When significant sums of money are to be allocated over an extended period of time, hiring a firm with a proven track record should be more attractive than taking a chance on a newcomer. There are few if any private-sector clients in areas such as highway construction, so firms do not have many ways to obtain relevant experience other than working for the government. At the time of the 1993 budget scandal, government contracts constituted over 90 percent of the income for Brazil's largest construction firms. Moreover, the rules for selecting winning bids for large projects systematically favor large, established firms, even after they were amended in response to the scandal (Ames 2001, 242–46).

It is quite possible, however, that the degree of favoritism toward large insider firms depends upon the parties that are most influential in distributing the benefits. From 1985 to 2002 Brazil was governed by parties of the center-right, with the clientelistic Liberal Front Party (PFL) serving as an important member of the governing coalition during most of this period. The formal and informal criteria used to award government contracts reflect these parties' traditional ties to established corporate interests.[5] In legislative debates surrounding the 1993 reforms to the public bidding process, the PT advocated for criteria that would benefit smaller firms (Ames 2001, 243). Once in power in 2003, it may well have put these preferences into practice.

Partisan Effects on the Donations-for-Contracts Game

While federal deputies who received corporate campaign donations are likely to seek government contracts for their benefactors, not all deputies are equally able to secure them. A large body of research on Brazilian legislative politics suggests that the effect of an electoral victory on subsequent contracts for that candidate's donor firms should be largest among parties belonging to the governing coalition. At the start of each term, the president assembles a legislative coalition by awarding ministries to allied parties, but he cannot count on consistent support for his agenda because of weak party discipline. Hence, presidents have to continually accede to individual legislators' pork-barrel priorities in order to maintain a fractious coalition, agreeing to release previously budgeted funds in exchange for roll call votes (Ames 2001; Pereira and Mueller 2004; Alston et al. 2005; Alston and Mueller 2006). Similar side payments may sometimes be made to opposition legislators—e.g., to buy a "present" rather than a "no" vote (Ames 2001, 219, 262)—but such deals are less common. Thus, the effect of an electoral victory on contracts for donor firms should be largest among coalition members, with whom the president is most likely to bargain, and smaller or nonexistent among opposition parties.

The presence of allied parties in the president's cabinet also suggests that winning candidates in the governing coalition should be best positioned to repay their donors. Presidents often delegate specific spending decisions to cabinet ministers, and agencies under their purview—such as the National Department of Transportation Infrastructure (DNIT) within the Ministry of Transportation—sign the actual contracts. Ministers from allied parties also serve as key intermediaries who can line up votes from their copartisans by distributing pork on the president's behalf (Ames 2001). Thus, legislators in the governing coalition can also negotiate with their own party leaders in the cabinet in order to secure contracts for their corporate donors.

Applied to the governing coalition that was constructed after the reelection of PT president Luiz Inácio Lula da Silva in 2006, the "pork for roll call votes" thesis might suggest a larger effect among candidates from allied parties than among those from the PT itself. The PT has long been an outlier among Brazilian parties in terms of internal discipline; while it was in the opposition, its legislators' votes could not as readily be bought with pork as those of other left-wing parties (Ames 2001, 212 n24). As president, Lula might have had no need to pay party members for their votes. However, the PT *has* show a willingness to buy the votes of other coalition members, through illegal cash payments in the *mensalão* ("big monthly payment") scandal uncovered in 2005, so legal payments in the form of pork-barrel spending would hardly be a stretch. Moreover, Lula's cabinet at the start of his second term awarded key positions to allied parties, including the top two ministries involved in public works spending—the Ministry of National Integration, which went to the Party of the Brazilian Democratic Movement (Partido do Movimento Democrático Brasileiro, PMDB), and the Ministry of Transportation, in the hands of the Party of the Republic (Partido da República, PR).[6]

Other aspects of the PT's governing strategy, however, lead to the opposite prediction: that corporate donors should extract a larger benefit from PT victories than from those of other coalition members. Samuels (2008) argues that during his first term, Lula sought to benefit his party as much as possible and to limit the pork-barrel handouts to other coalition members. Illegal cash payments may have been given in lieu of pork, not in addition. Those ministries granted to coalition members may not have come with as much leeway to distribute spending and government contracts as in the past. If this governing strategy continued into Lula's second term, he may well have favored his own party in the distribution of pork. Moreover, the PT's shift to the center and the corruption scandals during Lula's first term took their toll on party discipline; important defections occurred on key votes such as pension reform, and some leftist party members abandoned the PT to join new parties. Thus, Lula may have needed to use pork-barrel spending simply to maintain unity within his own party's ranks. These arguments all suggest that for corporate donors, helping a PT candidate win the election could have the greatest payoff in future government contracts.

Several of the PT's coalitional choices during Lula's second term favor this alternative interpretation. While the traditionally pork-laden ministries of National Integration and Transportation went to allied parties, the PT retained the Ministry of Planning—responsible for generating the executive's initial budget proposal, the most attractive source of funding for government contracts. And in the congressional Joint Budget Committee, whose composition changes annually, the PT consistently reserved for itself the most powerful position—the general rapporteur, who has the ability to protect certain areas of the executive's budget proposal from spending cuts and to increase or decrease funding proposed by amendments (Santos, Machado, and Rocha 1997; Tollini 2009; Praça 2010).

Hypotheses

Given these features of the relationship between corporate campaign financing and budget appropriations in Brazil, we advance the following hypotheses. Among politicians whose parties end up opposing the president, winning a seat in the Chamber of Deputies should have a small or zero effect on future government contracts for their donor firms, since these deputies are in a weaker bargaining position vis-à-vis the executive. Among candidates whose parties join the governing coalition, an electoral victory should mean more contracts for their donor firms. We remain agnostic as to whether these effects should be larger among candidates from the PT or other parties in the coalition, since plausible arguments could support either hypothesis.

Finally, we expect that these hypothesized effects will be present among public works firms but not among those in other industries, such as finance or agriculture, that do not typically work for public sector clients. Rather than government contracts, such firms are likely to seek different forms of payback for their donations, such as preferential regulation or greater access to credit from state-owned banks.

DATA

In order to test these hypotheses about the returns to political investment in Brazil, we constructed a unique dataset based on publicly available information from the Superior Electoral Tribunal (TSE), the Ministry of Finance, and the Office of the Comptroller General (CGU). We began with the TSE's results from the 2006 federal deputy elections; demographic information on candidates such as their education level and occupation; and a complete list of each candidate's registered campaign donations.[7] For firms donating to these candidates, we collected additional covariates from the Ministry of Finance, including their year of founding and industrial classification code and the state in which their headquarters is located.[8] We dropped candidates who received no corporate donations, since the outcome—government contracts for one's donor firms—is undefined for them.

To measure federal government contracts, we queried the CGU's "Transparência" (transparency) portal, using the unique tax identification numbers (CNPJs) of all donor firms in 2006.[9] We gathered data on all direct federal government expenditures (*gastos* *diretos*) to these firms from 2004 to 2010, excluding credit card transactions, which are not authorized via the budgeting process. As a baseline measure of government contracts, we aggregated all expenditures by beneficiary firm from January 2004 to September 2006, the 33 months immediately prior to the election of October 1, 2006. To measure the outcome, we pooled all expenditures from January 2008 to September 2010, a similar period in which spending was under the influence of the new congress but could not be affected by the results of the *next* election.[10] We dropped data from 2007, since that year's budget was formulated by the previous congress while actual spending took place under the newly elected one. All annual contract totals were converted to 2006 *reais*.

By examining direct federal government expenditures, we take a different approach from that of prior research on legislators' relationships with corporate donors. Existing studies have focused on legislators' individual amendments to the federal budget, which typically target pork to their bailiwicks (Samuels 2002). Such expenditures typically take the form of federal government transfers (*convênios*) to municipal or state governments, which then carry out the contracting on their own; hence, they are not reflected in our database. By contrast, direct federal government expenditures are typically proposed in the executive's initial budget bill or via collective amendments—those submitted by state-based congressional delegations or permanent committees of the Senate and Chamber of Deputies. Unlike individual amendments, collective amendments and the executive's initial budget bill are not subject to any spending limits other than the amount of funds available in the budget, so they can propose potentially massive government contracts. Payments from these sources are also more likely to be released by the executive during the fiscal year (Limongi and Figueiredo 2007). Hence, our data on government contracts measure the most reliable and lucrative source of funds that corporate donors can potentially seek.

As discussed above, public works firms are more likely than those in other industries to benefit from government transfers. To categorize firms, we used the first two digits of the National Classification of Economic Activities (CNAE) by Brazil's Finance Ministry, akin to the North American Industry Classification System in the United States.[11] These codes define 21 different industries, three of which—construction, water and sewage, and energy—we grouped together as "public works." The vast majority of these public works firms—1,050 out of 1,129, or 93 percent—are involved in the construction industry. Overall, our dataset includes 7,375 firms donating to 1,504 candidates.

RESEARCH DESIGN

The Regression Discontinuity Design

To examine the effect of an electoral victory on government contracts for the politician's donor firms, we utilize a regression discontinuity (RD) design, which seeks to exploit the fact that political actors cannot precisely control electoral outcomes. While candidates (and their corporate donors) can certainly influence the result of an election through advertising expenditures, vote buying, and other campaign activities, the number of votes a candidate receives on election day is subject to inherent uncertainty. For example, in a hypothetical race where winning and losing candidates are separated by a few hundred votes, the outcome could easily have been caused by numerous "random" factors other than the winner's campaign prowess or war chest. If rain or a traffic jam in the loser's bailiwick suppressed turnout even marginally, the winner will have gained office for reasons unrelated to the characteristics of the two candidates or their donors. In other words, for candidates who win or lose by a narrow margin, political office can sometimes be treated "as if" it were assigned at random.

To date, most applications of the regression discontinuity design to elections have involved single-member districts. In this paper, we adapt the RD design to the open-list proportional representation rules used in Brazil's legislative elections. Brazilian voters typically vote for candidates, but seats are first distributed to parties or coalitions of parties according to a D'Hondt formula. The candidates in winning parties or coalitions are then ranked by number of personal votes, and the seats won are given to those with the highest vote share. In this paper, we are interested in the effect of *personal* electoral victories on the amount of government contracts for those candidates' donors. Hence, we focus on the rules determining whether individual candidates win or lose, that is, the intra-coalition stage of seat allocation.

Formally, a coalition j wins s_j seats. Each candidate is indexed by i, which also denotes intra-coalition rank, as determined by his v_{ij} votes.[12] The candidates with $i \le s_j$ win office and become incumbents, while those with $i > s_j$ lose. The "last winner" is the candidate with $i = s_j$, whose vote total can be written as $v_{i=s,j}$. Similarly, the "first loser" is the candidate with $i = s_j + 1$, whose vote total is denoted as $v_{i=s+1,j}$. Candidate i's margin of victory or of defeat, M_{ij}, can be defined as follows:

$$M_{ij} = \begin{cases} v_{ij} - v_{i=s+1,j} & \text{if } i \le s_j \\ v_{i=s,j} - v_{ij} & \text{if } i > s_j \end{cases}$$

In other words, a winning (losing) candidate's vote margin will be the difference between his or her vote total and that of the first loser (last winner). Naturally, vote margin determines the electoral outcome: $I_{ij} = 1$ if $M_{ij} > 0$, and $I_{ij} = 0$ if $M_{ij} < 0$.

We wish to estimate the quantity $\tau = E[Y_{ij}(1) - Y_{ij}(0)]$, where $Y_{ij}(1)$ and $Y_{ij}(0)$ denote the outcome of interest for candidate i in coalition j when the candidate is a winner and loser, respectively. This estimand is unidentified without further assumptions, since we only observe $Y_{ij}(1) \mid I_{ij} = 1$ and $Y_{ij}(0) \mid I_{ij} = 0$, but not $Y_{ij}(1) \mid I_{ij} = 0$ and $Y_{ij}(0) \mid I_{ij} = 1$.

As is well established in the RD literature (e.g., Lee 2008), the decision rule at the heart of electoral politics allows one to estimate the effect of winning office, because one can couple the relatively innocuous assumption that the distribution of potential outcomes is a smooth function of the vote margin with the fact that electoral victories are allocated discontinuously when the vote margin is zero. Under this smoothness assumption about $Y_{ij}(1)$ and $Y_{ij}(0)$, one can identify a local causal effect at $M_{ij} = 0$, since on either side of the threshold (with a minimum amount of extrapolation) the outcomes of winners are valid counterfactuals for the outcomes of losers (Imbens and Lemieux 2007). Thus, in this paper we focus on the following quantity:

$$\tau_{RD} = E[Y_{ij}(1) \mid M_{ij} = 0] - E[Y_{ij}(0) \mid M_{ij} = 0].$$

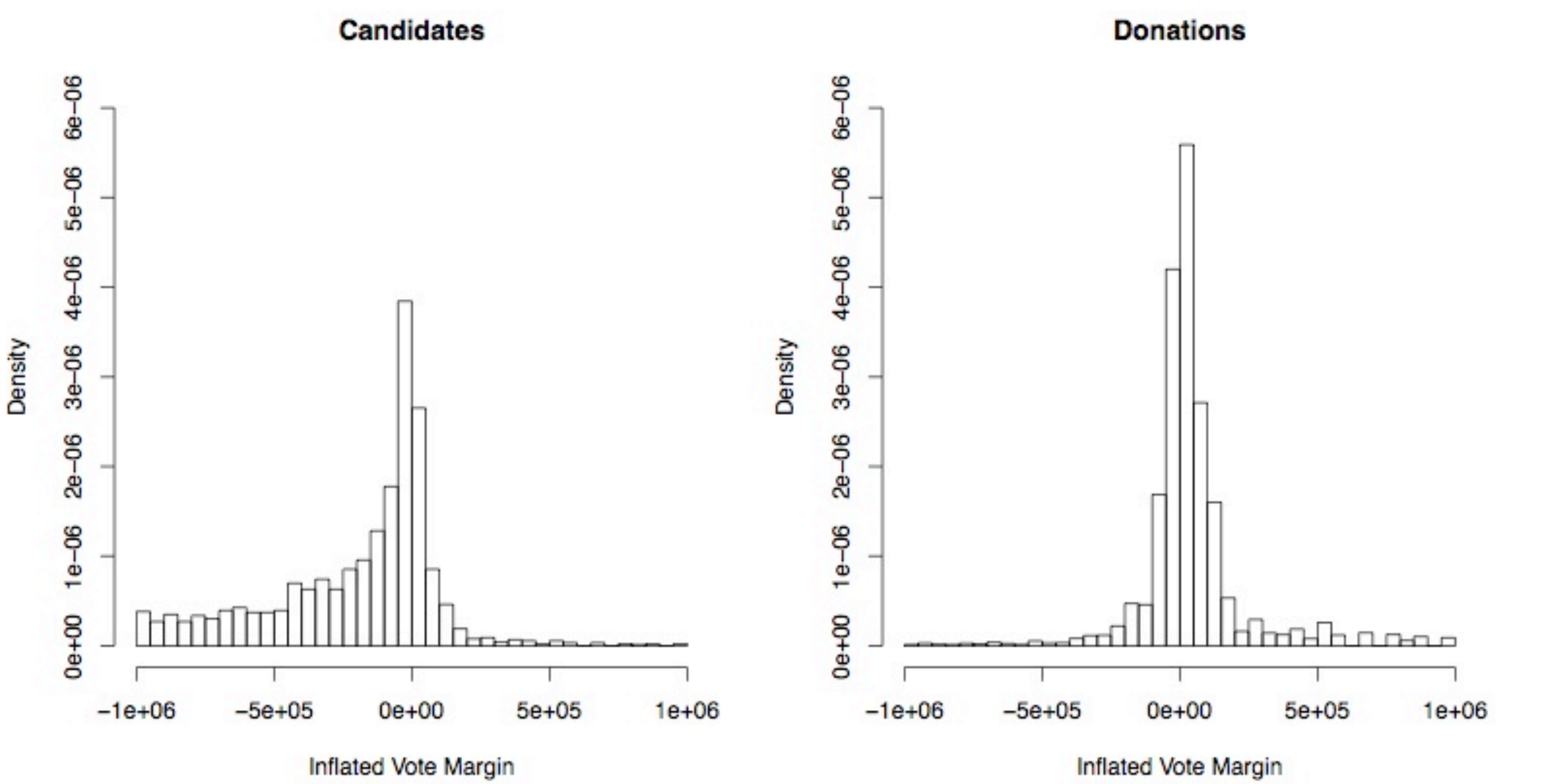
This estimand is a “local” average treatment effect (LATE), since it only represents the effect among candidates who barely win or barely lose.

In examining the effect of an electoral victory on benefits for a candidate’s donor firms, the LATE is justifiable not only on methodological grounds but also for important substantive reasons. Brazil’s high district magnitude tends to fragment the electorate, resulting in many candidates winning or losing by small vote margins. Among winning federal deputy candidates in 2006, the median margin of victory was 2.7 percent of their coalitions’ vote totals. As shown in the left panel of Figure 1, the density of inflated vote margin (as explained below, a transformation of raw vote margin) peaks just to the left of zero, so the modal outcome for all federal deputy candidates in 2006 was a narrow loss. While our research design does not allow us to generalize to candidates who won or lost by large margins, it is reassuring to know that landslide victories or defeats are relatively uncommon. This fact should mitigate external validity concerns that sometimes accompany RD analyses.

The close elections we examine are not only a common occurrence; they are also where corporate donors disproportionately direct their funds. In general, firms should try to target their contributions toward close elections where they are most likely to affect the outcome and, in the event of victory, receive payback from a grateful politician (Bronars and Lott 1997). In Brazil, firms cannot target with the same precision as in the United States; the complexity of the open-list proportional representation system, the large number of coalitions and candidates per state, and the limited polling data on individual candidates all make tight races more difficult to identify in advance. Firms are also obligated to maintain existing relationships with politicians who have done favors for them in the past, regardless of the closeness of their current race. However, our data clearly show that firms are able to target with some success. While most candidates win or lose by relatively narrow margins, corporate donations to federal deputy candidates are even more highly concentrated among bare winners and losers, as illustrated in the right panel of Figure 1.

FIGURE 1

DENSITY OF INFLATED VOTE MARGIN



Note: In the left panel, observations are federal deputy candidates, with or without corporate donations. In the right panel, each observation represents a R$ 100 corporate donation to a federal deputy candidate. Inflated vote margins of greater than 1 million are dropped for purposes of readability.

While all RD analyses of electoral results appeal to the inherently arbitrary nature of a narrow victory or loss, Brazil's electoral system offers an additional justification for this "as if" random assumption. Because of coalition-level vote pooling, there is a relatively weak relationship between votes won and election outcomes (Desposato 2007). Seats are distributed to a coalition based on the number of total votes received by all its candidates, but a small number of popular candidates often contributes the majority of these coalition votes. If vote totals are highly concentrated in this fashion, many of the electorally weaker candidates will win office with relatively few personal votes, being swept into power by the electoral strength of their copartisans. As a result, some victorious candidates may have received fewer personal votes than losers from less dominant coalitions. Thus, candidates' unmeasured political skills should be an even less likely confounder than in the typical RD analysis.

The Forcing Variable

The choice of a forcing variable for the RD design, which is used to define the discontinuity window and to operationalize the notion of a "close election," requires careful consideration in an electoral system such as Brazil's, where the size of congressional districts (entire states) varies by more than two orders of magnitude. Because of this heterogeneity, close elections defined in terms of standardized vote margin—percentage of either coalition votes or all valid votes—occur disproportionately in large states. Over-representing large states in our sample of candidates is problematic because such states are systematically *under*-represented in Brazil's malapportioned Chamber of Deputies and, in particular, in the Joint Budget Committee, where legislators from small states dominate (Samuels 2003, 136–37). Small states tend to be rural and poor, meaning that their economies are more reliant on federal government spending and they have a greater need for infrastructural investment. A sample that under-represented small states would miss much of the donations-for-contracts action.

On the other hand, defining close elections in terms of raw vote margin has the disadvantage that, in small states, the window used for the RD analysis may sometimes be large relative to the total number of votes received. Losing by 89 votes (the smallest margin in our dataset) is a bare loss in any state; losing by 1,000 might be close for a candidate who received 80,000 votes but not for one who received only 8,000. The latter outcome is likely in small states.

In order to avoid the disadvantages associated with both standardized and raw vote margin, we use as our forcing variable a candidate's "inflated vote margin," a quantity that is calculated in order to "punish" candidates whose margin of victory or loss is large relative to their total votes. To calculate inflated vote margin, we multiplied raw vote margin M_{ij} by an inflation factor—$v_{ij} / (v_{ij} - M_{ij})$ for winning candidates and $(v_{ij} - M_{ij}) / v_{ij}$ for losing candidates—whose value is always greater than 1. When comparing similar sample sizes, close elections defined in terms of inflated vote margin achieve better representativeness across states than those defined by either standardized or raw vote margin.

Specification

We estimate treatment effects using a locally weighted polynomial regression (LOWESS) of the logged total value of government contracts (plus one) on inflated vote margin (Cleveland 1981). The LOWESS curve is fit separately on either side of the discontinuity, with the difference in predicted values at the zero vote margin providing an estimate of τ_{RD}. We use a span parameter of 0.75, the default for the R function 'loess,' and observations with inflated vote margins of less than 100,000, the 46th percentile for this covariate in the full sample of candidates who received corporate donations. A 95 percent confidence interval for τ_{RD} is estimated using a nonparametric bootstrap procedure. Treatment effect estimates for specific types of firms and for donors to particular parties or coalitions are obtained by applying this same procedure to subsamples of the data.

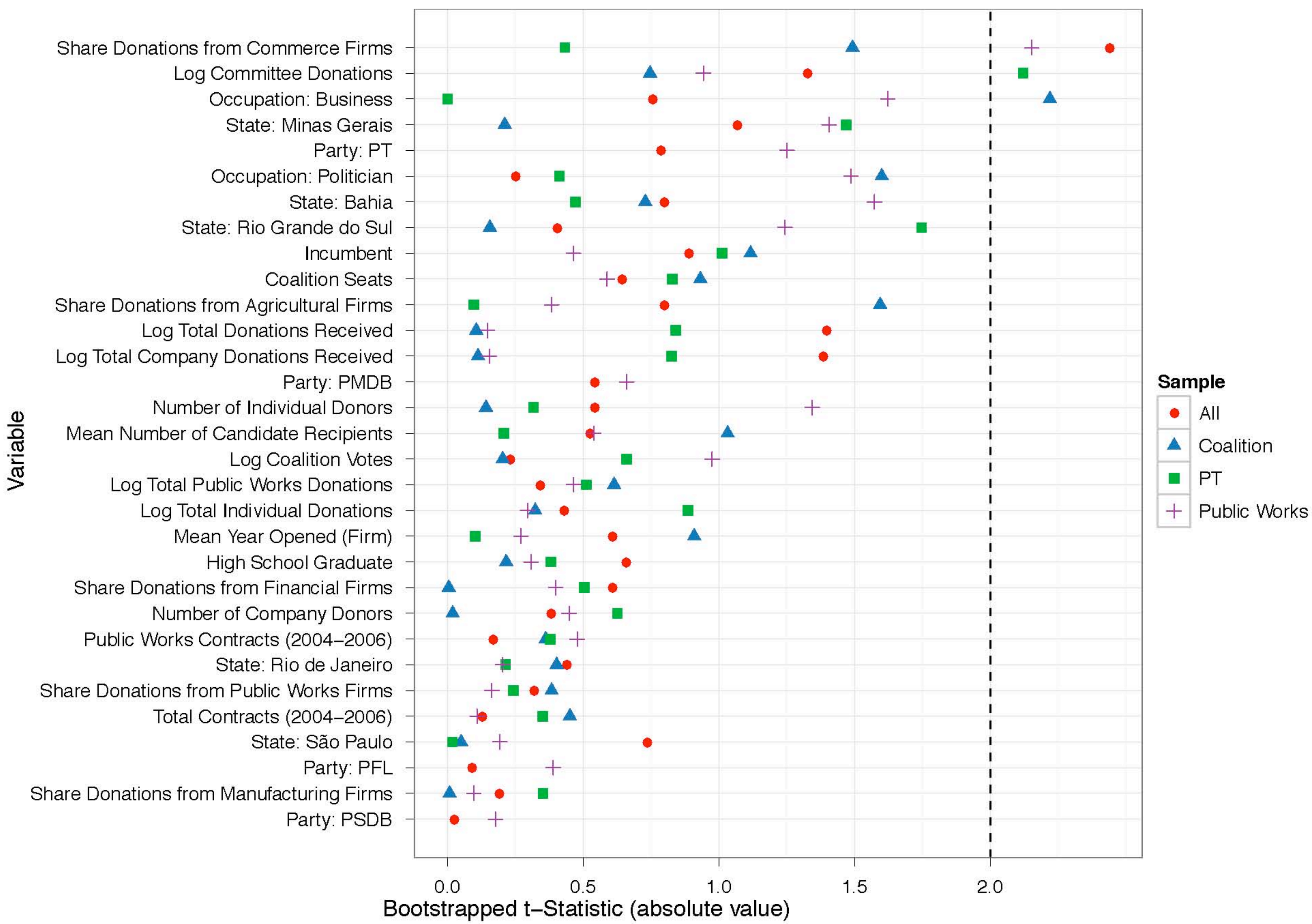
Our analysis is conducted at the candidate level rather than the firm level; that is, we identify the effect of an electoral victory on government contracts for all of a candidate's corporate donors rather than for individual firms who gave to him or her. While there is a certain theoretical attractiveness to a firm-level analysis—donors should only be interested in contracts for themselves or their subsidiaries—the treatment occurs at the level of the candidate who wins or loses. Consequently, calculating accurate confidence intervals for the treatment effect estimate would require clustering on the candidate. Analyzing contracts by donor-candidate dyad thus introduces substantially more variation in the outcome, without any increase in statistical power, meaning that results are less likely to achieve statistical significance.

Covariate Balance

An important implication of our identifying assumptions is that bare winners and losers, as well as the firms that donate to them, will be similar on background characteristics. To check covariate balance, we looked at attributes of both candidates and firms, using the specification described above to estimate the difference between winners and losers at the discontinuity point and a nonparametric bootstrap to calculate the standard error of this estimate. Figure 2 graphically displays balance for 31 covariates and four different samples of candidates: those receiving any corporate donations, those receiving donations from public works firms, non-PT coalition members receiving donations from public works firms, and PT candidates receiving donations from public works firms. Balance is similar to what one would expect if the treatment had been randomly assigned; in each sample, no more than one estimate generates a t-statistic greater than two. Most importantly, all four samples are well balanced with respect to previous government contracts received by a candidate's donor firms. Thanks to these results, any advantage that incumbent legislators might have in acquiring contracts for their corporate campaign donors can safely be attributed to the effect of an electoral victory, rather than to background differences between winners and losers or the firms who give money to them.

FIGURE 2

BALANCE STATISTICS



RESULTS

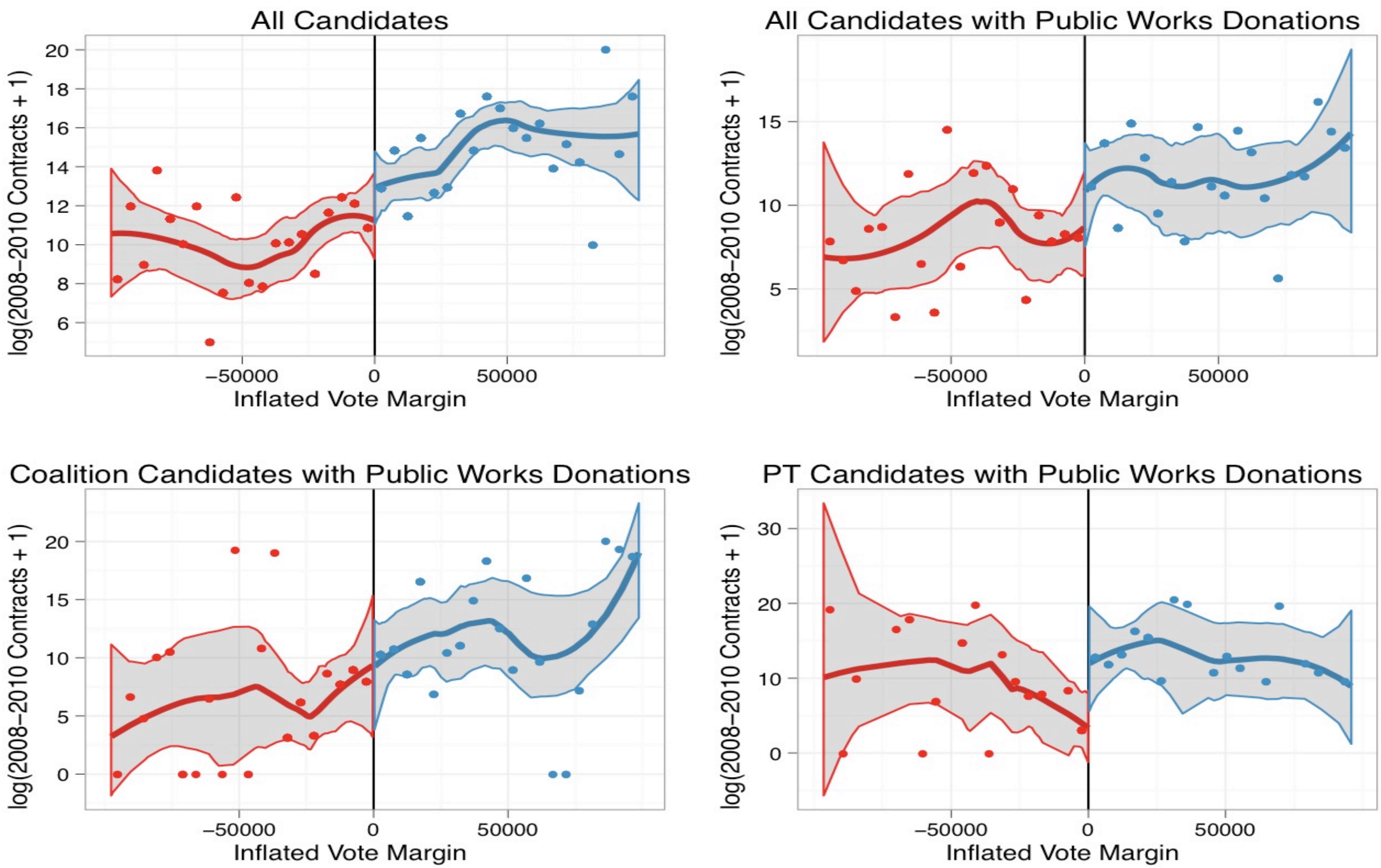
When examining our full sample of candidates who received corporate donations, we find evidence of a positive but statistically insignificant effect of an electoral victory on future government contracts. The top left panel of figure 3 graphically displays these results. The dots represent mean values of the dependent variable in “bins” of inflated vote margin, with each bin encompassing an equal number of candidates. The thick solid lines in the plot show the conditional expectation of the dependent variable (the LOWESS fit) on either side of the cutpoint; the shaded area surrounding each line is a bootstrapped 95 percent confidence interval. Our estimate of the treatment effect is the gap between these two lines at $M_{ij} = 0$. The treatment and control estimates of the outcome are each within the confidence interval of the other side, suggesting a statistically insignificant effect.[13]

We had hypothesized that an electoral victory would increase government contracts among a candidate’s donor firms who specialize in public works, but not necessarily among those in other industries. However, the previous results change little when restricting the analysis to candidates who received donations from public works firms. The top right panel of figure 3 suggests that an electoral victory has a positive but statistically insignificant effect on future government contracts for a candidate’s public works donor firms.

While we expected treatment effects to vary by firm type, we also hypothesized that the return on a firm’s political investment would depend on whether the victorious candidate belonged to a party that ended up joining the governing coalition. If the Lula government used federal contracts for legislators’ public works donors as a form of currency in order to maintain a fragile coalition in congress, we would expect to see the largest effects among the PT’s coalition partners. The bottom left panel of figure 3 graphs the relationship between inflated vote margin and public works contracts among the seven allied parties in Lula’s cabinet at the start of his second term.[14] Here, the estimated effect of an electoral victory is almost a perfect zero; there is virtually no difference between bare winners and losers in terms of future contracts for their public works donor firms.[15]

FIGURE 3

THE EFFECT OF ELECTORAL VICTORY ON FUTURE GOVERNMENT CONTRACTS



Finally, an alternative hypothesis, focused on the PT's "party building" strategy, suggested that the largest effects might be found not among coalition partners but among the candidates from the PT itself. The bottom right panel of figure 3 presents these results. Here, we do see evidence that an electoral victory has a statistically significant positive effect on government contracts for the candidate's public works donor firms. The conditional expectation of the dependent variable jumps sharply upward at $M_{ij} = 0$. Though the confidence intervals still overlap, the treatment and control estimates at the discontinuity each lie just outside the confidence interval for the other side.

TABLE 1

THE EFFECT OF ELECTORAL VICTORY ON FUTURE GOVERNMENT CONTRACTS

Sample of candidates	τ_{RD}	95% C.I.	τ_{RD} unlogged	Donations	Donors	N
All	1.690	(-1.490, 4.85)	R$ 330,000	R$ 53,700	5.60	690
Pub. works donations	2.130	(-3.260, 7.28)	R$ 44,000	R$ 16,300	1.58	387
Pub. works, coalition	-0.179	(-9.510, 8.99)	R$ -1920	R$ 14,500	1.48	162
Pub. works, PT	8.590	(0.345, 18.10)	R$ 147,000	R$ 17,300	1.64	79

Note: "Coalition" candidates are those from the PMDB, PP, PV, PSB, PC do B, PDT, PL, and PRONA in 2006. Dependent variable is the logged value of government contracts, January 2008–September 2010, for all of a candidate's corporate donors (line 1) or for his/her public works donors (lines 2–4). The unlogged treatment effect is given by $\exp(E[Y_{ij}(1) \mid M_{ij} = 0]) - \exp(E[Y_{ij}(0) \mid M_{ij} = 0])$. "Donations" and "Donors" (all firms for line 1; public works firms for lines 2–4) are estimated mean values for candidates at the discontinuity.

Table 1 presents formal estimates of the results for the main sample and the three subsamples. The first column gives τ_{RD}, the local average treatment effect; the second column provides a bootstrapped 95 percent confidence interval for this estimate. The third column gives the estimated effect in *reais* by unlogging the treatment and control estimates of the outcome and taking their difference. To put these numbers in perspective, the fourth and fifth columns estimate mean corporate donations and mean number of donors for candidates at the discontinuity.[16] As suggested by the plots, there is no statistically significant effect of an electoral victory on government contracts for all of a candidate's corporate donors or for his/her public works donor firms. The same is true when restricting the sample to those candidates whose parties joined the PT's governing coalition.

Only when examining candidates from the PT itself do we find a statistically significant effect. For PT members, an electoral victory means that the candidate's public works donor firms can expect an additional R$ 147,000 in federal government contracts (US $78,400) over 33 months during the ensuing legislative term.[17] This figure amounts to R$ 89,600 per firm, or 8.5 times the total estimated public works donations to that candidate—broadly in line with the kickback rates offered for government contracts in the past. Total return on investment might well be higher over the full four-year term, though we obtain a cleaner estimate of the treatment effect by focusing on the period in which only these elected deputies, and not those from a previous or subsequent legislature, were able to influence federal government spending.

DISCUSSION

Evidence of the Causal Mechanism

We hypothesized that an electoral victory would lead to increased government contracts for a candidate's donor firms through several specific mechanisms: amendments to the budget bill that fund projects for which a donor firm is likely to be hired; increases in funding by budget committee members who have the power to adjust line items; advocating for the inclusion of funding in the executive's initial budget proposal, as well as the release of funds during the fiscal year; and finally, pressuring for the donor firm to actually be chosen for a particular contract by the relevant executive branch agency. If the causal effect of an electoral victory operates through these mechanisms, one would ideally find evidence of it among winning PT candidates whose public works donor firms received government contracts during 2008–2010.

Unfortunately, discovering a "smoking gun" is unlikely. Despite increases in transparency over the years, the budgeting and contracting processes remain fairly opaque, and details are difficult to decipher through written documentation. For example, if the bulk of a project's funding is proposed in the initial budget, with the crucial increase coming via an amendment, the final budget bill will only identify the executive's initial proposal as the source of the funds (Mognatti 2008). Linking specific deputies to collective rather than individual amendments presents a further difficulty. And many of the hypothesized sources of influence—trading favors with one's legislative peers, or pressuring the executive—are likely to leave no paper trail. Details of agreements in which politicians manipulate the budgeting or contracting process in exchange for cash payments or campaign donations are typically revealed only by law enforcement agencies or special congressional committees set up to investigate cases of corruption.

Nonetheless, examining PT deputies and their donor firms reveals some circumstantial evidence that would be consistent with the hypothesized causal mechanisms. Among PT candidates whose public works donors received contracts, the second closest electoral victory was that of José Genoíno, who won by only 1,252 votes out of the 98,729 that he received. Genoíno is a founding member of the PT, close confidant of President Lula, and longstanding deputy who served five consecutive terms from 1983 to 2003 and was elected president of the PT in 2002.[18] In 2005, he was implicated in the *mensalão* scandal—cash payments to allied deputies in order to vote with the PT—and forced to resign as party president. Given the enormity of this scandal, Genoíno faced a tough battle in his 2006 bid to return to the Chamber of Deputies. One could certainly imagine that he would be grateful to any corporate donors who contributed to this salvaging of his political career and that he would use his influence within the party—which remains substantial, despite his deteriorated public image—to repay their largesse.

Genoíno's sole public works donor in 2006 experienced a sharp jump in government contracts during the ensuing legislative term. Construtora OAS—one of Brazil's largest construction firms, with a long history of successfully working the government contracting system—was Genoíno's largest single donor, contributing R$ 100,000, or 13.5 percent of his overall funds.[19] The firm had received R$ 54.4 million in contracts from January 2004 to September 2006; during the equivalent period in 2008–2010, it took in R$ 238.5 million, a more than fourfold increase. Though we have no evidence personally implicating Genoíno in this payout, it certainly seems plausible that he contributed.

Several other examples are similarly suggestive. In 2006 Ricardo Berzoini, who replaced Genoíno as PT president in 2005 and served as campaign manager for Lula's successful reelection bid, found himself in a similar situation to that of his predecessor. Two weeks before the election, several PT figures were arrested in position of a large bag of cash, with which they intended to illegally purchase documents supposedly linking Lula's opponent to a corruption scheme. The plot backfired, and in the ensuing scandal Berzoini was forced to resign as Lula's campaign manager. Berzoini went on to be reelected—by a larger margin than Genoíno but certainly with fewer votes than he would have received had this scandal not tarnished his image just before the election. Construtora OAS was one of two public works firms contributing to Berzoini's campaign, and one can certainly imagine him, like Genoíno, using his influence within the party to pay back this political investment.

Other PT deputies whose donor firms received contracts held positions on influential committees dealing with economic development, or on the budget committee itself, during the relevant period. One prime example is Carlito Merss. Merss had served on the budget committee for four out of five years prior to the 2006 election and was general rapporteur in 2005, so he was a logical choice for potential campaign donors. Merss went on to serve as the budget committee's sectoral rapporteur for infrastructure in 2008, with the ability to adjust spending for specific projects in that area. Merss's five public works donor firms received twice as much in government contracts from 2008 to 2010 as they did from 2004 to 2006. One of the beneficiaries was Camargo Corrêa—like OAS, one of Brazil's largest construction and engineering firms.

Competitiveness of the Donations-for-Contracts Market

The fact that campaign donations to victorious PT candidates led to increased federal contracts for public works firms suggests that the governing party, like its predecessors, was willing to engage in "politics as usual" while in power. These findings—not to mention the numerous corruption scandals that engulfed the party while in office—clearly demonstrate that the PT broke its campaign promise of "clean politics." Yet the question remains as to whether the PT's turn at the helm disproportionately benefited the same insider firms that had most successfully played the donations-for-contracts game in the past. In playing dirty, did the PT also renege on its historical commitment to the little guy, or did it increase the competitiveness of political investment by allowing smaller, outsider firms to share in the spoils of victory?

While the specific examples cited above show that some insider firms clearly benefited from the PT's largesse, on average public works donors to the PT look less like insiders than those who donated to candidates from other major parties. Table 2 compares these donor firms on several covariates. Corporate donors to the PT are no older than those giving to other parties, and they spread their bets around only slightly less, with every third donor also giving to one of the other major parties. They are also similar in terms of the percentage that received government contracts from January 2004 to September 2006. However, the average amount of contracts that they received during this prior period is smaller. PT donors also tended to give less overall to candidates for federal deputy, both in 2006 and 2002. Hence, the average PT donor in 2006 appears to be a smaller firm that invests less of its money in political campaigns and has benefited less from government contracts.

TABLE 2

PUBLIC WORKS DONORS TO MAJOR PARTY CANDIDATES, 2006

	PT	PSDB	PMDB	PFL/DEM
Year opened	1989	1987	1990	1989
Major parties donated to	1.33	1.41	1.42	1.44
Any contracts, 2004–2006	0.28	0.25	0.30	0.24
Total contracts, 2004–2006	4,533,483	6,284,392	9,635,769	6,869,628
Total donations, 2006	68,118	90,514	124,864	120,224
Total donations, 2002	18,975	32,515	40,552	43,364
Same party donations, 2002	1,589	12,437	8,339	7,416

Note: Figures are averages for all donors giving to at least one candidate from the corresponding party. All contract and donation values are in 2006 *reais*.

One might be tempted to conclude that the PT historically received the support of the smaller firms whose interests it defended and that its longtime donors finally got their due once the party gained power. However, the final line of table 2 argues against this interpretation. The biggest disparity between 2006 donors to the PT and to other major parties is the amount they gave to that party's deputy candidates in 2002—an indicator of donor loyalty. Rather than loyal contributors waiting patiently for a payoff, the PT's public works donors in 2006 were opportunists who saw an opening in the donations-for-contracts market and seized the initiative. As members of a center-left party that historically received little support from corporate donors (Samuels 2001b) and was in the opposition until 2003, PT candidates were less likely than those from other major parties to have longstanding relationships with major public works firms. During the 2002 campaign a PT victory seemed likely, but potential donors could not be certain that the party, which campaigned on an anti-corruption platform, would make good on their investments. After the corruption scandals of Lula's first term, however, the PT's willingness to play politics as usual was no longer in doubt. Large insider firms like Construtora OAS were able to jump on this bandwagon by donating to PT candidates, but they were also obligated to maintain existing relationships with opposition parties. Smaller firms—more likely to have been shut out of the oligopolistic donations-for-contracts market in the past—could more heavily cast their lot with the PT in 2006.

While political investment appears to have become more competitive under the PT, this trend may ultimately prove to be short lived. We found no evidence that the PT government actively discriminated in favor of outsider public works firms. Estimating τ_{RD} via local linear regression for this subsample, with an interaction between the treatment and the log of prior contracts, yielded a significant coefficient for the main effect but not for the interaction term.[20] Rather, it appears that the PT treated its corporate donors equally; the increased competitiveness of the donations-for-contracts market is simply a byproduct of the fact that smaller firms with fewer previous government contracts were more prevalent among these donors.

Breaking into the circle of campaign donors who can buy government contracts may thus be a limited-time opportunity for smaller public works firms. As they benefit from the PT's largesse, filling their coffers and gaining experience working for the public sector, they join the ranks of insider firms that have dominated this system in the past. They also build the sort of ongoing relationships with PT politicians that firms had traditionally established with other parties. The PT's average public works donor in 2006 may be more of an outsider than firms donating to other parties, but the same will not necessarily be true in the future. Moreover, in the present landscape of Brazilian politics, there is no other party occupying the unique position of the PT prior to 2002: positioned to win a future presidential election, but having few established relationships with corporate donors. The Green Party had an unusually strong showing in the 2010 presidential election, finishing third with 19 percent of the first-round vote, but was still much further from a presidential victory than the PT during its years in the opposition.

CONCLUSION

Our analysis has shown that, by donating to congressional candidates who go on to win office, Brazilian public works firms can increase the value of government contracts that they receive during the subsequent legislative term. The extent of this boost in public sector business—at least 8.5 times the amount donated, and possibly more if one considers the full four-year term, beyond our 33-month window—is in line with the reported kickback rate that firms have offered politicians for contracts in the past. In this sense, our results confirm longstanding conventional wisdom in Brazil. To our knowledge, however, this study is the first to demonstrate that Brazil's donations-for-contracts game extends beyond the well-publicized incidents that have been uncovered by law enforcement inquiries and congressional investigatory commissions. For every firm and politician that get caught red-handed, there are many more whose collusion flies under the radar screen. Using campaign donations to purchase public works contracts has—unfortunately, but probably not surprisingly—become part and parcel of Brazilian democracy.

While confirming that the Brazilian government uses public works contracts as a currency to reward key campaign donors, our study challenges existing arguments that presidents disburse pork in order to maintain a fractious governing coalition. Rather than directing government contracts toward donors from allied parties—presumably as a form of payment for supporting the president's party on roll call votes—the PT government during Lula's second term favored donors to the party's own legislators. This strategy is consistent with arguments that the PT, more so than previous ruling parties, sought to centralize control over the machinery of government, maximize the benefits it distributed to its members, and reward allies with fixed side payments rather than a share of the spoils of office. By playing the donations-for-contracts game, the PT showed that it was willing to engage in Brazilian "politics as usual"—but also that it could change the rules of this game to fit with its intended governing strategy.

If public works firms get a return on investment only when helping elect PT candidates, why would they not shift their donations entirely to candidates from the party in power? Lula's reelection in 2006 was fairly predictable, so firms did not have to hedge their bets as much as in a truly competitive race. However, after only one term of his presidency, they may not yet have known whether donating to allied parties would yield a bigger payoff—as it presumably did in the past—or whether donating to PT candidates was the optimal strategy. It is also possible that donations to candidates from other parties yield a different sort of payoff, such as roll call votes on key legislation, that is under the direct control of each deputy and does not depend on bargaining with the executive. Even if they obtain no immediate benefits from their donations, however, the likelihood of repeat interactions between politicians and their donors means that firms are obligated to maintain existing relationships. Cutting off contributions to friendly opposition politicians is a shortsighted strategy, given that they might be back in the majority during a future presidential term or gain positions in state government with control over a different set of funds.

The importance of maintaining existing relationships helps explain why the PT's first-ever turn as a national governing party opened up new opportunities for smaller firms that had not traditionally been major players in the donations-for-contracts market. Major public works firms had long enjoyed friendly relations with politicians from the center-right parties that governed Brazil from 1985 to 2002, but they had eschewed donations to the PT, whose "clean government" rhetoric and left-wing ideology suggested it would be unwilling to reciprocate with government favors. Lula's first term as president dispelled all such notions that the party would remain above the fray. Since the PT had no history of cozy relationships with insider firms, the market for political investment was less oligopolistic in 2006. Major players were able to donate, and extract benefits, but smaller firms were also able to compete on more equal terms than in the past.

Our findings regarding public works firms and the PT government raise questions about how other ruling parties might respond to campaign donations and how firms in other industries might be repaid for their contributions. With the PT controlling the presidency at least until 2014, it will be some time before a national-level analysis can be conducted for another party.[21] However, we are currently investigating the possibility of replicating the analysis at the state level, focusing on those states governed by major parties other than the PT. We are also looking into the availability of suitable data on alternate forms of payback that might be sought by firms in other industries. Agricultural firms are major campaign donors and they receive few government contracts, but they depend heavily on credit issued through state-owned banks. Hence, their donations to victorious candidates might result in preferential access to financing.

Finally, our study contributes to the more general literature on campaign finance and its effects on public policy by demonstrating a clear instance in which contributions are a form of political investment. While studies of the United States have had difficulty demonstrating a clear link between corporate campaign donations and favorable legislation—and some have suggested that firms give money without any quid pro quo (Ansolabehere, de Figueiredo, and Snyder 2003)—our findings show that the different conditions in Brazil lead to different results. Brazil is similar to the United States in terms of the expense of its political campaigns and the likelihood of repeat interactions between politicians and donors, but it has fewer restrictions on corporate donations and a weaker rule of law. In other developing countries with similar conditions, corporate campaign donations may generate a substantial return on investment when they help elect candidates who can deliver favors for their donor firms.

ENDNOTES

[1] Brazil's currency, the *real* (plural *reais*), is abbreviated as R$ in the tables and certain points in the text.

[2] Claessens, Feijen, and Laeven (2008) also limit their analysis to firms listed on Brazil's stock exchange, the Bovespa, whose donations made up only 12 percent of all corporate campaign financing in 2002. In contrast, we consider all Brazilian firms who gave money to federal deputy candidates as long as they won or lost by a sufficiently small margin.

[3] Candidates are allocated free airtime for television advertising, but those running for federal deputy share the space with their list-mates and typically receive only a few seconds per day, so they also spend little on advertising production (Samuels 2001b).

[4] Anonymous, interviewed by Neal Richardson, Brasília, DF, March 2009.

[5] Some of these ties are personal. Construtora OAS, one of Brazil's largest construction firms, is controlled by the son-in-law of the late Antônio Carlos Magalhães, a notorious political boss from the PFL who was president of the Senate from 1997 to 2001.

[6] An alternative hypothesis might be derived from the major dissenting view on executive-legislative relations in Brazil. Limongi and Figueiredo (2007) argue that the correlation between roll call votes and pork-barrel spending is driven by partisan agreements and shared ideology rather than any quid pro quo between legislators and the executive. If executives simply give out pork for free, seeking to benefit members of their party or allied parties without any concern for how they vote, they might not give any preference to *elected* legislators. Rather, party-building concerns might lead them to pay back donors to both successful and unsuccessful candidates, such that an electoral victory would have no effect on government contracts.

[7] These data are available at http://www.tse.gov.br.

[8] These data were obtained from http://www.receita.fazenda.gov.br using each firm's tax identification number (CNPJ).

[9] This database can be found at http://www.transparencia.gov.br. Its data are drawn from the Integrated System of Federal Government Financial Administration (SIAFI), where all federal government financial transactions are initially recorded.

[10] We aggregated by the first 8 digits of firms' CNPJs, which are common across subsidiaries and parent companies, so as to pool firms that are part of the same corporate family. We did the same with firms' donations.

[11] Firms could list one main activity and multiple secondary activities, each with a separate code. We consider all of the activity codes when classifying them by sector;

hence, these categories are not mutually exclusive.

[12] Ties are broken by giving the older candidate the higher rank. Since this rule introduces imbalance in age among winners and losers, we drop candidates with a zero vote margin.

[13] When examining contracts for all firms, similarly insignificant effects are found among candidates from each of the major parties, including the PT.

[14] These are the PMDB, the Progressive Party (Partido Progressista, PP), the Green Party (Partido Verde, PV), the Brazilian Socialist Party (Partido Socialista Brasileiro, PSB), the Communist Party of Brazil (Partido Comunista do Brasil, PC do B), the Democratic Labor Party (Partido Democrático Trabalhista, PDT), and the PR (which ran as the Liberal Party [Partido Liberal, PL] and the National Order Reconstruction Party [Partido da Reedificação da Ordem Nacional, PRONA] in the 2006 election).

[15] We also separately examined the results for candidates from the largest allied party, the PMDB, and for those from the two largest opposition parties, the Brazilian Social Democracy Party (Partido da Social Democracia Brasileira, PSDB) and the Democrats/Liberal Front Party (Democratas/Partido da Frente Liberal, DEM/PFL). In each case we found no significant effects of an electoral victory on government contracts for a candidate's public works donors.

[16] These were calculated by fitting separate LOWESS curves for winners and losers, with logged donations or number of donors as the dependent variable, and then taking the mean of the separate unlogged estimates for treatment and control candidates at the discontinuity.

[17] The US dollar figure was calculated using the average of daily exchange rates from January 2008 to September 2010.

[18] Genoíno ran unsuccessfully for governor of São Paulo in 2002 and was thus not reelected as deputy in that year.

[19] This ranking of donors does not count transfers of party funds, which constituted the bulk of Genoíno's R$ 742,000 war chest.

[20] We used a bandwidth of 30,000 inflated votes, the window around the discontinuity in which, judging by the plot in the lower right panel of figure 3, the relationship between inflated votes and the outcome is approximately linear.

[21] Nor is it feasible to use historical data for this purpose. The Transparência database only covers contracts starting in 2004. Moreover, campaign donor data from the 1990s lack the tax identification numbers that we used to match firms' donations to their subsequent government contracts.

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