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Do Campaign Contribution Limits Curb the Influence of Money in Politics?*

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Abstract

Over 40% of countries around the world have adopted limits on campaign contributions to curb the influence of money in politics. Yet, we have limited knowledge on whether and how these limits achieve this goal. With a regression discontinuity design that uses institutional rules on contribution limits in Colombian municipalities, we show that looser limits increase the number and value of public contracts assigned to the winning candidate's donors. The evidence suggests that this is explained by looser limits concentrating influence over the elected candidate among top donors and not by a reduction in electoral competition or changes in who runs for office. We further show that looser limits worsen the performance of donor-managed contracts: they are more likely to run over costs and require time extensions. Overall, this paper demonstrates a direct link between campaign contribution limits, donor kickbacks, and worse government contract performance.

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Over 40% of countries around the world have already adopted laws limiting campaign contributions as a way of curbing the influence of money in politics (IDEA 2014).¹ On the one hand, limits on political donations might prevent policies that favor moneyed interests in the allocation of government resources. On the other hand, campaign contribution limits can be considered as impediments to the free expression of preferences and obstacles to the flow of information voters receive via reduced campaign spending.² Despite the popularity of campaign contribution limits, their widespread use, and reasonable arguments in favor and against them, empirical assessments of their impacts, as well as an understanding of the underlying mechanisms behind those effects, remains limited.

We study the effect of campaign contribution limits on donor behavior during the 2011 Colombian mayoral elections, the subsequent assignment of public contracts after the elections, and importantly, the performance of those contracts. By tracing the impact of the policy all the way to government contract performance we provide new evidence on how campaign contribution limits could curb the influence of money in politics, leading to greater government efficiency.

We first establish that a strong bias exists in public spending in favor of donors of the winning candidate. Following Boas, Hidalgo and Richardson (2014), a close elections regression discontinuity approach shows that the winning candidate's donor receives on average 3.3 contracts more than a donor of the runner up, a threefold increase in the average number of contracts that donors of the two top candidates receive. When we focus on contracts that are assigned under a contractual category that gives mayors more discretion in selecting

¹See also Scarrow (2007) for a review on political finance across the world.

²See U.S. Supreme Court decision *Citizens United vs Federal Elections Commission*, 558 US 310 2010 for a discussion of how campaign contribution limits may inhibit the free of speech.

contract recipients and that have less oversight, the *minimum value* category,³ we find that the mayor's donors' contracts are 28% larger in value than that of those managed by bare loser campaign's donors.

Next, we ask if campaign limits can curb the benefits received by the winning candidate's donors. Studying this question empirically is challenging as campaign finance regulations might be influenced by the public's perceptions of corruption and the actual pressures of private interests on policy makers. Moreover, it is difficult to account for all the historical, cultural, and contextual factors that determine both restrictions on campaign finance and corrupt behavior. We take advantage of the fact that in Colombia campaign contribution limits in mayoral races vary according to arbitrary thresholds on the number of registered voters. Using a regression discontinuity design, we find that loosening restrictions on the total amount of contributions to campaigns from 58 to 110 million pesos (17000 to 32000 U.S. dollars approx) leads to, on average, 3.3 more public contracts for a mayor's donor. Moreover, if the contracts given to these donors belong to the minimum value category, their values are 66% larger in municipalities with less restrictive limits.

We proceed to explore the theoretical mechanisms behind why mayors' donors are favored to a larger extent in municipalities with looser campaign limits. We argue that less restrictive limits increase the influence of wealthy donors on the elected official, because they are able to contribute a larger share of total campaign revenues. If more campaign resources come from particular donors, elected officials would feel more pressure to reciprocate these contributions. Consistent with these ideas, we find that donations concentrate among top donors under looser limits. A top donor contributes 13 percentage points more of the campaign total revenue under looser limits than what a top donor gives under tight limits, while the non-top donors donations are unaffected by limit changes.

³Contracts under the minimum value category are below 10% of the municipality budget, can be advertised for only one day, and they are automatically assigned to the lowest bidder.

We also test and rule out three alternative explanations for why the mayors' donors receive more benefits with looser contribution limits. The first is that higher limits make elections less competitive (Stratmann, J and Aparicio-Castillo 2006), which reduces the incumbent's incentives to prioritize the general interest over her donors'. We do not find any evidence that electoral competition differs by treatment. The second is that looser limits could attract candidates who are prone to favor private interests. We show, however, that elected mayors in municipalities with higher limits are not systematically different in terms of their previous participation in political campaigns, experience in elected office, or history of sanctions than those in municipalities with lower limits. Finally, we carry out a number of checks that suggest our findings are not driven by more severe underreporting of donors and donations in municipalities with more limited contributions.

The final analysis in the paper considers downstream impacts of looser campaign limits on the quality of government functioning as measured by the performance of public contracts assigned to donors. This is a key advance on existing work because it sheds light on the efficiency loss versus information loss debate: On the one hand, favoring certain donors outside of merit can negatively affect contract execution. On the other hand, fewer restrictions could improve the flow of information via donations that helps voters to elect those candidates who know how to best allocate public resources.⁴ Challenging the latter view, we show that contracts given to donors in higher limit municipalities are 7.4 percentage points more likely to run over costs, and that the increase in such over costs relative to the

⁴Coate (2004), for example, shows that policies can be closer to the median voter's ideal policy without restrictions on campaign contributions even with donors who favor extreme policies. The trade-off between informational gains of campaign spending and costs associated to private interests' campaign financing is also formally studied by Prat (2002) and Ashworth (2006). For models of contributors' influence without a quid pro quo see Fox and Rothenberg (2011) and Kenkel (2019).

ones observed in low limit municipalities is a sizeable 92.3 percent.

The Colombian case is particularly well suited to study how campaign finance regulations affect donors' influence over elected officials. Besides the fact that the exogenous variation in limits created by the institutional rules help us to address clear identification challenges, a national ID number allows us to link public contracts to individual donors-recipients. This helps us to circumvent some empirical challenges faced by roll-call based analyses that are common in the literature on the influence of money in politics. For example, while in our case it is clear who the recipient of a contract is, legislative changes affect a large group of beneficiaries making difficult to establish whether a legislator's support for such changes was aimed at benefiting her donors. Moreover, donors' influence might manifest at early but less observable stages of the legislative process ([Powell 2012](#); [Powell and Grimmer 2016](#)); and voting on bills on industrial policy, regulation, or taxation at a federal level is more ideologically charged than most municipality government purchases, which increases the biases in roll-call analysis generated by shared ideologies between donors and candidates ([Boas, Hidalgo and Richardson 2014](#); [Fox and Rothenberg 2011](#)).

Our focus on private interests' influence on local governments of a developing democracy contributes more generally to a literature that, for the most part, has focused on national legislation in industrialized settings ([Anzia 2019](#)). The Colombian mayoral race context differs significantly from the well studied federal legislative elections setting in the U.S. As we will show below, in Colombia, donors to mayoral campaigns are typically local business owners seeking to gain preferential treatment in public procurement assignment rather than corporations wanting to influence legislation ([Bonica 2014, 2016](#)), or groups of individuals contributing small amounts to express their political views ([Ansolabehere, De Figueiredo and Snyder 2003](#)). The party system is also highly fragmented and ideological polarization and party identification are low. Given these characteristics, our findings are more directly relevant to the developing democracies where limits on campaign contributions are being

considered or are already in effect, and on whom existing evidence is particularly thin.

Our paper is related to a large, mostly US-focused, literature that estimates effects of contributions on legislators' behavior. In a review of these studies [Ansolabehere, De Figueiredo and Snyder \(2003\)](#) finds that this work is unable to clearly establish quid pro quo exchanges between politicians and donors.⁵ More recent work that addresses some of the methodological challenges in this literature has shown that donors target legislators who are most useful to them in a matter consistent with access-seeking donations ([Powell 2012](#); [Barber 2016](#); [Fournaies and Hall 2014](#); [Powell and Grimmer 2016](#); [Kalla and Broockman 2016](#); [Li 2018](#)) and to influence indirectly legislative procedure ([Fournaies and Hall 2018](#)).⁶ Particularly close to our work is [Boas, Hidalgo and Richardson \(2014\)](#) who find substantial favoritism towards donors of federal deputies in the assignment of government contracts in Brazil. Although our findings are consistent with donor money influencing elected officials, our main contribution to this literature is to provide evidence of campaign contribution limits curbing influence that is directly observed in the data.

A number of studies have also investigated the role of campaign finance regulations as determinants of a several election related outcomes. This work has shown how restrictions on campaign contributions and spending impact electoral results and competitiveness ([Stratmann, J and Aparicio-Castillo 2006](#); [Hall 2016](#); [Avis et al. 2017](#); [Fournaies 2018](#)), po-

⁵[Stratmann \(2005\)](#) finds evidence of influence of money on legislators behavior in a meta analysis using the same sample of papers, but he points out that methodological challenges faced by the surveyed work do not allow definitive conclusions. Using better research designs, [Fowler, Garro and Spenkuch \(2020\)](#) still do not find clear evidence of Quid Pro Quos when focusing on U.S. senate races and corporate donations.

⁶There is also evidence supporting an investment rationality behind campaign contributions as opposed to consumption or expressive motivations (e.g. [Gordon, Hafer and Landa 2007](#)).

larization (Barber 2015), party systems (Potter and Tavits 2015), political efficacy (Primo and Milyo 2006), future career choices of legislators (Weschle 2019), interest groups electioneering activities (Hogan 2005), and rates of contesting (Hamm and Hogan 2008) and reelection (La Raja and Schaffner 2014). A few papers have also explored the relationship between campaign finance regulations and corruption. Baltrunaite (2019) investigates how donors are advantaged in the bidding process of public contracts and estimates the effects of a ban on corporate contributions on contract assignments in Lithuania. Fazekas and Cingolani (2017) and Hummel, Gerring and Burt (2019) focus on how campaign finance regulation and campaign state funding are linked to measures of corruption in comparative cross-country analyses. Our RD design and the ability to directly link donors to contracts allows us to estimate the causal effect of campaign finance regulation on the actual biases favoring donors in contract assignment. Importantly, unlike previous work, we propose a theoretical mechanism that accounts for the increased influence of particular donors when the campaign limits are looser. We also assess alternative explanations, and evaluate the effects of such restrictions on the quality of donor managed contracts.

Colombian Electoral Context and Campaign Financing Institutions

Mayors in Colombia are powerful figures in their municipalities having discretion over an average of 26% of all local spending.⁷ Because they are in charge of executing the municipality budget, they have plenty of opportunities to repay donors. Most public goods and services in a municipality are provided through third parties who contract with the mu-

⁷Period 2004-2007. The discretionary resources mostly comes from property tax revenues. Transfers from the central government tend to be tied to specific expenses.

nicipal government. There are three types of contracts: open-bid contracts, contracts with non-bid process and waivers, and minimum value contracts that cover those under 10% of the municipality budget. The first category offers the most difficulty to a mayor who wants to reciprocate a donor. This is because with open bid contracts there is a call for proposals that is advertised online for 5 to 10 working days, and a committee needs to evaluate the submissions. In the second category, the mayor must provide official justification for the waivers and there is only a limited set of economic activities for which the category applies.⁸ In contrast, contracts given under the minimum value category only need to be advertised for one day and are automatically given to the lowest bidder, which precludes a proposal evaluation by a separate committee.

Uninformative party labels, frequent party switching by candidates, and the nature of policy making at the local level all make it difficult for contributions in mayoral campaigns to be driven by ideological or partisan considerations. At the municipality level, the nature of policy-making limits the role of ideology during mayoral campaign races. Even at the national level certain historical developments have maintained ideologically uninformative party labels. The National Front is perhaps an early example of this: between 1958 to 1974 liberals and conservatives agreed to alternate the presidency. This agreement encouraged intra-party competition and blurred the ideological differences between the dominant parties. A permissive electoral system in the 1990s also contributed to the weakening of the party system ([Pachón and Shugart 2010](#); [Shugart, Moreno and Fajardo 2007](#)). Not surprisingly,

⁸The direct contract category applies to: 1. The acquisition or supply of goods and services of uniform technical characteristics and common use by entities; 2. Contracting in which the tender process has been declared abandoned; 3. Contracts for the provision of health services; 4. Goods produced by or intended for agricultural purposes, offered on legally constituted product exchanges; 5. The contracting of goods and services required for defence and national security; and 6. Disposal of assets.

only 25% of Colombians identified with a political party in 2011 ([LAPOP 2011](#)).

Mayors have incentives not to renege on agreements made with their donors. Although mayors cannot be reelected in consecutive terms, most of them continue their career in politics.⁹ Of all mayors in 1988, for example, 62% had participated in other elections after their term ended. One reason to favor current donors therefore is to maintain a flow of resources in future campaigns. Mayors can also ask for a slice of the contracts, called a *mordida* (a bite). That is, the recipient of the contract has to give back a fraction of the value of the contract to the politician as payment. A famous example among Colombians is the one of former mayor of Bogotá (the capital), Samuel Moreno, who was sentenced to 18 years in prison for receiving 2,790 millions of pesos—14 times his annual salary—from a recipient of a contract assigned by the local government.

In line with the idea of non-ideological contributions, we see that most of the donors who donate to several candidates do so to candidates of different parties (76.1%). However, there are very few donors who donate to more than one candidate, only 138 out of 6658 donors. These donors do not appear to be citizens expressing their preferences with small donations as in the U.S. case ([Ansolabehere, De Figueiredo and Snyder 2003](#)), as 75.33% of them give a contribution that is larger than the average monthly wage in the municipality. The fact that the donors are not contributing to races outside the municipality, and are giving large donations, is consistent with the general perception that donors to mayoral campaigns are local business owners who could benefit from contracts with the local government.

Anecdotal evidence suggest that investing in a mayor's campaign can be highly profitable. For example, take the case of the mayor of Amalfi in 2011. One of his donors contributed 3000 dollars to the mayor's campaign, equivalent to 22% of the campaign revenue. Later, during the mayor's term, the donor signed 86 contracts with the municipality worth more than half a million dollars. Of these contracts, only five were awarded via

⁹There is no limit on the number of times someone can be a mayor of a municipality.

competitive tender. Such stories find some support in the data. The average donor in the sample receives contracts that are 45 times larger than their contribution. Even if we focus on minimum value contracts, the value of such contracts received by a donor is on average 8 times larger than their contribution. Below, we examine systematically whether donors of the mayor campaign are being favored in contract assignment.

Colombian law establishes limits for total campaign contributions that are set equal to a limit on campaign expenses. The National Electoral Commission sets the campaign limits on the basis of the number of registered voters in the municipality.¹⁰ These limits jump discontinuously at arbitrary cut-offs of registered voters in a municipality. For example, at 25,000 registered voters, the campaign contribution limit increases from 58 to 110 M COP.¹¹ In addition, individual donors cannot give more than 10% of the total campaign contribution limit.¹² Campaign contribution limits are announced months before the candidate registration date and violations of these limits can be punished with removal from office, loss of state funding, and dissolution of the political organization.¹³ Importantly for our research design, the voter registration thresholds that determine the contribution limits do not impact other policies. This allows us to avoid the estimation of a compounded treatment ([Grembi et al. 2018](#)).

¹⁰See National Electoral Commission Norm (*Resolución*) 78 de 2011.

¹¹Subsequently at 50,000 registered voters the limit jumps to 330M COP; at 100,000 registered voters the limit jumps to 659M COP; at 250,000 the limit jumps to 745M COP; at 500,000 the limit jumps to 1,318M COP. For the capital city of Bogotá, the limit is 1,646M COP.

¹²See Article 23 of Law 1475 of 2011.

¹³For more details see Articles 10, 11 and 12 of Law 1475 of 2011 and *Acto Legislativo* No, 01 de 2009.

Data

We use electoral data compiled by [Pachón and Sánchez \(2014\)](#), gathered from the Colombian national electoral authority, the *Registraduría Nacional del Estado Civil*. These data contain the results for the 2011 mayoral elections for all municipalities.

The campaign funding data is posted online by the National Electoral Commission (*Concejo Nacional Electoral*). Electronic campaign finance reporting is mandatory by law since 2009 to every candidate who runs for office.¹⁴ The National Electoral Commission fines candidates or parties that do not comply with the reporting requirements. As a result compliance is fairly high: out of 4,460 mayoral candidates in 2011, 89% reported campaign information. In these data, we observe individual donations for each candidate.

We also compile detailed data on contracting from *Datos Abiertos*, an online portal that was created to increase transparency in public procurement. The data contains the universe of public procurement data including information on contracting in-charge, the contractor (and their unique national ID), the contractual category, and the contract's economic sector, its value, purpose, and length. We also know whether the contract was completed, and/or overran in terms of costs.

We match the unique ID of each donor to the ID of the contractors assigned in the same municipality that the candidate ran in, which creates a *direct link* between the donor and a beneficiary from government resources. In Colombia, two types of legal entities can contract with the state: individuals and companies. When an individual gives a donation and his/her company receives a contract, we can link them uniquely since the same number is used for the person and their company. The only link that cannot be made is between individuals and public companies or companies with multiple owners: it could be the case that one of the owners gives a donation and then the company, which is identified with a

¹⁴Norm 1094 of 2009.

different owner's ID, receives the contract. Contracts assigned to multiple-owner companies, however, represent only 9.9% of all contracts and are concentrated in large cities that are not included in our sample because they are not close to the threshold used in our RD design.

In terms of politicians' characteristics, we have access to the entire history of disciplinary sanctions for those who held elected office and whether candidates had illegally registered to vote in the past.¹⁵ This last variable can serve as a proxy for non-elected politicians' proclivity for malfeasance. We also use have data on gender, age, and race.¹⁶

The Returns From Donating to a Winning Candidate

We begin our analysis by documenting that donors who contribute to winning candidates get more contracts. This is consistent with mayors exerting favoritism towards their donors in the assignment of public contracts.

The empirical exercise compares contracts received by donors of the winning candidate to contracts received by the donors of the runner up. A difficulty when interpreting these comparisons is that winning candidates might differ from losing candidates in ways that make them more likely to assign contracts to its donors. For example, winners might have unobserved attributes that help them attract donations from many more individuals

¹⁵Disciplinary sanctions can happen for a variety of reasons, including not replying to a formal information request by citizens, running for office without satisfying legal requirements, or violating contracting regulations. Illegal voting registration covers impersonating a dead person's vote, registering to vote in a municipality where she does not reside, or voting while underage.

¹⁶The data comes from politicians' pictures on the ballots and a facial detection algorithm. Comparison of the self-reported gender to the predicted gender gave us an error of less than 3%, validating the algorithm results.

increasing the likelihood that some of them end up receiving a contract from a municipality by pure chance. Moreover, donors who are competitive in tendering processes because of their business acumen, for example, might also be the best at identifying the most qualified candidate. To circumvent these problems, we follow [Boas, Hidalgo and Richardson \(2014\)](#) by using a close election regression discontinuity design that compares the contracts received by donors of a candidate who barely wins with donors of the candidate who barely loses.¹⁷

The main identification assumption is that candidates who barely win the election are similar in all characteristics that would affect contract assignment to those who barely lose. Table [A1](#) in Appendix [B](#) confirms that at least in terms of observables, these candidates are similar. In particular, there are no significant differences in their political experience (measured in the number of elections they have participated in), whether they have held a mayoral office in the past, ideology, or campaign size. We also do not find significant differences in the number of donors or the weight of donations in their campaign revenues. This is important, as it is possible that even in narrow margins, winners could be attracting more funds because they are perceived to be better able to allocate public resources.

In Table [A2](#) in Appendix [B](#), we also verify that donors of the bare winners and losers are similar in a number of observable characteristics. We find no evidence of discontinuities at the close elections margin on whether the donor is registered in the chamber of commerce or is registered as a company. Donors of the bare winner are not significantly more likely to be producers (as opposed to service providers), and, when they are companies, they have similar ages of those donating to the bare loser.

¹⁷An alternative strategy would be to compare the benefits received by donors of the winner candidate with the benefits received by non-donors. It is even more difficult to reach clear conclusions with such comparison as donors might have characteristics that favors them in a competitive tendering process like a better knowledge of the public sector.

Result: Winners’ Donors Receive More Contracts

Table 1: Effect of donating to a winner on contracts assignment

Dependent variable:	# Contracts (1)	ln(Value+1) (2)	# Min. Value contracts (3)	ln(Min. Value+1) (4)
Victory <i>(Conventional)</i>	3.045** (1.265)	0.239 (0.203)	1.803* (0.941)	0.281** (0.131)
Victory <i>(Robust)</i>	3.294** (1.499)	0.209 (0.232)	2.009* (1.152)	0.284* (0.153)
Observations	1514	1182	1420	1256
Mean	0.931	0.346	0.462	0.182
Effect Mean(Per)	353.81	60.40	435.28	155.49
Bandwidth	0.126	0.088	0.115	0.098

Robust standard errors clustered at the municipality level and optimal bandwidth by [Calonico, Cattaneo and Titiunik \(2014\)](#). Regressions at the municipality-candidate level. Observations denote number of observations in bandwidth. *** p<0.01, ** p<0.05, * p<0.1.

The first model in Table 1 shows that the donors of a winning candidate receive on average 3.3 more contracts from the elected mayor than those received by the donors of the runner up.¹⁸ This effect is statistically significant and represents a threefold increase in the average number of contracts that donors of the two top candidates receive. The second column shows the effect on the total value of the contracts received by donors. Although the coefficient on electoral victory is positive, it is not significant. However, once we focus on minimum value contracts in columns 3 and 4—the type of contracts that offer more room for the mayor to reciprocate donors and less oversight—we see that the winner’s donors receive more and larger contracts under the minimum value category than those who contributed to the runner-up’s campaign. The value of all the minimum value contracts given to the mayor’s donors is 28% larger than that of the contracts received by the donors of the mayor’s

¹⁸Below we show there is no significant effect of looser limits on the number of donors.

closest rival.¹⁹

Effects of Looser Contribution Limits

The previous evidence is consistent with favoritism towards the election winner’s donors in public procurement. We now evaluate if campaign limits can be effective at curbing the influence of money in politics. We show that when campaign limits are looser, donations increase on average and donors are more likely to receive government contracts.

A challenge we face when studying the effects of restrictions on campaign contributions on the value and number of donor-managed contracts is that these outcomes could be explained by other municipality characteristics linked to campaign dynamics and regulations. For example, larger municipalities—those with less restrictive limits—have larger budgets, which could facilitate elected officials favoring donors. Larger municipalities also have more dynamic and diversified economies, which again, can simultaneously increase the number and value of contracts that the local government requires as well as the number of people willing to donate to a campaign.

To address these challenges, we employ a quasi-experimental regression discontinuity design that uses arbitrary campaign limits set by Colombian institutions. Our main explanatory variable takes the value of 1 if the municipality is at or over the 25,000 registered voters and 0 if it is not. Therefore, moving from control to treatment implies that the municipality has *looser* campaign contribution limits.²⁰

¹⁹Appendix A shows that these results are robust to changes in the choice of bandwidth.

²⁰We focus on the 25,000 cutoff because of two reasons. First, there are only 14 observations within 5000 registered voters of the other three cutoffs. This means that we are statistically limited in making claims on these other thresholds. Second, the magnitude of the difference in limits changes at each cutoff, which makes the interpretation of treatment

The main identification assumption is that the assignment of the treatment is the only change affecting contract assignment and donations that occurs at the threshold of 25,000 registered voters (de la Cuesta and Imai 2016). If there is no manipulation of the registered voters around the campaign limit cut-off, and if there are no other determinants of the outcomes that vary discontinuously at the cut-off, the RDD allows us to estimate the causal effect of looser campaign limits in those municipalities with a number of registered voters near 25,000. In order to account for the trade-off between efficiency and bias in the selection of the bandwidth, we employ the optimal bandwidth, bias correction, and robust standard errors proposed by Calonico, Cattaneo and Titiunik (2014).²¹ We also report conventional estimates for all results.

We carry out a number of checks to test the validity of the research design. One concern is that candidates or some donors might influence the count of registered voters to manipulate the campaign contribution limit in their municipalities. Under such manipulation the final count could be artificially inflated to allow some donors to give larger contributions in municipalities whose number of registered voters is closely below the 25,000 threshold. To test if this concern is important in practice, we carry out the discontinuity in density test proposed by Cattaneo, Jansson and Ma (2019) and find no evidence of a higher concentration of municipalities with registered voters right above the cutoff (see Figure A6 Appendix A).

In addition, we check if predetermined characteristics of municipalities such as population, discretionary income, total number of contracts assigned by the mayors, and mayor's wages, are smooth at the cut-off. If we were to find significant discontinuous jumps on these characteristics at the cut off, it would be difficult to interpret our baseline estimates as causal effects. Reassuringly, as Appendix B Table A3 shows, we find no significant effect of looser

effects harder.

²¹Evidence by Hyytinen et al. (2017) shows that this type of bias correction produces RDD results that are similar to experimental estimates.

limits on these characteristics.

It is also the case that candidates running in municipalities with registered voters just below the 25,000 cutoff are similar to those running in municipalities just above this cutoff with respect to gender, race, age, ideological orientation, elected office experience, experience running a political campaign, and history of sanctions.

Result: Looser Limits Increase Donations and the Number and Value of Donor Managed Contracts

We first verify that the campaign contribution limits are affecting the levels of donations in winning campaigns. If that was not the case, it would be hard to argue that the effects of limits on public contracts reported below are a response to changes in donors' behavior.

In our sample, 47.38% of donors who contribute at the tighter limit (to the left of the 25000 voters cutoff) do so to the winner's campaign.²² Such donors might want to donate more, but the limit is preventing them from doing so. This suggests that an increase in the limit has the potential to raise the levels of donations received by the leading candidate. Note that even if the tighter limit does not bind for some donors, competitive pressures could push them to increase their donations if they expect others to raise contributions when limits are loosened. This could happen, for example, if the most coveted contracts are going to the more generous donors. Consistent with the expectation of larger donations brought about by looser limits, Table 2 shows that a municipality with higher limits (close to the 25,000 registered voters) has an average contribution to the mayor's campaign that is 116.7% larger than one with tighter contribution restrictions.²³

²²This number is computed for a sample of municipalities that are within 5000 registered voters to the left of the cut off that determines changes in limits. The 5000 is chosen as it is close to the computed optimal bandwidth in the regressions that follow.

²³The online Appendix A shows that results are robust to bandwidths ranging from half

Table 2: Effect of a higher campaign contribution limit on average donations

Dependent variable: $\ln(\text{Avg. Donation}+1)$	
Higher limits <i>(Conventional)</i>	1.134*** (0.316)
Higher limits <i>(Robust)</i>	1.167*** (0.383)
Observations	78
Mean	0.716
Effect mean(Per)	143.37
Bandwidth	4570.223

Robust standard errors and optimal bandwidth by [Calonico, Cattaneo and Titiunik \(2014\)](#). Regression at the municipality level. Observations denote observations in bandwidth. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

In addition to increasing the average donation to the election winner, looser limits also increase the benefits received by the winning candidate’s donors via public contracts. The first model of Table 3 indicates that a donor contributing to the mayor’s campaign in a municipality with higher limits receives 3.4 more contracts than one who did so in a municipality with more restrictive limits. Model 2 shows that the size of the contracts received by a donor in a higher limit municipality is also larger than that of a donor in a municipality with lower limits, but the coefficient is not statistically significant. Once we focus on the contracts over which the mayor has more discretion, the minimum value contracts, we see that coefficient on higher limits in both the number and size of the contracts models are positive and more precisely estimated. A mayor’s donor receives 2.2 more minimum value contracts and these contracts are 66% more valuable in looser limit municipalities.

to twice as large as the optimal bandwidth.

Table 3: Effect of a higher campaign contribution limit on contracts assigned to donors

Dependent variable:	# Contracts (1)	ln(Value+1) (2)	# Min. Value contracts (3)	ln(Min. Value+1) (4)
Higher limit (<i>Conventional</i>)	3.091*** (1.170)	0.819 (0.531)	2.030** (0.817)	0.638** (0.284)
Higher limit (<i>Robust</i>)	3.364** (1.342)	0.793 (0.666)	2.253** (0.994)	0.667* (0.355)
Observations	457	366	366	341
Mean	0.280	0.205	0.210	0.101
Effect Mean(Per)	1201.43	386.83	1072.86	660.40
Bandwidth	6979.773	5312.321	5292.418	5190.197

Robust standard errors clustered at the municipality level and optimal bandwidth by [Calonico, Cattaneo and Titiunik \(2014\)](#). Regressions at the donor level. Observations denote observations in bandwidth. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

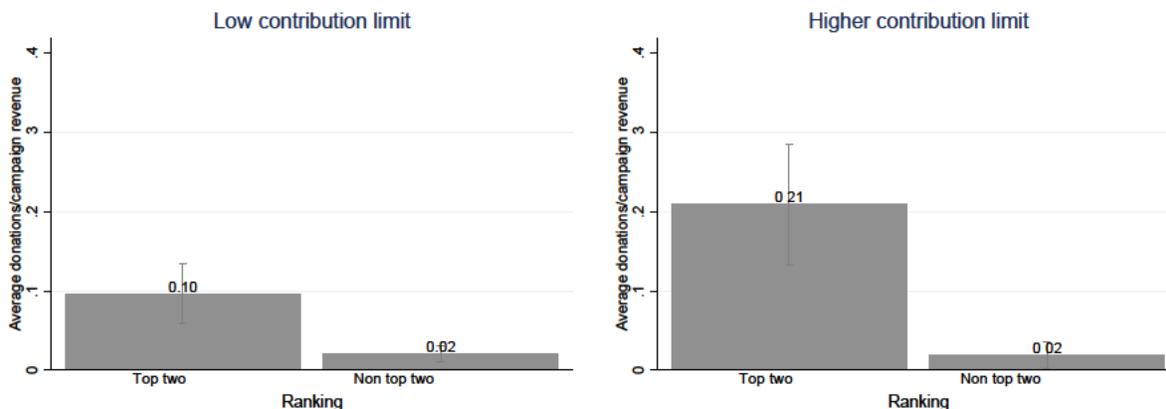
Mechanism: Looser Limits Increase the Influence of Top Donors

We have seen that donors of mayoral elections' winners receive more benefits in the form of public contracts where contribution limits are higher. We now show that this is a consequence of higher contribution limits increasing the individual influence of the wealthiest donors over elected officials.

We argue that wealthier donors have more influence over elected officials in higher limit municipalities because they can contribute at a level that cannot be matched by other more cash-constrained donors. By raising their contributions, the wealthier donors increase their chances of getting a reward from an elected candidate. This is because a candidate who receives a larger fraction of her campaign revenue from a donor feels more pressure to reciprocate. Moreover, when a candidate who wants to reciprocate a donor faces a limited budget, she is forced to prioritize the assignment of rewards to the more generous ones. While in municipalities with low limits wealthier donors and other less wealthy donors donate at more similar (lower) levels, with higher limits wealthier donors compete among each other to obtain benefits from the mayor giving much more and increasing the weight of their

contributions in the winning candidate’s campaign revenues.

Figure 1: Donors’ contributions to campaigns across limits cut-off



Averages are taken first across donors in each group (top-two or non top-two) and then across municipalities. 95% confidence intervals.

If higher contribution limits increase the influence of the most generous donors over the mayor in this way, we should see a larger difference between what the top and non-top donors contribute to the mayor’s campaign in municipalities with looser limits. Figure 1 shows that this is the case. In looser limit municipalities, the average individual contribution among the top two donors as a fraction of total campaign resources is 19 percentage points larger than the average contribution of a non-top donor. In low contribution limit municipalities, on the other hand, this difference is only 8 percentage points.²⁴

Table 4 gives consistent evidence using the RD estimation framework. As Columns 1 and 2 show, the effect of a higher contribution limit on the average contributions of a top donor (as a fraction of total campaign revenues) is 12.4 percentage points, while the effect of higher limits on the contribution of a non-top donor (as a fraction of total campaign revenues) is a negative and statistically insignificant 0.2 percentage points. Columns 3 and 4 report

²⁴For these figures, we have taken municipalities that are within 5000 registered voters of the cut off that determines the change in contribution limits. This bandwidth is close to the optimal one used in baseline RD estimates.

the effects on the levels of donations. The top donors' average contribution increases by a 124.3% with looser limits while the average non-top donors' contribution remains constant.

For these results we have counted the *two* most generous donors as top donors. We do this because the distribution of donations in the data show that the top two donors give significantly more than the rest.²⁵ The results, however, are similar to those reported here if instead we compare what the most generous donor gives (as share of campaign revenues) with donations from the rest of donors, or if we compare the average contribution of the top 3 with that of the rest (see Table A4 in Appendix B).

Table 4: Effect of a higher contribution limit on campaign revenues (top and non-top donors)

Dependent variable:	Share	Share	ln(Avg. Donation+1)	ln(Avg. Donation+1)
	top (1)	non-top (2)	top (3)	non-top (4)
Higher limit (<i>Conventional</i>)	0.135** (0.056)	-0.001 (0.011)	1.190*** (0.331)	0.009 (0.131)
Higher limit (<i>Robust</i>)	0.131* (0.068)	-0.002 (0.013)	1.243*** (0.397)	0.002 (0.171)
Observations	133	79	76	69
Mean	0.091	0.012	0.824	0.24
Effect Mean(Per)	143.96	-16.67	150.85	0.83
Bandwidth	7106.457	4786.773	4527.716	4121.07

Robust standard errors and optimal bandwidth by [Calonico, Cattaneo and Titiunik \(2014\)](#). Regressions at the municipality level. Observations denote observations in bandwidth. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

To further examine our proposed theoretical mechanism, we estimate heterogeneous effects of higher limits on contracts received by top and non-top donors. If higher limits increase the influence of top donors over the mayors, the effects of higher limits on the contracts they receive should be stronger for them than for donors that contribute a smaller share of total donations. Importantly, since top donors and non-top donors might differ in characteristics that affect their ability to receive contracts, the interaction term between a

²⁵See Figure A7 in Appendix.

top donor indicator and the higher limit treatment might be endogenous at the cutoff in our regressions. To account for this source of bias, we take a selection on observables approach as proposed by [Gerardino, Litschig and Pomeranz \(2017\)](#) in which we use propensity scores to give more weight in the estimation to observations where top donors and non top donors are similar in terms of observed characteristics.²⁶ The results are presented in [Table A6](#) in [Appendix B](#). As expected, the results show that the effect of higher limits on the value of all contracts and the number and value of minimum value contracts for top donors is positive and significantly larger than the effect of higher limits on the number and size of non-top donors' contracts.

There are alternative explanations for the increased rewards to donors via contracts in municipalities with less restrictive limits that do not rely on changes in the distribution of donations. It is possible that larger rewards to donors in looser limit municipalities may be the consequence of changes in the nature of the electoral competition ([Stratmann, J and Aparicio-Castillo 2006](#); [Hall 2016](#); [Fourinaies 2018](#)). For example, campaigns where there is more money might attract different types of candidates who could be more willing to reciprocate their donors. It could also be that campaigns where contribution limits are higher might exhibit less electoral competition, which could reduce accountability pressures on the elected candidate. To assess whether these explanations account for the observed patterns, we estimate the effects of higher limits on characteristics of the pool of candidates, the winning candidate, and measures of electoral competition.

[Table A7](#) in the [Appendix B](#) presents the effects of having looser limits on character-

²⁶These are: the type of economic activities they engage, whether they are business owners, and the age of their business operations, which are available for donors registered in the chamber of commerce. There are no significant discontinuities around the cut off for those characteristics, nor for being registered in the chamber of commerce (see [Table A5](#) in [Appendix B](#)). We use the optimal bandwidth from the full sample baseline results.

istics of the mayor. Elected mayors in higher limit municipalities are no different in terms of age, gender, ideology, experience in elected office or participating in elections, or record of sanctions than those in lower limit municipalities. The only difference we find is that they are less likely to belong to an indigenous ethnic group.²⁷ Overall, this evidence is inconsistent with lower quality candidates being elected in campaigns with more donor money.

Similarly, Table A8 shows that electoral competition in treatment and control municipalities is similar. We see this in terms of the margin of victory, the number of candidates, the demographic composition of the candidates, the share of candidates who participated in previous elections and those who have previously been elected. The effect of higher limits on the vote share of the winner is marginally significant at the 10% level but it is negative. This is inconsistent with the reduced electoral competition argument that highlights how a lack of electoral accountability brought about by reduced competition encourages donors' rewards. One could also argue that given that higher limits appear to decrease the winner's vote share, candidates in a more competitive environment might have to compete for the wealthier donors by offering them greater future rewards. We examine this possibility by studying the impact of higher limits on the concentration of large donors among candidates, finding no significant differences on both sides of the cut off.²⁸

²⁷Having confirmed that there are no systematic differences in proxies for propensity of malfeasance, demographics, and ideology, it is not clear how belonging to an indigenous ethnic group would impact our outcomes of interest or treatment. When we estimate the effect of higher limits on donors' benefits controlling for indigenous ethnicity we still find a positive effect of higher limits of similar magnitudes as those reported on the number of all contracts and the number of minimum value contracts. Results for the value of minimum value contracts is positive and of a similar magnitude, but it is not precisely estimated.

²⁸Results are reported in Table A8 in Appendix B. For this test we use as explanatory variables the Herfindhal of large donors computed with the shares of large donors that each

Robustness: Under-reporting in Donations Data

A concern with some of our findings is that campaigns might under-report their contributions in municipalities with lower limits. This would tend to bias our results in favor of finding a positive effect of looser limits on donations and, if campaigns do not report some donors, it could overstate the additional benefits going to donors in looser limit municipalities. We first note that electronic campaign finance reporting became mandatory in 2009 and that the first local elections to fully implement the measure were those of 2011—the election for which we have data. The reporting system was jointly designed by Transparency International and the electoral commission to increase transparency in campaign reporting and fines for violators of the norm were introduced.²⁹ This could have increased expectations of higher scrutiny in the documents presented by campaigns.

Nevertheless, we conduct a number of checks to assess whether measurement error is affecting our findings. We first examine the patterns of missing information in the donations data on both sides of the discontinuity cutoff. If donors not only reduce the reported amounts of contributions but also decide not to report at all more frequently when there are lower limits, we should see more missing information in the donation data to the left of the discontinuity. Appendix B Table A9 shows a statistically insignificant coefficient on higher limits in a model of reporting. A problem with this test in our data, however, is that no winning campaign has missing reports. To address this, we additionally estimate a model where we restrict the sample to include only campaigns of second place candidates in close elections which, given our previous results, are similar to those of election winners.³⁰ We

candidate has. Large donors are defined as those whose donations are above the median in the municipality. Results are robust to using the 75th percentile in this definition.

²⁹The fines were eliminated in future elections. See Norm 1044 of 2011 article 4 and Norm 3109 of 2012.

³⁰We include in the sample municipalities for which the margin of victory was less than

still do not find a significant effect of higher limits on reporting.

As a second test we estimate the effect of looser limits on the number of donors of the winning candidate. If we observe a significant increase in the number of donors in higher limit municipalities, this could be partially explained by campaigns not reporting some of their donors in lower limit municipalities. This would imply an under count of donors who are receiving contracts to the left of the cut off which leads to a bias in favor of finding larger benefits to donors with looser limits. The results of this test, however, show that there are no significant differences in the number of donors on both sides of the threshold that determines the change in contribution limits (see Table A3 in Appendix B).

The results of this test are also inconsistent with an alternative interpretation regarding the increase in top donors' contributions brought by looser limits as seen in Figure 1. Under such interpretation, top donors could be violating the more restrictive limits by donating through third parties whose individual (smaller) donations comply with the regulations. Once limits are loosened, they no longer would have to use indirect donations, which would explain the rise in their individual influence as measured by the share of their contributions in total campaign revenues. If this was true, however, one would expect to see a negative effect of looser limits on the number of donors, which we do not find.

In a third test to examine the issue of underreporting we study the effect of higher limits on all contracts in economic areas and under contractual categories that are typically received by donors, a variable that is not affected by campaign information misreporting. In our data 32% of the contracts that are given to donors are associated with purchases of construction machinery and office supplies. If public contracts were not influenced by campaign donations and our baseline findings are driven just by measurement error, it would be hard to explain a positive effect of looser limits on contracts (managed by donors and non-donors) in the economic areas and in contracting categories where donors typically receive

10 percentage points, which was the optimal bandwidth used in the results of Table 1.

contracts. Table A10 in online Appendix B shows that the share of total minimum value contracts associated to office supplies is 7.3 percentage points higher in municipalities with looser limits. The effect of looser limits on the share of contracts associated to purchases of machinery is 5 percentage points. These are large effects considering that 16.6% and 9.6% of all contracts are minimum value contracts associated to office supplies and machinery respectively.

Result: The Quality of Contracts Worsen and Other Implications

So far we have established that looser campaign limits concentrate donor power among top donors while also increasing the kickbacks they receive in terms of government contracts. In this section we explore how these changes can affect the general public.

We first address the question of whether there are negative consequences on the performance of public contracts received by donors. It could be the case that looser limits increase contract efficiency, as greater campaign spending allows voters to select the candidates who know best how to allocate public resources. The results in Table 5 suggest that this is unlikely. Columns 1 and 2 show the effects of higher campaign limits on the probability that a contract requires a time extension and that it ran over stipulated costs. We find that contracts assigned to donors in municipalities with higher limits are 7.1 percentage points more likely to require a time extension, though this result is statistically not distinguishable from zero. However, these contracts are 7.4 percentage points more likely to run over stipulated costs. Moreover, the value of the additional costs of contracts assigned to donors is 92.3% higher in these same municipalities. When we examine minimum value contracts, we see that the probability of receiving time extensions and of presenting over cost is higher in looser limit municipalities. The number of additional days is also also more than 15% higher.³¹

³¹Minimum value results use a fixed bandwidth of 3000 registered voters. This is because

We also explore whether looser limits are overall good for the donors themselves. While we have shown that donors are benefited via more numerous and larger contracts, it is possible the looser limits might still not make donors better off as the price they pay for such benefits (represented by their donations) increases as well. Table [A11](#) in Appendix [B](#) presents the effect of looser limits on the ratio of the value of all contracts that a donor receives to the value of her contribution, the *profitability ratio*. We find that looser limits increase the profitability ratio of minimum value contracts by 85.3 percent. The effect is even larger (155 percent) but only significant at the 10% level when we count all types of contracts. Consistent with our proposed theoretical mechanism, Table [A12](#) in Appendix [A](#) shows that these effects are driven by the top donors. Overall, this and previous results indicate that when campaign contribution limits are not restrictive, well-off individuals are obtaining a larger net economic benefit at the expense of the general population.

An alternative channel by which changes in campaign contribution limits might affect the public is through their potential impact on the quality of elections. If candidates are restricted on the resources they can receive and spend legally, does this push them towards engaging in illegal activities to win elections? This question is relevant in developing democracies where electoral manipulation and the involvement of armed groups in the electoral process is common. In Colombia, in particular, right wing paramilitaries tried to influence the outcomes of local and national elections around this period ([Acemoglu, Robinson and Santos 2013](#)). Table [A13](#) in Appendix [B](#) shows that there are no significant differences in vote and turnout suppression reports, armed groups' attacks, nor paramilitaries' attacks at both sides of the cutoff. This also indicates that there is no strong evidence in favor of more money in campaigns financing vote buying.

there are not enough minimum value contracts that present variation in cost overruns and extensions for narrower margins. Results are robust for margins of 4000 registered voters.

Table 5: Effect of higher limit on quality of contracts

	<i>All contracts</i>			<i>Minimum value contracts</i>				
	Extension (1)	Overcost (2)	ln(Added days+1) (3)	ln(Overcosts val.+1) (4)	Extension (5)	Overcost (6)	ln(Added days+1) (7)	ln(Overcosts val.+1) (8)
Higher limit <i>(Conventional)</i>	0.040** (0.018)	0.066*** (0.016)	0.087 (0.069)	0.822*** (0.255)	0.070*** (0.010)	0.100*** (0.014)	0.097*** (0.014)	1.331*** (0.251)
Higher limit <i>(Robust)</i>	0.071 (0.057)	0.074*** (0.025)	0.089 (0.085)	0.923** (0.393)	0.119*** (0.012)	0.078** (0.033)	0.165*** (0.017)	0.791 (0.571)
Observations	206	208	478	208	94	94	94	94
Mean	0.054	0.059	0.125	0.920	0.054	0.059	0.125	0.920
Effect Mean(Per)	131.48	125.42	71.20	100.33	220.37	132.20	132.00	85.98
Bandwidth	1660.102	2251.945	5115.613	2143.576	3000	3000	3000	3000

Robust standard errors clustered at the municipality level and optimal bandwidth by Calónico, Cattaneo and Titiunik (2014) in columns 1 - 4. Regressions at the contract level. *** p<0.01, ** p<0.05, * p<0.1.

Conclusions

We examine if campaign contribution limits curb benefits for donors through the assignment of public contracts in Colombia. We first document a strong bias in public procurement assignment in favor of donors of the winning candidate. We also find that these donors receive a greater number of and extract more value from public contracts in municipalities with looser campaign contribution limits. The evidence presented here suggests that larger benefits given to donors in higher limit municipalities are explained by wealthier donors having a greater influence over the mayor and not by candidate selection effects nor changes in the competitiveness of the election. The contracts given to donors in higher limit municipalities also tend to perform worse, requiring more time to be completed and running over costs.

Overall in the absence of tight contribution limits, society pays more and has to wait longer for the completion of public projects, while wealthier campaign donors are more than compensated by receiving public contracts. Under a higher contribution limits regime economic inequalities are widened, as those who are able to contribute more, obtain larger economic benefits.

With these findings we contribute to the debate on the efficacy of campaign finance reforms that restrict the flow of private interests' money in elections. This paper has concentrated on one potential benefit of reducing the influence of donors over elected officials: reducing the biased allocation of public resources. Future work should explore whether campaign contribution limits impose costs on society by altering the flow of information available to voters. The fact that we do not find more experienced candidates with fewer sanctions running as candidates and being elected in higher contribution limit municipalities, however, is inconsistent with strong informational gains by the public.

It is also important to note that campaign finance reforms' effects might change over time. As long as governments offer contracts that generate higher profits than those of the

private sector—as is common with local government contracts in developing democracies—private interests will have strong incentives to continue influencing elections through donations or through other means. While the effect of contribution limits on donors' influence over elected officials could be diminishing over time as moneyed interest find ways to circumvent formal rules, the effects of fewer restrictions on contributions on voters' information might be more persistent. More research is also needed to study how campaign finance reforms alter the different ways private interests try to influence politics.

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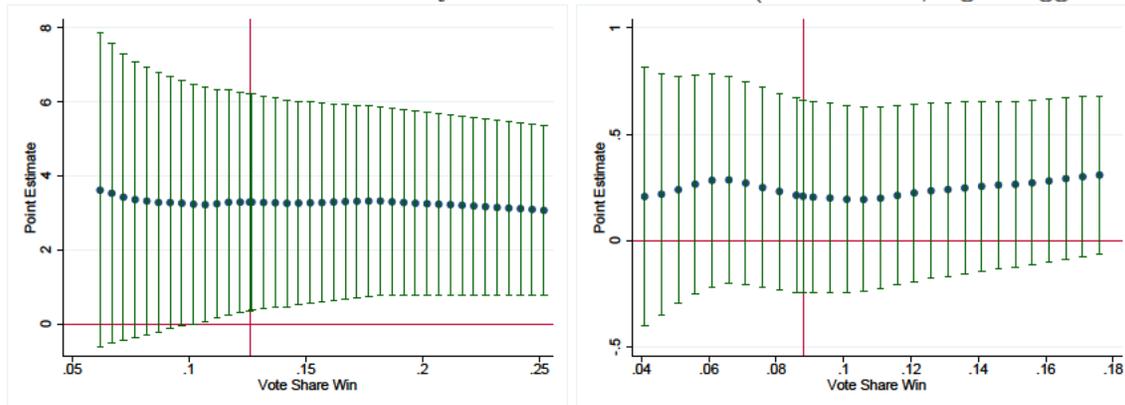
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Online Appendix: Do Campaign Contribution Limits
Curb the Influence of Money in Politics? (not intended
for publication)

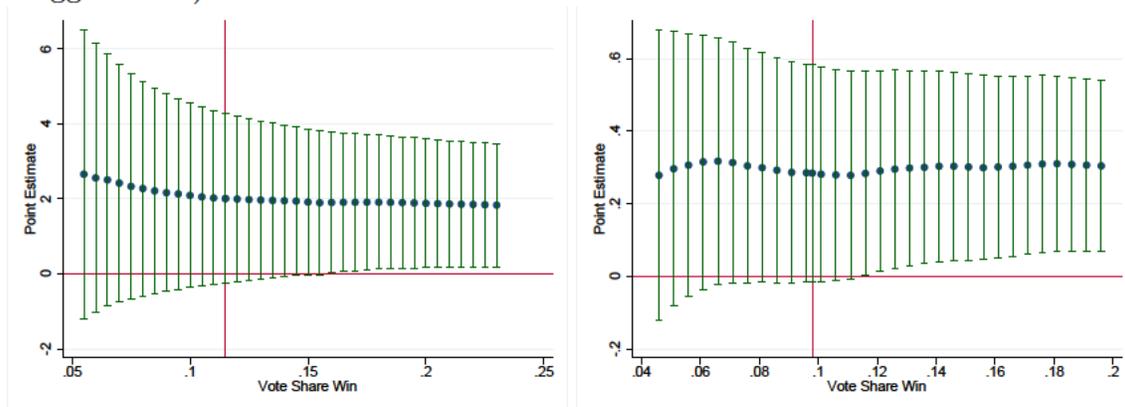
A Other Figures

Figure A1: Effect of electoral victory on donors' contracts (left-number, right-logged value)



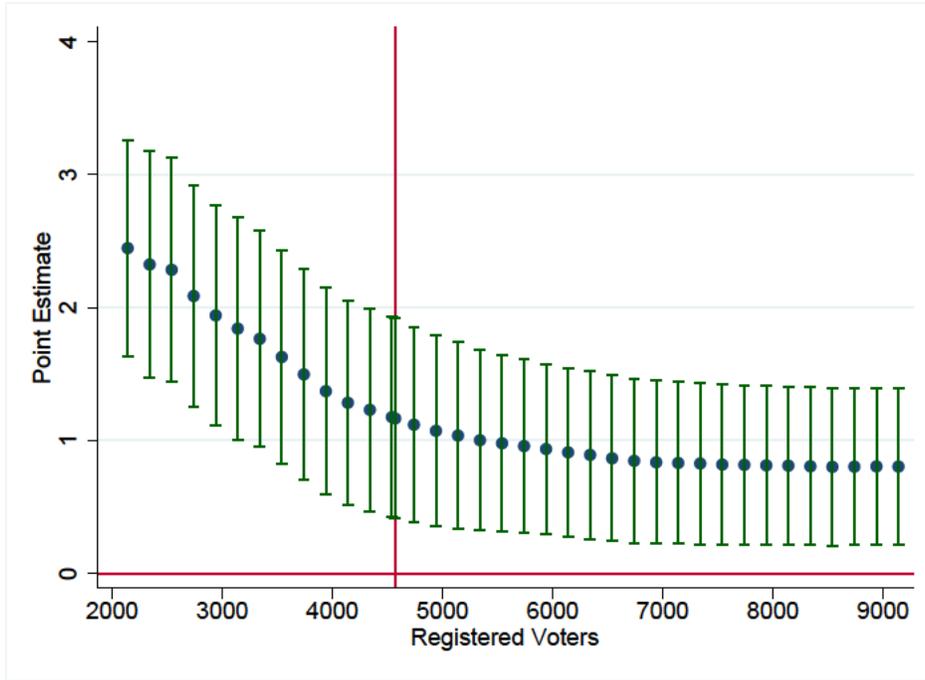
Bias corrected estimates and 95% robust confidence intervals. Red line indicates optimal bandwidth.

Figure A2: Effect of electoral victory on donors' minimum value contracts (left-number, right-logged value)



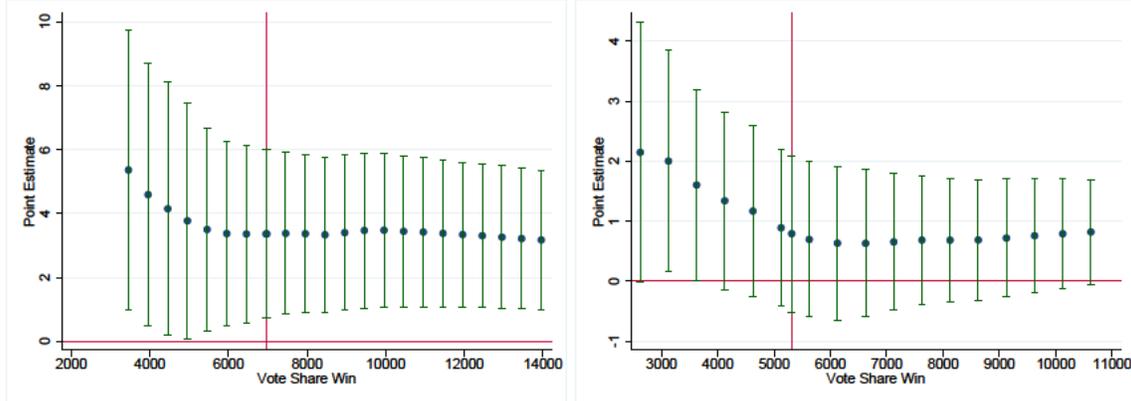
Bias corrected estimates and 95% robust confidence intervals. Red line indicates optimal bandwidth.

Figure A3: Effect of higher limits on mean donations



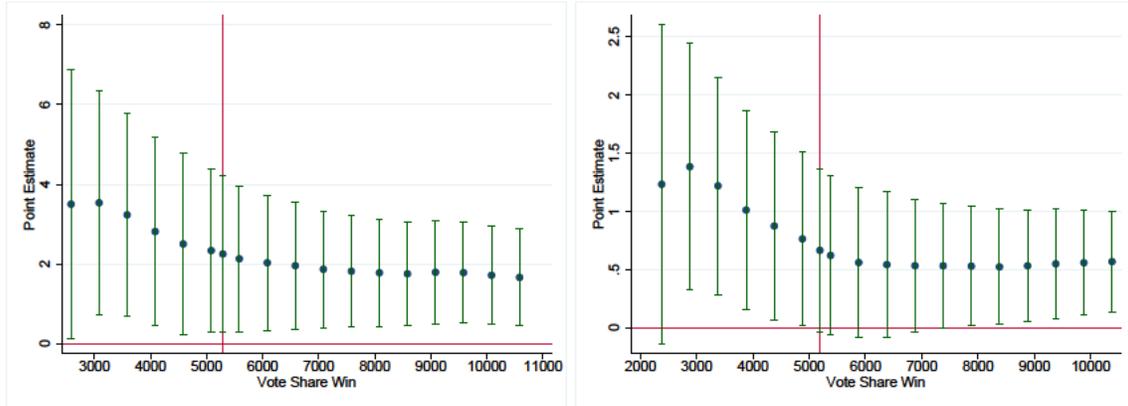
Bias corrected estimates and 95% robust confidence intervals. Red line indicates optimal bandwidth.

Figure A4: Effect of higher limits on donors' contracts (left-number, right-logged value)



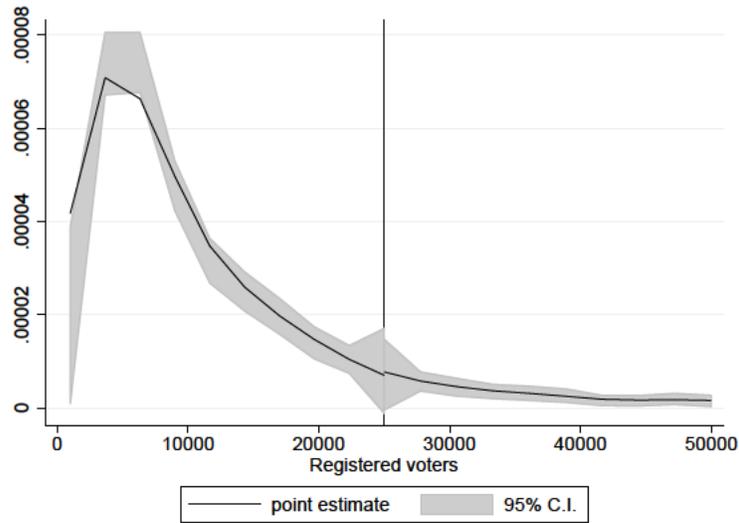
Bias corrected estimates and 95% robust confidence intervals. Red line indicates optimal bandwidth.

Figure A5: Effect of higher limits on donors' Minimum Value contracts (left-number, right-logged value)



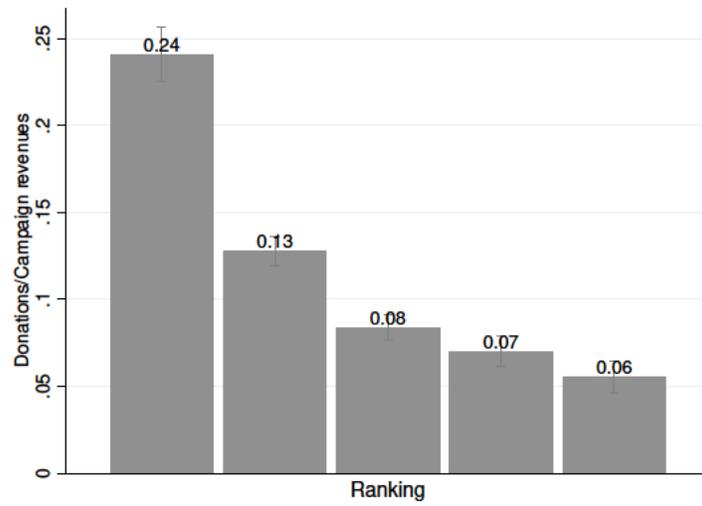
Bias corrected estimates and 95% robust confidence intervals. Red line indicates optimal bandwidth.

Figure A6: Distribution of municipalities across registered voters (manipulation of running variable test)



The figure shows the density of the running variable. The test of no discontinuity at the cutoff (Cattaneo, Jansson and Ma 2019) has a statistic of -0.128 and a p-value of 0.98).

Figure A7: Donors' contributions to campaigns



Bars are ordered from the top donor on the left to the fifth most generous donor on the right. Sample includes municipalities within 5,000 registered voters at both sides of the 25,000 cut-off.

B Other Tables

Table A1: Smooth individual covariates around the electoral victory cut-off

	Mean	Std. Dev.	Victory	Std. Error.	Obs.	Bandwidth	P-value
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
<i>Panel A: Individual characteristics</i>							
Women	0.116	0.320	0.033	0.051	944	0.067	0.519
Age	45.226	9.712	0.39	1.547	1009	0.079	0.801
Black	0.044	0.206	0.023	0.03	959	0.074	0.457
Indigenous	0.109	0.311	-0.039	0.05	1000	0.078	0.432
Leftist party	0.025	0.156	-0.022	0.029	1192	0.09	0.438
Right-wing	0.244	0.429	-0.08	0.06	1050	0.075	0.188
Previously sanctioned	0.123	0.328	-0.075	0.049	1116	0.08	0.124
Illegal Registration of ID.	0.005	0.073	-0.003	0.013	1120	0.081	0.815
Has political experience	0.450	0.498	0.063	0.064	1354	0.109	0.325
Held office before	0.364	0.481	-0.01	0.066	1192	0.091	0.885
<i>Panel B: Funding covariates</i>							
Number of Donors	4.151	6.725	0.811	0.901	1170	0.087	0.368
Total Campaign Income	46.655	99.311	14.381	12.512	1180	0.087	0.25
Donor revenue/total revenue	0.176	0.272	-0.031	0.036	1422	0.115	0.389

Columns 1 and 2 report descriptive statistics. Column 3 reports RDD point estimates of the effect of electoral victory on each variable, using Calonico et al. (2014)'s optimal bandwidths (reported in column 6), bias correction, and robust standard errors clustered at the municipality level (column 4), with local linear regression and triangular kernels. Column 5 reports the number of observations including in each estimation.

Table A2: Smooth characteristics of donors around the electoral victory cut-off

	Mean (1)	Std. Dev. (2)	Victory (3)	Std. Error. (4)	Obs. (5)	Bandwidth (6)	P-value (7)
Chamber of Commerce	0.420	0.494	0.034	0.082	1883	0.058	0.678
Company	0.262	0.440	-0.079	0.140	859	0.064	0.572
Producer as main activity	0.098	0.297	-0.059	0.058	647	0.050	0.308
Age of company (Months)	165.205	171.317	-34.536	24.168	467	0.045	0.153

Columns 1 and 2 report descriptive statistics. Column 3 reports RDD point estimates of the effect of electoral on each variable, using Calonico et al. (2014)'s optimal bandwidths (reported in column 6), bias correction, and robust standard errors clustered at the municipality level (column 4), with linear local polynomials and triangular kernels. Column 5 reports the number of observations including in each estimation.

Table A3: Smooth municipality covariates around campaign limits cut-off

Dependent variable	Mean (1)	Std. Dev. (2)	Higher limits (3)	Std. Error. (4)	Obs. (5)	Bandwidth (6)	P-value (7)
Discretionary income (*)	29192.948	395422.226	-82.554	4566.291	76	4518.170	0.986
Municipal category	5.706	0.999	0.141	0.172	61	3528.109	0.412
Mayor wages	6.696	2.553	-0.279	0.345	61	3524.194	0.417
Council size	10.961	2.912	-0.424	0.362	62	3563.624	0.241
Total population	41910.156	258170.413	-254.178	2176.416	171	8786.327	0.907
Education establishments	283.765	170.396	70.749	53.847	103	5767.045	0.189
Total # of Contracts	1057.740	2689.075	-96.819	399.805	106	5989.309	0.809

Columns 1 and 2 report descriptive statistics. Column 3 reports RDD point estimates of the effect of higher campaign limits on each variable, using [Calonico, Cattaneo and Titiunik \(2014\)](#)'s optimal bandwidths (reported in column 6), bias correction, and robust standard errors (column 4), with linear local polynomials and triangular kernels. Column 5 reports the number of observations including in each estimation. (*) Discretionary income scaled in # of minimum monthly wages.

Table A4: Robustness: Effect of a higher contribution limit on campaign revenues (top and non-top donors)

Dependent variable:	Share top3 (1)	Share non-top3 (2)	Share top1 (3)	Share non-top1 (4)
Higher limit <i>(Conventional)</i>	0.106** (0.052)	-0.005 (0.007)	0.198** (0.077)	0.024 (0.029)
Higher limit <i>(Robust)</i>	0.096 (0.062)	-0.007 (0.008)	0.205** (0.091)	0.026 (0.037)
Observations	123	78	195	261
Mean	0.086	0.007	0.104	0.028
Effect Mean(Per)	111.63	-100.00	197.12	92.86
Bandwidth	6673.098	4664.657	9615.509	11621.432

Robust standard errors and optimal bandwidth by [Calonico, Cattaneo and Titiunik \(2014\)](#). Regressions at the municipality level. Observations denote observations in bandwidth. *** p<0.01, ** p<0.05, * p<0.1.

Table A5: Smooth donors' characteristics around contribution limit cut-off

Dependent variable	Mean (1)	Std. Dev. (2)	Higher limits (3)	Std. Error. (4)	Obs. (5)	Bandwidth (6)	P-value (7)
Chamber of Commerce Company	0.410 0.247	0.492 0.431	0.027 0.070	0.108 0.048	223 84	3280.719 4076.411	0.800 0.146
Producer as main activity	0.099	0.298	-0.004	0.103	140	7129.172	0.967
Age of Company (Months)	163.145	175.529	-103.750	85.341	102	7162.098	0.224

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Columns 1 and 2 report descriptive statistics. Column 3 reports RD point estimates of the effect of higher campaign limits on each variable, using [Calonico, Cattaneo and Titiunik \(2014\)](#)'s optimal bandwidths (reported in column 6), bias correction, and robust standard errors (column 4), with linear local polynomials and triangular kernels. Column 5 reports the number of observations in bandwidth.

Table A6: Effect of higher limits on donors' benefits by level of donation (top vs. non-top)

	(1)	(2)	(3)	(4)
	# Contracts	Log(Value of Contracts +1)	# MV contracts	Log(Min. Value Contracts +1)
Non-top	3.469 (4.322)	-2.183 (1.677)	-4.218 (3.915)	-1.603 (1.487)
Top 2	5.887 (4.508)	3.572* (1.841)	10.939* (5.768)	4.281* (2.286)
Difference	2.418 (6.237)	5.755** (2.439)	15.157** (6.833)	5.884** (2.697)
Observations	89	69	69	66
Bandwidth	6979.773	5312.321	5292.418	5190.197

*** p<0.01, ** p<0.05, * p<0.1. Includes clustered bootstrap standard errors with 500 replications.

Estimation is done with the optimal bandwidth by [Calomico, Cattaneo and Titiunik \(2014\)](#).

Variables used for propensity score: company is registered with the chamber of commerce, registered as a company, producer as main activity, age of the company (in months).

Table A7: Smooth winning candidate characteristics across contribution limit cut-off

Dependent variable	Mean (1)	Std. Dev. (2)	Higher limits (3)	Std. Error (4)	Obs. (5)	Bandwidth (6)	P-value (7)
<i>Panel A: Individual covariates</i>							
Women	0.098	0.298	0.003	0.067	81	4869.177	0.969
Age	44.863	9.740	-3.997	5.647	99	6448.424	0.479
Black	0.046	0.210	-0.116	0.104	67	4782.402	0.268
Indigenous	0.112	0.315	-0.361**	0.149	114	7069.99	0.015
Leftist party	0.028	0.165	-0.023	0.057	92	5268.292	0.681
Right-wing	0.240	0.427	0.359	0.305	106	5942.655	0.239
Previously sanctioned	0.116	0.320	0.009	0.171	79	4758.877	0.958
Illegal Registration of ID.	0.007	0.086	0.004	0.003	50	3170.994	0.202
Has political experience	0.458	0.498	-0.222	0.216	153	7853.998	0.304
Held office before	0.369	0.483	-0.205	0.244	131	6938.57	0.401
<i>Panel B: Funding covariates</i>							
Number of Donors	4.760	7.502	1.863	3.749	161	8573.727	0.619
Total campaign revenue	52.042	106.797	-15.035	11.783	77	4556.966	0.202
Donor revenue/total revenue	0.187	0.273	0.208	0.151	170	8764.463	0.17

Columns 1 and 2 report descriptive statistics of each variable. Column 3 reports RDD point estimates of the effect of higher campaign limits on each variable, using [Calonico, Cattaneo and Titiunik \(2014\)](#) optimal bandwidths (reported in column 6), bias correction, and robust standard errors (column 4), with local linear regression and triangular kernels. Column 5 reports the number of observations including in each estimation. Age in panel B denotes average age of candidates. All other dependent variables in Panel B are in shares of total candidates.

Table A8: Smooth electoral characteristics across contribution limit cut-off

Dependent variable	Mean (1)	Std. Dev. (2)	Higher limits (3)	Std. Error (4)	Obs. (5)	Bandwidth (6)	P-value (7)
<i>Panel A: Electoral race covariates</i>							
Candidates	4.030	1.687	1.139	0.821	153	7895.759	0.165
Effective N. Candidates	2.739	0.833	0.296	0.502	103	5948.816	0.555
Vote share winner	0.484	0.106	-0.092	0.056	127	7108.578	0.100
Vote share margin	14.134	11.863	-6.175	5.537	136	7499.962	0.265
Herfindahl big donors (p50)	0.605	0.422	-0.003	0.202	159	8282.426	0.989
Herfindahl big donors (p75)	0.643	0.433	-0.071	0.189	171	8898.021	0.708
<i>Panel B: Pool of candidates</i>							
Age	45.544	5.601	1.382	2.671	180	9176.994	0.605
Women	0.128	0.176	0.111	0.124	112	6349.221	0.372
Indigenous	0.099	0.165	-0.172**	0.080	113	6985.598	0.032
Black	0.044	0.143	-0.022	0.023	59	4107.750	0.336
Previously sanctioned	0.116	0.174	-0.003	0.056	143	7468.185	0.959
Illegal reg of ID.	0.005	0.037	0.001	0.002	65	3922.928	0.415
Has political experience	0.254	0.237	-0.180	0.112	130	6909.132	0.109
Held office before	0.206	0.223	-0.087	0.114	147	7596.100	0.445

Columns 1 and 2 report descriptive statistics. Column 3 reports RDD point estimates of the effect of higher campaign limits on each variable, using [Calonico, Cattaneo and Titiunik \(2014\)](#) optimal bandwidths (reported in column 6), bias correction, and robust standard errors (column 4), with local linear regression and triangular kernels. Column 5 reports the number of observations included in each estimation. Age in panel B denotes average age of candidates. All other dependent variables in Panel B are in shares of total candidates.

Table A9: Effect of higher limits on campaign finance reporting of runner up candidate

Sample:	All elections	Close elections
Higher limits <i>(Conventional)</i>	-0.119 (0.107)	0.072 (0.085)
Higher limits <i>(Robust)</i>	-0.151 (0.118)	0.0802 (0.112)
Observations	178	133
Mean	0.923	0.923
Effect mean(Per)	-16.348	7.8
Bandwidth	9028.990	10091

*** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$. Robust standard errors, bias corrected estimates and the optimal bandwidth by [Calonico, Cattaneo and Titiunik \(2014\)](#). Regression at the municipality level.

Table A10: Effect of higher contribution limits on share of contracts typically received by donors

Dependent variable:	Min. Val. Materials (1)	Min Val. Supplies (2)
Higher limit <i>(Conventional)</i>	0.041* (0.023)	0.059* (0.035)
Higher limit <i>(Robust)</i>	0.050* (0.027)	0.073* (0.041)
Observations	77	75
Mean	0.096	0.166
Effect Mean(Per)	52.08	43.98
Bandwidth	4510.587	4432.108

*** p<0.01, ** p<0.05, * p<0.1. Robust standard errors and optimal bandwidth by [Calonico, Cattaneo and Titiunik \(2014\)](#). Local linear regression used to construct point estimator. Regressions at the municipality level.

Table A11: Effect of higher contribution limits on profitability

	Multiplier (1)	Log Multiplier (2)	Min. Val Multiplier (3)	Log(Min. Val Multiplier) (4)
Looser limit <i>(Conventional)</i>	76.605 (60.555)	1.457** (0.682)	36.416* (19.431)	0.792*** (0.294)
Looser limit <i>(Robust)</i>	65.548 (74.758)	1.551* (0.849)	38.979 (23.848)	0.853** (0.375)
Observations	249	301	291	278
Mean	308.831	0.299	4.002	0.116
Effect Mean(Per)	21.22	518.73	973.99	735.34
Bandwidth	3769.484	4860.994	4596.197	4498.597

*** p<0.01, ** p<0.05, * p<0.1. Robust standard errors clustered at the municipality level and optimal bandwidth by [Calonico, Cattaneo and Titiunik \(2014\)](#). Regressions at the donor level. Observations denote observations in bandwidth.

Table A12: Effect of looser limits on profitability by groups of donors (top vs. non-top)

	Profitability (1)	Log(Profitability+1) (2)	Min. Val Profitability (3)	Log(Min. Val Profitability) (4)
Non-top	-353.232 (505.095)	-2.318 (1.375)	-39.743 (38.405)	-1.852 (1.066)
Top 2	127.759 (94.930)	3.834 (2.004)	70.876* (37.060)	2.563 (1.445)
Difference	480.990 (511.261)	6.153*** (2.351)	110.619** (51.975)	4.415** (1.754)
Observations	42	57	52	50
Bandwidth	3769.484	4860.994	4596.197	4498.597

*** p<0.01, ** p<0.05, * p<0.1. Profitability denotes the ratio of value of contracts to donation. Clustered bootstrap standard errors with 500 replications. Optimal bandwidth by optimal bandwidth by [Calonico, Cattaneo and Titiunik \(2014\)](#). Variables used for propensity score: company is registered with the chamber of commerce, registered as a company, producer as main activity, age of the company (in months)..

Table A13: Effect of higher contribution limits on electoral manipulation

Dependent variable	Mean (1)	Std. Dev. (2)	Higher limits (3)	Std. Error. (4)	Obs. (5)	Bandwidth (6)	P-value (7)
Vote buying reports	0.359	1.252	-0.509	0.449	65	3915.382	0.257
Turnout suppression	0.170	1.542	0.004	0.271	109	6277.308	0.989
Total Attacks	0.616	2.814	0.626	0.898	159	8351.977	0.486
Paramilitary Attacks	0.194	1.535	-0.313	0.267	89	5159.707	0.241

Columns 1 and 2 report descriptive statistics. Column 3 reports RDD point estimates of the effect of higher campaign limits on each variable, using [Calonico, Cattaneo and Titiunik \(2014\)](#)'s optimal bandwidths (reported in column 6), bias correction, and robust standard errors (column 4), with linear local polynomials and triangular kernels. Column 5 reports the number of observations including in each estimation. (*) Discretionary income scaled in # of minimum monthly wages.