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ORIGINAL ARTICLE

Campaign finance reform and electoral competition

John R. Lott, Jr.

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Abstract Using state senate data from 1984 through the beginning of 2002, this paper finds that campaign donation regulations clearly reduce the competitiveness in political races. This is reflected in several dimensions. Conservative estimates indicate that different donation limits are associated with anywhere from a 4 to over a 23 percentage point increase in win margins. The regulations increase the probability that only one candidate will run for office. And they increase the probability that incumbents win re-election. Campaign finance regulations also tend to reduce the number of candidates who run for office by an average of about 20 percent.

1. Introduction

To some, the "Bipartisan Campaign Reform Act of 2002" (henceforth, BCRA) "merely enforces the law as it exists" (Bauer, 2002, p. 103). Concerns were raised that contribution limits and prohibitions of corporate and union spending were being circumvented by "soft money." To others, the new regulations are an incumbent protection act that threatens constitutional values.[1]

The new law covers a broad range of campaigning. It restricts how much parties can give to candidates, and what can be given to political parties. Contributions by minors are banned. Limits on individual contributions are being raised, but they are now adjustable in ways that seem designed to discourage wealthy competitors from entering the race. The BCRA also limits or bans advertising by outside groups, so-called "electioneering communication," when the group mentions the name of candidates for federal office within 60 days of a general election or within 30 days of a primary.

J. R. Lott, Jr. (✉)
American Enterprise Institute, 1150 17th Street, NW, Washington, DC 20036, (202) 862–4884
e-mail: jlott@aei.org

[1] For quotes from Senator Hagel (R-Nebraska) and Representative Tom DeLay (R-Texas) see respectively Amy Keller, "Losers Regroup in Reform Fight," Roll Call, April 2, 2001 and Kenneth R. Bazinet, "Soft Money Bills Face Key Battles," Daily News (New York), March 26, 2001, p. 2.

Under Buckley v. Valeo, the Supreme Court held that the only permissible constitutional basis for government regulation was concern over the appearance or incidence of corruption (Bauer, 2002, p. 104). Yet, while the Supreme Court has been concerned about the appearance of corruption from campaign donations, the justices have also recognized that a possible motivating factor for campaign finance rules may be to protect incumbents. Breyer's concurring opinion in Nixon v. Shrink Missouri notes deference to a legislature's "significantly greater institutional expertise . . . in the field of election regulation . . . [in] empirical legislative judgments – at least where that deference does not risk such constitutional evil as, say, permitting incumbents to insulate themselves from effective electoral challenge."

Similarly, at least in the justices' questioning in a recent Minnesota case on judicial elections,[2] some members of the Court seemed concerned about rules on speech that protected incumbents from competition. In Minnesota, the state Supreme Court established rules under which candidates for judicial offices, including the state Supreme Court, could campaign. Justice Sandra Day O'Connor said "the rule curbed challengers, while leaving incumbent judges free to express their views in the form of judicial opinions."[3] O'Connor explicitly noted the protection of incumbents when she said, "It's kind of an odd system, designed to – what – maintain incumbent judges?"[4]

The theory for why campaign finance regulation entrench incumbents is fairly straightforward. Rules that reduce the effective amount spent in campaigns, even if they equally reduce expenditures by both incumbents and challengers, benefit better known incumbents.

Looking at past election data since 1946 indicates that the re-election rate for House members rose from 88 percent before the 1974 amendments to the Federal Election Campaign Act to 94 percent afterwards and rose for Senate members from 76 to 81 percent.[5] But since the federal law impacts all House and Senate race at the same time, federal election data is purely time-series in nature and that makes it difficult to distinguish the many factors that may be changing over time. For a number of years it will be difficult to get much data on the impact of the new Federal legislation.

Fortunately, many provisions in state laws correspond to the new federal law. For example, multiple states have limits on how much can be given to a state political party and have limitations on how much the party can give to candidates. Two states, Ohio and California, have donation limits that are totally lifted when an opposing candidate spends more than a certain amount of his own money on the campaign, though California's law has only been in effect through the 2002 primaries thus far. Connecticut, Florida, Kentucky, Massachusetts, and Oregon have had limits on donations by minors, though Oregon's rule was quickly rescinded. The most notable exception to this list is that no states have tried to prohibit advertising by outside groups during certain periods of time before an election.

Besides the insight that state law may provide for federal law, there is a second reason to engage in this study. The new rules will directly impact state elections. For example, the BCFR Act bans state and local political parties from using soft money for activities that are conducted during years when federal candidates are on the ballot. Studying state laws

[2]Republican Party of Minnesota v. White, No. 01–521. Argued March 26, 2002–Decided June 27, 2002.

[3]Linda Greenhouse, "Supreme Court Weighs Rule Limiting Judicial Candidates' Speech," New York Times, March 27, 2002, p. A20.

[4]Ibid.

[5]The data is from Ornstein et al. (2002). Reed and Schansberg (1992) found that the U.S. House of Representatives experienced a large sudden increase in tenure during the mid-1970's. After examining alternative explanations such as increased gerrymandering or increased congressional compensation, they conclude that the increase in tenure length arose from suddenly "greater incumbent advantages as the source" (p. 198).

may thus give us an insight into the impact that the new federal law will have on political competition in other states.

This study seeks to evaluate the impact of a broad range of state campaign finance regulations on the competitiveness of state senate elections. As Justice Breyer notes, it is possible that these rules were passed to eliminate the appearance of corruption, but it is also possible that the rules/(whether passed by a legislature or through a referendum) were enacted to protect incumbent politicians or those parties that had the most incumbents. Finally, given the partisan disagreements over the legislation another concern should also be mentioned. The regulations may not produce "a neutral playing field" and rather benefit one party relative to another.

2. Existing research

Existing published work, using national data, has already examined how state campaign finance regulations affect the number of gubernatorial, state senate, and state house candidates, as well as total campaign spending (Lott, 2000). Using state Assembly and Senate primary and general election data on re-election rates from 1976 to 1994, other research has examined the short-lived impact of California's Proposition 73, a proposition that briefly imposed campaign donation limits before being struck down by state courts (Daniel & Lott, 1997, p. 179). These papers suggest that campaign finance reform worked to reduce the number of candidates running and increase the re-election rate.

Recent work by Stratmann (2002) examines state House races from 1980 to 2001 and claims that because campaign finance regulations make it more difficult for higher quality candidates to differentiate themselves through advertising, the regulations make the outcomes of races more random and thus more competitive. However, it is not clear why this should be the case. True, for cases where there would have been a clear well qualified candidate competing against a less qualified one reducing the amount of information will tend to make the candidates more equal and produced smaller win margins. Yet, in races that would have previously been very closely contested with two candidates of equal quality, reducing the amount of information and increased randomness would have increased win margins.[6]

His results also appear to be very sensitive to how they are specified. Stratmann uses the absolute gap in the number of seats by which Democrats control a state House as his instrumental variable for predicting the adoption of the campaign finance law. Yet, controlling the Alaska state House by 5 seats out of 40 is quite different than controlling the New Hampshire state House by 5 seats out of 400. Replacing the absolute control with the percentage difference between the two parties eliminates any statistically significant results. Nor is it clear why one would only use control of the state House to predict passage of the campaign finance law. Adding in a similar variable for the control variable for the Senate and a dummy for the governor's party affiliation reverses Stratmann's results and implies that campaign finance laws increase incumbent win margins.[7]

[6] If one believes Stratmann's conclusion that win margins decline because of campaign finance reform, his explanation based on the work of Steve Coate (2001) tells us that there must be relatively more races where high quality candidates were handicapped when running against low quality opponents versus races where candidates were of equal quality and it would make much difference which candidate had won the election.

[7] Redoing the first two regressions in Stratmann's Table 5 by replacing the absolute seat margin with the percent difference in control between the parties reduces the coefficient for the individual campaign limit to .60 (robust

3. Theory

3.1. The importance of reputations

How a candidate performs in an election depends not only upon current campaign expenditures but also on his reputation acquired over time. In turn, this reputation was created as a result of past campaign expenditures as well as the news media coverage received. Incumbents are obviously much more likely to have a larger stock of reputation than challengers. Even if the challenger is well-known, perhaps because of non-political activities, his reputation may not be directly comparable to the reputation held by the incumbent simply because it might not inform voters of what policy positions he holds (Lott, 1987, pp. 244–5).[8]

This simple point about reputation provides.striking implications for campaign finance regulations. Suppose that an incumbent and a challenger were going to spend the same amount on a campaign and that campaign finance regulations created the same dollar reduction in both their expenditures. Due to the lack of the challenger's political reputation, this reduction implies a much bigger percentage reduction in the information provided by challengers to voters.[9] Take the extreme case where current expenditures by both candidates were reduced to zero: the incumbent would still be known but the challenger would not be.[10]

Even if the new legislation causes a decline in donations to candidates, it is very likely that this would be offset by increased donations from political parties and independent organizations, so that total donations would remain unchanged.[11] However, this cannot completely compensate as restrictions on campaign donations would make campaigns less effective in getting information to voters, thus benefiting incumbents. This hypothesis is confirmed by research indicating that donors do a good job in targeting specific races where the return to their donations is greatest. (This is true not only in terms of targeting donations to races where they have the biggest impact on determining which candidate will be elected (Stratmann. 1992) but also as far as targeting the candidate with positions corresponding the best to the donor's views (Bronars & Lott, 1997).)

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t-statistic = 0.24) and .6997 (robust t-statistic = 0.34). Redoing those regressions by also included the percent difference in control of the Senate and the governor's political party results in coefficients of 4.45 (robust t-statistic = 2.50) and 3.706(robust t-statistic = 1.79). A more detailed examination of the House data is not reported here because I promised Stratmann not to make detailed use of his data. Stratmann also uses simple before-and-after averages to examine the impact of the laws. Breaking down the results on a year-by-year basis also shows that the before-and-after averages may be hiding the impact of the law.

[8] See Lott (1987) and Milyo (1997) for test of entry barriers and deterrent effects in political markets. See also Milyo and Groseclose (1999) on whether donation limits benefit wealthy incumbents.

[9] Given that many state senate races will involve candidates who have held previous elected office, the arguments discussed here can still apply even when there are no incumbents in a race. Similarly, the advantage possessed by incumbents will be mitigated to at least some extent when challengers have held other offices such as the state assembly or city council.

[10] The impact of this reduction is magnified further by the fact that there are diminishing returns to providing the information. The incumbent not only loses a smaller share of his investment, but precisely because of his larger stock the value of each dollar lost is also smaller.

This discussion also has important implications for other research on the impact of electoral competitiveness that does not allow for incumbents having reputation (Stratmann, 2002 & Coate, 2001). In a world without reputations reducing the amount of information may produce more randomness when a high quality candidate faces a low quality one, but when reputations exist for at least one of the candidates prior to the campaign that result no longer holds.

[11] See Lott (2000) and Daniel and Lott (1997) for a discussion of these issues and some empirical evidence.

When given an option donors have preferred to give directly to candidates. Inefficiencies in campaigning can arise simply because the expenditures are not coordinated. Preventing coordination between candidates and independent organizations has been an important part of the new campaign finance law. The lack of coordination may prevent the creation of a consistent message or cause problems coordinating the timing of advertising. Even worse, independent groups might have agendas that deviate from the interests of a particular candidate.

Developing campaign donor lists is very costly and becomes increasingly costly when candidates must raise money from an increasing number of small donors. Incumbents have a relative advantage as they start with a much larger list than their challengers. Incumbents might also have an advantage in raising large amounts of money from a few donors, but the question is whether campaign donation limits increase or decrease their relative advantage.

If donation rules make races more competitive, they have to raise the marginal cost of raising money relatively more for incumbents. But more is required. Because of the higher marginal return from expenditures obtained by challengers (Jacobson, 1978, 1980; Grier, 1989 & Lott, 1987), the decline has to be much larger for incumbents than for challengers if the win margin is to be reduced.

Besides regulations on what a donor can give a candidate, there are also limitations on soft money contributions to parties. Parties have in the past served as conduits for money to candidates. The new regulations should hurt challengers since it reduces the ability of the party to use its reputation and serve as intermediary between the candidates and potential donors, an aspect that is particularly important for challengers.

Table 1 provides some information on how important party contributions have been to challengers. For the U.S. House and Senate from 1984 to 2000, the percent of contributions for challengers that come from political parties averages between 7 and 13 percent when broken down by federal House and Senate and by party. A couple facts stand out. While both incumbents and challengers received help from their parties, on average challengers are between 77 and 307 percent more dependent upon party help than incumbents. Indeed, for all these types of races over these nine elections, there is only one case (Democratic Senate races in 2000) where incumbents received more help from their party than did challengers. Republicans (both incumbents and challengers) get a greater percentage of their funds from their party than do their Democratic counterparts. Republican Senate challengers depend upon party funding much more than their Democratic counterparts, facing the biggest absolute gap – 4 percentage points.

3.2. The long-run versus short-run impact of limits

While regulations on donations harm challengers relative to incumbents, as just discussed, the size of the impact may well vary over time. For example, if donation limits reduce the amount raised and spent on campaigns, the size of the detrimental impact can decline the longer the rules are in effect, though the initial impact will never be offset. While equal reductions in spending during the election benefits the incumbent because of his relatively large stock of reputation, over time as restrictions affect the amount raised and spent in more and more of an incumbent's past elections, the stock of reputation that the incumbent has in future elections will decline, thus somewhat reducing the gap between the incumbent's and the challenger's total reputation.

Yet, this effect does not appear to have occurred. Despite generally more restrictive campaign finance regulations campaign donations have been increasing faster than inflation (Lott, 2000). This pattern has occurred at both the state and federal level. As government has gotten larger, with more favors to give out, the importance of winning elections has increased.

Table 1 The relative importance of party assistance to incumbents and challengers by party

Years	% of money spent on incumbents which came from party (1)	% of money spent on challengers which came from party (2)	Ratio of columns (2)/(1)	% of money spent on incumbents which came from party (1)	% of money spent on challengers which came from party (2)	Ratio of columns (2)/(1)
	House democrats			House republicans		
2000	1	2	2	1	5	5
1998	2	4	2	2	8	4
1996	2	6	3	2	9	4.5
1994	3	11	3.67	2	10	5
1992	2	10	5	3	10	3.33
1990	1	9	9	2	7	3.5
1988	2	7	3.5	3	13	4.33
1986	1	6	6	2	10	2.5
1984	4	10	2.5	4	17	2.83
Avg.	2	7.2	4.1	6	9.9	3.9
	Senate democrats			Senate republicans		
2000	6	1	0.16	5	8	1.6
1998	7	10	1.4	6	8	1.3
1996	4	8	2	9	10	1.1
1994	8	13	1.63	6	5	0.8
1992	6	14	2.33	13	20	1.5
1990	5	9	1.8	7	12	1.7
1988	4	11	2.75	8	18	2.3
1986	7	9	1.3	8	18	2.3
1984	3	9	3	6	20	3.3
Avg.	5.6	9.3	1.8	7.6	13.2	1.8

Source: http: / / www.cfinst.org / studies/ vital / 3–8.htm

Donors give to those candidates whom they most agree in order to help to ensure that their candidates win (Bronars & Lott, 1997).[12]

Conflicting evidence has been presented on the impact of donation limits on total state level campaign spending. Time-series and panel data indicate that donation limits have not significantly reduced campaign expenditures (Daniel & Lott, 1997, p. 176 and Lott, 2000, p. 374) but another cross-sectional study finds more regulations are correlated with reduced campaign spending (Hogan, 2000).[13] Whatever the case, there has been an overall growth in spending over time which indicates that campaign finance regulations have not had a large impact. In any case, even if regulations have a slight dampening effect on campaign donations, as with price controls, donation limits are unlikely to be successful in stopping a general rise in resources devoted to political competition as competition can take many other forms than spending by the candidate.

With campaign expenditures rising faster than inflation, even in the four states where donation limits are indexed to inflation (Kentucky, Maryland, Minnesota and New Jersey), there is very likely to be an increase in the average number of donors in competitive campaigns. As noted previously, this is particularly difficult for challengers for as the number of contributors giving to campaigns rises over time, the gap between the challenger starting at this task and the incumbent will be increasing.

3.3. Other types of laws that can affect electoral competition

There are two other major types of regulations that have been discussed impacting electoral competition in ways similar to campaign finance regulations. Legislative term limits have probably gotten the most attention, with 18 states adopting such laws between 1990 and 1994.

Some limited evidence from California suggests that term limits increased the rate that challengers won, reduced the win margin in elections, encouraged more candidates to run, and produced fewer single candidate races (Daniel & Lott, 1997).[14] These effects occurred even before legislators were actually required to leave office because of the limits. A foreseen end to an incumbent's stay in an office encouraged others to enter the race prior to his last term so as to better position themselves to run when there would be no incumbent. Also some incumbents may have voluntarily left their office earlier than otherwise planned due to term limits. Other higher offices might not be expected to be available precisely when the term limit would dictate an end to the office, and thus the legislator might have seen fit to run for another office when the opportunity at an earlier date. Furthermore, as legislators got closer to the end of their allowed terms – thus with less to lose than if there had been no term limits – they may have fought less tenaciously to stay in office (Crain & Tollison, 1976).

[12] Stratmann (1992) argues that donations are not made to get a candidate with whom you agree elected but to influence the voting behavior of members.

[13] However, cross-sectional data seems very questionable to use in this case because it is really not possible to deal with the underlying differences across states. For example, what if the states with relatively low levels of campaign expenditures per voter were the ones that tended to adopt campaign finance regulations.

[14] Some earlier studies used historical continuation rates to predict the effect term limits will have on the composition of Congress (e.g., Reed and Schansberg, 1994 and 1995). This evidence suggested that there would be a fairly large sudden increase retirements just when the rules became binding. The empirical evidence cited above indicates that the transition was much smoother in California because there was a large increase in turnover before the limits became binding. See also Reed and Schansberg (1992).

Another set of potentially important legal changes involved what was commonly referred to as the motor voter registration, perhaps best known for allowing people to register to vote when getting their driver's licenses (Knack, 1995, 1999). These rules also allowed election-day registration. At the beginning of our sample in 1984 only seven states allowed such registration, and that increased to 35 states by 1992, before the federal National Voter Registration Act of 1993 required such registration rules for Federal elections by 1996.[15] These rules are believed to have increased the number of voters by facilitating individuals making late decisions to vote (Knack, 1999).[16] This might somewhat change the composition of voters (given the political battle with Democrats supporting the legislation and Republicans opposing it, presumably Democrats viewed themselves as benefiting from the law). At least temporarily, this could have increased legislative turnover.

Given that we will be testing whether similar changes occurred after campaign finance regulations, we should control for this law to ensure that the changes we measure are due to changes in campaign finance rules rather than the introduction of motor voter registration or term limits.

4. A note on the laws

The campaign finance laws examined here focus on donation limits. These can take several forms, either as limits on the amount directly given to a candidate, to a party, or by a party to a candidate. Other rules govern the operation of political action committees, both how much can be given to them and how much they can give to a candidate. The regulations provide for either a specific limit or a ban on donations. A list of the laws and the states to which they apply is provided in Table 2.

From a statistical point of view, the study of campaign finance laws benefit from the frequent removal and reinstitution of such laws. The laws are also sometimes struck down by the courts and that helps to separate these legal changes from the political pressures that drive the legislature.

On the other hand, when states pass campaign finance regulations, they tend to look very similar to the laws in other states. Unfortunately, this makes it harder to statistically distinguish the influence of one particular regulation from another.

Within certain broad classifications, the imposition of sets of regulations are highly correlated. As shown in an appendix available from the author, states that regulate donations to a political party by individuals are also very likely to regulate donations to a political party by either corporations or unions. If donations by independent PACs are regulated, donations by corporate or union PACs are likely to be treated similarly.[17] Correlations from the panel data set are usually .7 or higher within similar sets of laws. It is also very clear that when individual donations directly to candidates are regulated, there is a very high probability that all types of political action committees are regulated. The correlations in this last case are all very close to .85, and because of this the results obtained in this study for individual donation

[15] Vermont was the only state that did not come into compliance with the National Voter Registration Act until after 1996 (Knack, 1999).

[16] The Knack (1999) study was essentially purely cross-sectional, comparing the changes across states between two presidential elections.

[17] Indeed, there is only one state for one election (Ohio, 1996) where the rules for corporate and union PACs briefly differ. The difference is so small given the large data set that the results for the two types of laws are indistinguishable.

Table 2A Contribution limits for state senate and political parties

	Unlimited contributions for entire time period	Switch from unlimited to limited contributions	Switch from limited to unlimited contributions	Limited contributions for entire time period
Individual contribution limit	AL, IL, IN, IA, MS, NE, NM, ND, PA, TX, UT, VA	AZ (88), CA (90, 02), CO (98, 02), GA (92), ID (00), LA (91), MO (96, 02), NV (92), OH, (98), OR (96), RI (90), SC (92), TN (96), WA (94)	CA (92), CO (00), MO (00), OR (98), MO (00)	AK, AR, CT, DE, FL, HI, KS, KY, ME, MD, MA, MI, MN, MT, NH, NJ, NY, NC, OK SD, VT, WV, WI, WY
Limit on party contribution to a candidate	AL, AZ, CA, CT, IL, IN, IA, KS, LA, MD, MS, NH, NJ, NM, NY, NC, ND, OH, PA, SD, TX, UT, VA, WI, WY	AK (98), CO (98), DE (92), FL (92), GA (92), ID (98), KY (95), MA (94), MO (96, 02), MT (86), NE (96), NV (98), OR (96), RI (94, 02), SC (92), TN (96), VT (00), WA (94)	MO (98), OR (98), RI (96)	AR, HI, ME, MI, MN, OK, WV
Individual donations to parties	AL, AZ, AR, FL, GA, ID, IL, IA, MI, MN, MO, MT, NE, NV, NM, NC, ND, OR, PA, TN, TX, UT, VA, WA, WY	AK (96), CA (98), CO (98), DE (90), HI (96), KS (90), MS (94), NJ (93), NY (92), OH (96), RI (92), SC (92), VT (00), WV (96)		CT, IN, KY, LA, MD, ME, MS, NH, OK, SD, WI

Table 2B Limits on contributions to state senators and political parties by corporations and labor unions

	Unlimited contributions for entire time period	Switch from unlimited to limited contributions	Switch from limited to unlimited contributions	Limited contributions for entire time period
Corporate donations to state senators	IL, MO, NE, NM, UT, VA	CA (90). GA (92), ID (98), LA (89), NE (96), NV (92), NJ (93), RI (90), SC (92), WA (94)	CA (92)	AL, AR, DE, FL, HI, IN, ME, MS, NY, VT
Corporate donations to political parties	AR, FL, GA, ID, IL, IA, ME, MO, NE, NV, NM, ND, OR, UT, VA	CA (98), CO (98). DE (90), HI (96), KS (90), NJ (93), NY (92), SC (92), VT (00), WA (94)		AL, IN, LA, MD, MS
Union donations to state senators	AL, CA, IL, MS, MO, NM, UT, VA	GA (92), ID (98), IA (96), KY (91), LA (89), MA (94, 00), NE (96), NV (92), NJ (93), NY (94), RI (90), SC (92), TN (96), WA (94)	MA (96), NY (86)	AR, DE, FL, HI, IN, KS, M MD, MN, MT, OK, VT, W
Union donations to political parties	AL, AR, FL, GA, ID, IL, IA, ME, MS, MO, MT, NE, NV, NM, OR, UT, VA	CA (98), CO (98), DE (90), HI (96), KS (90), KY (97), MA (94), NJ (93), NY (92), SC (92), VT (00), WA (94), WV (96)		IN, LA, MD, OK

Table 2B Limits on contributions to state senators and political parties by corporations and labor unions

	Prohibited contributions for entire time period	Switch from unlimited to prohibited contributions	Switch from prohibited to unlimited contributions	Switch from limited to prohibited	Switch from prohibited to limite
Corporate donations to state senators	CT, IA, KY, MA, MI, MN, MT, NC, ND, OH, OK, PA, SD, TN, TX, WV, WI, WY	CO (98), OR (96)	OR (98)	AK (92), AZ (96), MD (02), RI (92)	AZ (94), CO (02), (00)
Corporate donations to political parties	AZ, CT, MA, MI, MN, MT, NH, NC, OH, OK, PA, RI, SD, TN, TX, WV, WI, WY	AK (96)			KY(01)
Union donations to state senators	AZ, CT, NH, NC, ND, PA, SD, TX, WY	CO (98), OH (96), OR (96)	CO (02), OR (98)	AK (98), MI (98), RI (94), WI (88)	
Union donations to political parties	AZ, CT, MI, MN, NH, NC, ND, OH, PA, RI, SD, TX, WY	AK (96), TN (00)		WI (88)	

limits are very similar to the results for PACs. Since this paper will examine so many other laws and the PAC results tend to be so similar to the estimates involving individual donations to candidates, the PAC results will usually not be reported.

Under the BCRA, political parties will be prohibited from raising and spending soft money.[18] Fund raising restrictions as well as rules imposed on expenditures by local, state, and federal political parties are intended to prevent the circumvention of imposed legal limits, not only by companies and unions but also by individuals. The new federal law has similarities to some existing state laws. 33 states prohibit or regulate union contributions to parties, and 35 have similar rules for corporations. Just as the federal law will limit individual donations to $25,000 per calendar year, 24 states had limits by 2002.

The BCRA regulations limiting what help political parties can give candidates also have some similarities to state laws where the amount of money that a state party can give a candidate is strictly limited. Just as the federal government places limits of $5,000 on how much the national party can give congressional candidates during a calendar year, 25 states place limits on the amount of money that parties can give state senate candidates. While some place aggregate limits on how much a party can give in total, states with a specific per-senate-race limit average about $12,000.

The proposed federal variable donation limits are similar to but considerably more complicated than the state laws that have existed in Ohio since 1996 and in California in 2002. These two states completely remove limits once the opponent contributes more than a specified amount. By contrast, the federal rules link different levels of expenditures by one's opponent to different donation limits (different rules apply to the House and Senate).

Unfortunately, since so few states have adopted the rules regarding stepwise donation limits or restrictions on donation by minors, it will be particularly difficult to discern any particularly impacts from those laws.

5. Data on elections

The election data used here involve all the state senate races from 1984 through 2000 as well as 16 state senate primaries in 2002.[19] 1984 was picked as a starting point simply because it coincided with the first release of the Federal Election Commission's detailed Campaign Finance Law: A Summary of State Campaign Finance laws with Quick Reference Charts. However, since the last issue was released during the end of 2000, it was necessary to use Lexis to check current state statutes as of August 2002 and complete the list of regulations for the 2001 elections and the 2002 primaries.

State senate races were examined because they involved larger constituencies, and thus were relatively more comparable to U.S. Congressional races. With 1,969 state senate seats in the United States in 2002, state senators on average represent about one-fifth of the number of constituents as do congressmen.[20] But, in two states, California and Texas, the population equals or exceeds the population represented by congressmen. Population size is highly relevant because campaign reform rules are unlikely to be as relevant in tiny districts where much campaigning is based on going door-to-door campaigning or other personal contact.

[18] Bauer (2002, e.g., pp. 11, 38) has a concise list of some of the new federal rules regarding political parties.

[19] The states with the primaries were Alaska, Arkansas, California, Colorado, Illinois, Indiana, Iowa, Kentucky, Maine, Michigan, Missouri, Nebraska, North Dakota, Tennessee, Texas, and West Virginia.

[20] By comparison, there are 5440 state house seats in the United States, a number that is over 2.75 times larger.

There were two reasons for obtaining data on both primary and general election races.[21] First, any impact of campaign finance rules at each stage, including primaries, affects which politician is elected. Second, different types of elections might be affected differently: for example, most general elections only involve serious candidates from the Democratic and Republican parties. It is thus possible that there is much more variation in the number of potentially serous candidates in the primaries than in the general election.

The election returns data for each state senate were obtained from each state's elections division or state elections board. Using this information, it was possible to determine: the margin of the win between the first two finishers in a race, the number of incumbents in the race,[22] whether the incumbent won, whether a candidate ran unopposed, and the number of candidates in the race. Table 3 lists out the summary information for the data.

Changing demographic compositions of districts is not only useful in predicting legislative turnover, but also for changes in variables such as the turnout rate. For example, older voters tend to vote at higher rates than other groups. It is unlikely that any significant number of precincts experience large demographic changes within any sort period of time, except for changes that result from redistricting.

Since detailed demographic data were not available for each state senate district, geographic fixed effects were used for each district. On account of redistricting and the possible changes in demographic makeup that occurs then, the geographic fixed effects were interacted with separate dummy variables for the 1984 to 1990 and 1992 to 2002 periods. In Massachusetts, where redistricting was delayed until 1994, the periods were 1984 to 1992 and 1994 to 2002. Having separate geographic fixed effects for just the 2002 primaries to account for the most recent redistricting would have left no remaining information from those elections. For the regressions that will be reported, I also tried dropping out the observations from 2002, but doing so had very little effect on the results.

Other extensive demographic and economic information is available at the state level and can hopefully pick up state trends that could impact electoral outcomes. These variables include the unemployment rate; the poverty rate; real per capita personal income; state population and population squared; a set of demographic variables that subdivide a state's population into 36 different race, sex, and age groups (e.g., the percent of the population that is white male between 10 and 19, the percent white male between 20 and 29, and so on by sex, whether one is black, white, or other, and age).[23]

[21] See Jacobson (1975) for one of the earliest analyses of the differences between primary and general elections. He found that campaign spending matters more for primary than general elections. If so, campaign finance regulations might have a bigger impact on the outcomes of primaries than general elections.

[22] Fewer than one percent of the races have multiple incumbents in a race. These contests arise due to redistricting. Removing them from the sample has no discernable impact on the results.

[23] Per Capita Income came from Bureau of Economic Analysis Regional Accounts Data, Annual States Personal Income, http://www.bea.doc.gov/bea/regional/spi/. The unemployment rate is from Bureau of Labor Statistics, Local Area Unemployment Statistics, http://www.bls.gov/lau/. The poverty rate is from the U.S. Census Bureau, Census 2000, Percent of People in Poverty by State, http://www.census.gov/ftp/pub/hhes/poverty/poverty00/tabled.pdf. The prison population is from the Bureau of Justice Statistics, Prisoners in 2001, Prisoners in 2000, Prisoners in 1999 and Prisoners in 1998, http://www.ojp.usdoj.gov/bjs/prisons.htm. The demographic information is from U.S. Census Bureau. Data was available up until 2000 and then extrapolated past that.

Table 3 Summary statistics

Variable	Mean	Std. Dev.	Minimum	Maximum
Incumbent	0.584	0.539	0	5
Number of voters	23,400.390	35,823.800	0	415579
Number of candidates	1.726	1.043	1	18
Term limits	0.154	0.361	0	1
Motor voter	0.604	0.489	0	1
State population	5.7 million	5.75 million	453589	3.39E+07
Real income	15,032.330	2,335.098	9463	24420.27
% pop in prison	0.003	0.002	0.0005205	0.0513351
Unemp rate	5.625	1.737	2.2	15
Poverty rate	12.760	3.778	2.9	27.2
Demographics				
% population between 10 and 19				
Black male	0.822	0.832	0	5.16
Black fem	0.800	0.830	0.02	5.32
White male	6.239	1.149	0.7299999	10.18
White fem	5.914	1.116	0.6999999	9.909999
Neither black or white male	0.370	0.587	0.04	5.09
Neither black or white fem	0.359	0.571	0.04	4.91
% population between 20 and 29				
Black male	0.767	0.717	0.04	6.41
Black fem	0.814	0.828	0.03	7.57
White male	6.542	1.100	2.480291	9.6
White fem	6.398	1.153	1.890001	9.18
Neither black or white male	0.356	0.537	0.04	5.1
Neither black or white fem	0.359	0.541	0.04	5.17
% population between 30 and 39				
Black male	0.704	0.674	0.0264913	5.28
Black fem	0.797	0.823	0.02	6.11
White male	7.105	0.975	2.577728	9.88
White fem	7.072	0.997	2.481769	9.440001
Neither black or white male	0.336	0.584	0.04	5.440001
Neither black or white fem	0.364	0.612	0.044834	5.54
% population between 40 and 49				
Black male	0.496	0.507	0.02	4.08
Black fem	0.573	0.617	0.01	5.06054
White male	5.892	1.083	1.67	8.578869
White fem	5.889	1.036	1.55	8.5947
Neither black or white male	0.247	0.495	0.03	4.969999
Neither black or white fem	0.274	0.523	0.03	5.230001
%population between 50 and 64				
Black male	0.416	0.419	0.0076228	4.42
Black fem	0.526	0.556	0.0084404	5.65
White male	5.822	0.802	1.61	8.121383
White fem	6.182	0.916	1.4	8.54943
Neither black or white male	0.204	0.499	0.02	4.42
Neither black or white fem	0.240	0.591	0.02	5.225658
% Population between 65 and older				
Black male	0.284	0.315	0.0053047	3.506002

(*Continued on next page*)

Table 3 (*Continued*)

Variable	Mean	Std. Dev.	Minimum	Maximum
Black fem	0.450	0.520	0.0051337	6.159999
White male	4.692	0.979	1.148151	7.467333
White fem	6.800	1.465	1.28	9.980002
Neither black or white male	0.126	0.453	0.01	4.267305
Neither black or white fem	0.158	0.526	0.0173963	5.339059
Primary election	0.570	0.495	0	1
Democratic primary	0.304	0.460	0	1
Republican primary democrats control state	0.266	0.442	0	1
Senate democrats control state	0.606	0.489	0	1
House	0.677	0.468	0	1
Dem gov	0.495	0.500	0	1
Leg. & Gov.	0.113	0.317	0	1
Republican pres vote margin 1984	12.076	24.167	0	74.5
Republican pres vote margin 1988	11.280	22.072	0	66.2
Republican pres vote margin 1992	8.826	16.161	0	49.7
Republican pres vte margin 1996	10.012	19.630	0	87.72853
Republican pres vote margin 2000	7.210	18.270	0	71.7

Information obtain on legislative term limits and state motor voter bills that were enacted prior to 1996 were obtained from U.S. Term Limits and Knack (1995, 1999), respectively.[24]

6. Results

The primary question of this paper is whether campaign finance regulations have affected electoral competitiveness. Competitiveness can be measured very simply the margin of victory between the first two candidates in a race. Other measures, such as the number of candidates running for office or the incumbent win rate, will provide qualitatively different tests of this question. Voter participation rates provide another-proxy because more heavily contested races are well known to generate higher voter turnout. Similar specifications will be used to examine the different measures of electoral competitiveness.

The basic model takes the following form:

$$\text{In (Winning Vote Margin}_{jk}) = \mathbf{b}_1 \text{ Trend Prior to Law Going in Effect}_{jk} + \mathbf{b}_2 \text{ Trend When Law is in Effect}_{jk} + \mathbf{b_3} \text{ Race Specific Control Variables}_{jk} + \mathbf{b_4} \text{ State Specific Control Variables}_{ik} + \mathbf{b_5} \text{ Dummy for the Democratic Primary} + \mathbf{b_6} \text{ Dummy for the Republican Primary} + \mathbf{b_7} \text{ State Senate District Fixed Effects for the 1980's and 1990's} + \mathbf{b_8} \text{ Year Fixed Effects} + \text{a} + \text{e}_{jk} \quad (1)$$

[24]The information from U.S. Term Limits can be downloaded at: http://www.termlimits.org/currentinfo/state_TL/index.html.

where "ln(Winning Vote Margin$_{jk}$)" is the winning vote margin between the top two candidates in state senate district j and election *k*. Two time trend law variables ("Trend Prior to Law Going in Effect" and "Trend When Law is in Effect") are used for those states that passed laws between 1984 and 2002. For example, suppose that a law imposes campaign limits for the 1990 election. Then the "Trend When Law not in Effect" will equal −3 for elections during 1984, −2 for 1986, and −1 for 1988. Similarly, the "Trend When Law is in Effect" would equal 1 for 1990, 2 for 1992, and so on.

Separate trends were created for each of the different campaign finance regulations examined. The race specific control variables include whether an incumbent is running in that particular election, the number of candidates running, and the voter participation (the number of voters) and voter participation squared. The state specific control variables are: a dummy variable for the existence of term limits; a dummy for the motor voter law; per capita income; unemployment, poverty and prison population rates; state population and population squared; and race, age, and sex demographics. Dummy variables are also included for whether the election is a Democratic or Republican primary, with the intercept left to represent the general election. Fixed year and state senate fixed effects are used. Separate state senate fixed effects are used for the 1980's and 1990's to pick up differences in districts due to redistricting. In addition, if redistricting creates fewer competitive districts over time, allowing separate geographic fixed effects for the two periods can control for that up. Finally, because of possible correlations across error terms for a state's senate districts, the regressions cluster the data by state. The regressions also report robust *t*-statistics.

Using simple dummy variables to examine whether a law has an impact can be quite misleading sometimes. A dummy implicitly assumes that any law produces a one-time change in the average. But there may be pre-existing trends prior to the law and, as we have discussed in Section II, campaign regulations may produce a different impact over time. For example, if win rates were declining prior to the law and rising immediately afterwards, a simple dummy variable could entirely miss this important change. Indeed, if the decline before the law was perfectly symmetrical with the rise afterward, measuring the before-and-after average would show no change at all. Trend variables can pick up patterns missed by simple dummies and make it possible to provide a simple *F*-test to see if there is a change in the trends before-and-after the law.

6.1. Campaign finance laws and winner margins

The first results reported in Figures 1A through 1G take specification (1) and break down the trends on a year-by-year basis with a series of dummy variables instead of just using the trends. The laws for variable donation limits and restrictions on donations by minors are excluded from these first estimates since there is not enough information to get precise estimates of the year-by-year impact of these laws. (Only Ohio had the variable limit rule in effect for more than one election and only Florida, Kentucky, and Massachusetts had the restriction on minors in effect for more than three elections.)

The figures report the year-by-year coefficient estimates as well as the 95 percent confidence intervals around those estimates. In every single case, the winning margin increases immediately after the campaign reform is adopted, though the size of the effect varies dramatically by type of campaign regulation. Limits on individual, corporate, and union donations to state senate candidates imply only relatively small changes, with limits on these three

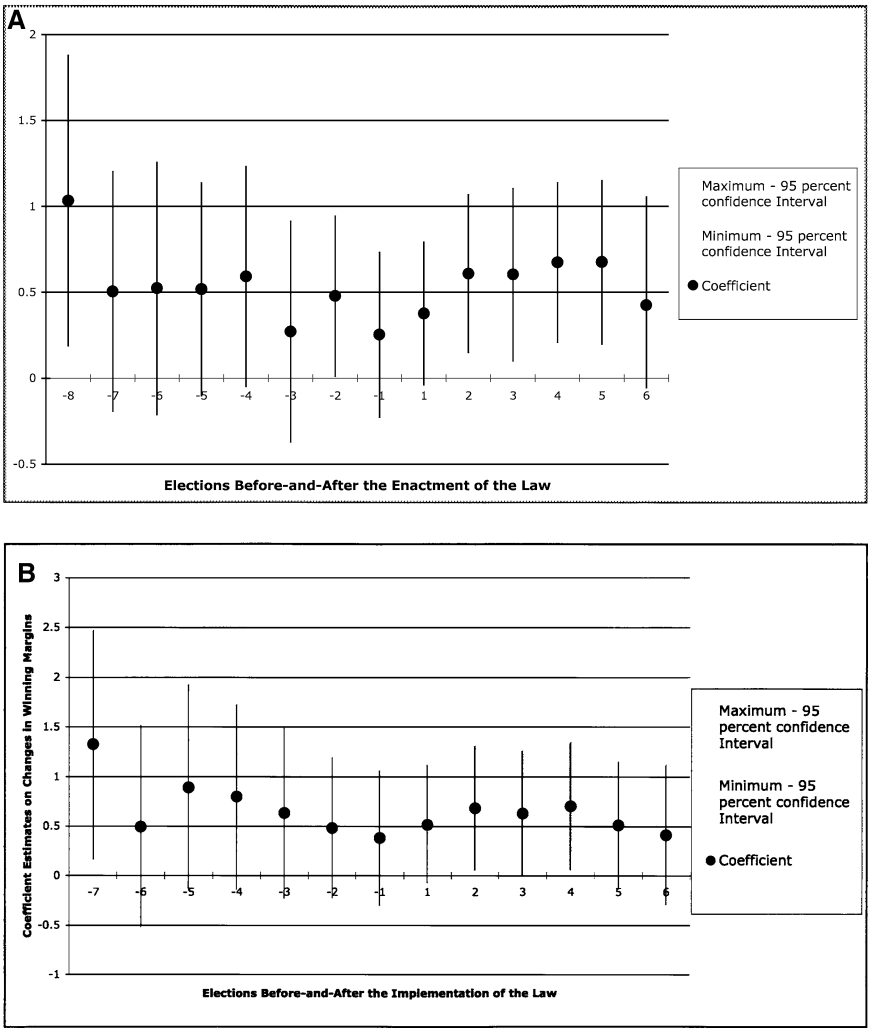

Fig. 1 The impact on winning vote margins of regulating (A) Individual donations to state senate candidates, (B) Corporate donations to state senators, (C) Union donations to state senate candidates, (D) Political party donations to state senate candidates, (E) Individual donations to political parties, (F) Corporate donations to political parties and (G) Union donations to political parties

types of donations having only a temporary impact on competitiveness. By the sixth election after the election, whatever impact arising from the regulations has disappeared. The impact from individual donation limits is more persistent, with the winning vote margin still about 30 percent higher in the sixth year after the law than compared to the election immediately preceding it.

The most dramatic impacts from the law are limitations on either donations by or to political parties. Limits on individual donations to parties almost doubles the average winning margin after six elections. Even the average winning margin during the

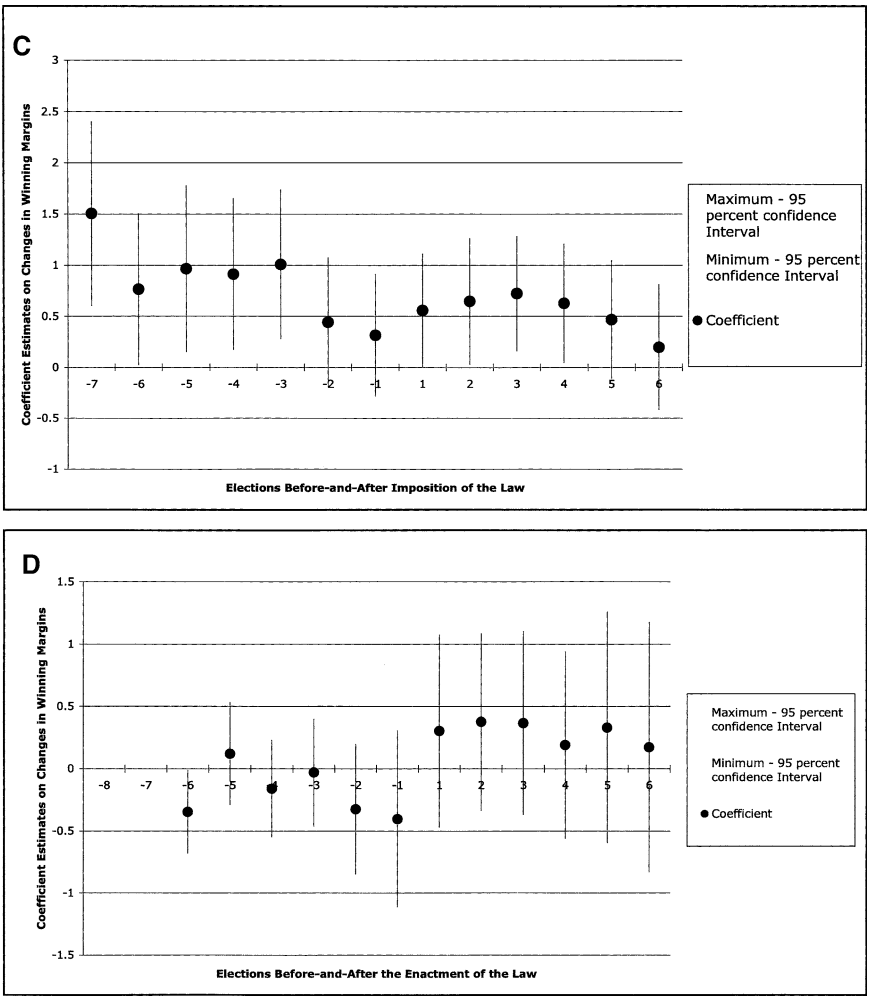

Fig. 1 (*Continued*)

six elections after the law is about 58 percent higher than the six elections prior to the election.

Overall, campaign finance reform lowers the competitiveness of the races during the first election that the campaign finance laws are in effect. (The figures show a similar, if somewhat smaller, increase when the sample is limited to those races where more than one candidate is running for office.) This is exactly what the theory predicted. Restrictions on donations – by individuals, corporations, or unions to candidates – all imply that, compared to the pre-law period, the winning margins increase by at least 13 percentage points during the first election that the policy is in effect.[25] For the states that adopted rules governing direct donations to candidates during our sample, win margin in the elections prior to change averaged about 30

[25]To calculate these percentages, we use the approximation 100*[exp(b)-1].

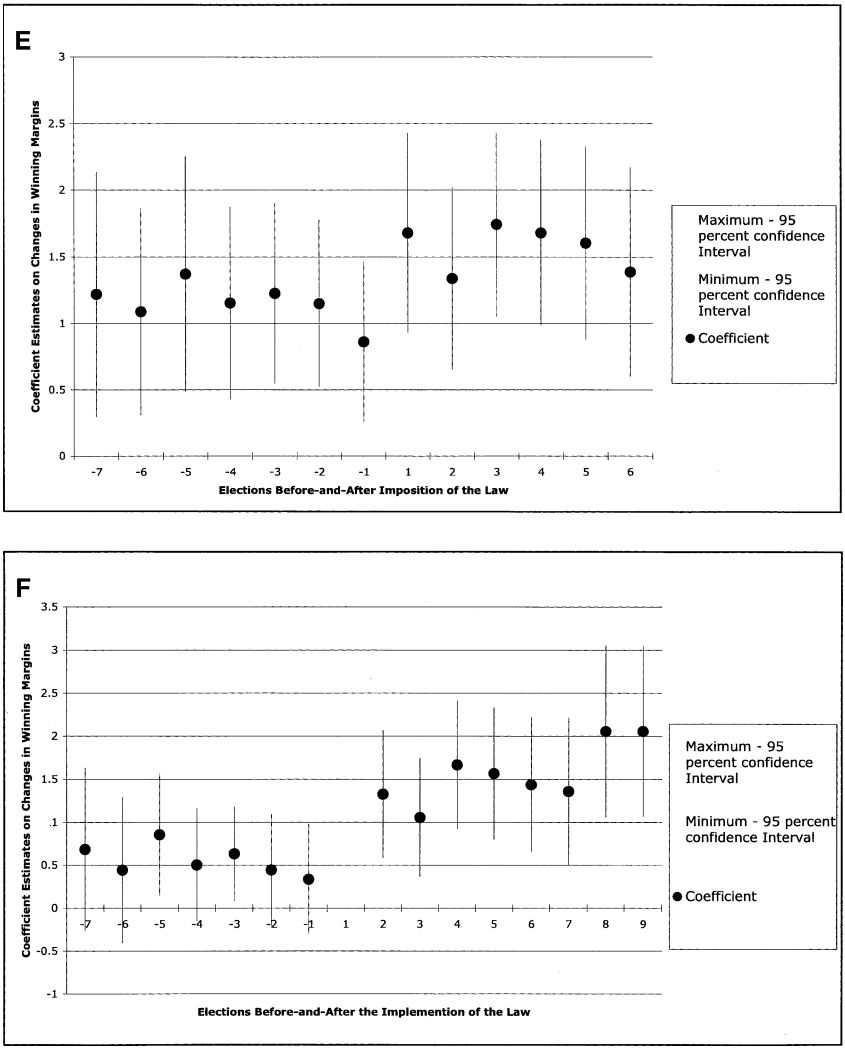

Fig. 1 (*Continued*)

percentage points. While the graphs indicate a dramatic rise in win margins when the law is adopted, the pattern after that point appears less clear. For some graphs, such as 1A for individual donations to senate candidates, the winning margin first rises and then declines. Generally, though, by the sixth election after the law (twelve years later), the win margin is still quite high but is beginning to decline.

I also broke down these figures separately for primary and general elections (available from the author). The contrast between campaign regulations on primary and general elections is striking. It is very difficult to see any consistent change in the winning vote margin after the adoption of campaign finance regulations. While all the general election results show increased winning vote margins immediately after the regulations were

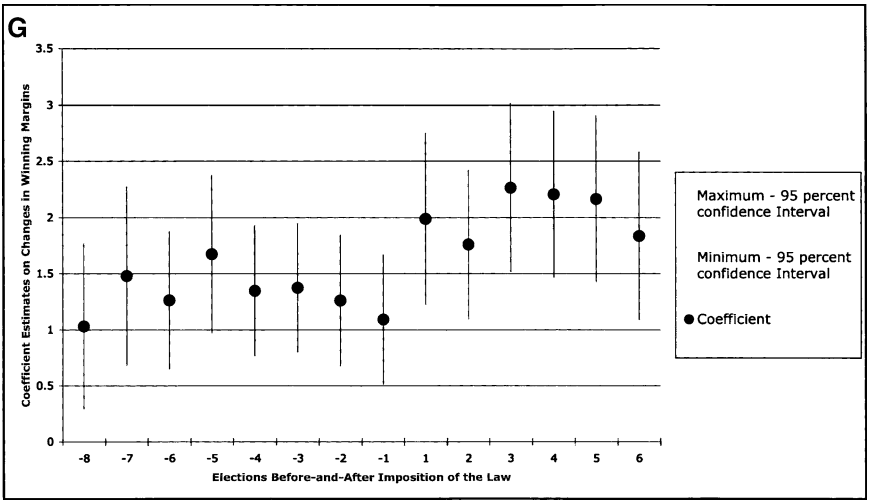

Fig. 1 (*Continued*)

imposed, the impact was again most pronounced for either donations from or to political parties. The fact that regulating party donations impact the general elections and not primary elections makes sense simply because party donations do not play much of a role in primaries. This difference between primary and general elections continues when the results are broken down this way also.[26] I also examined the year-by-year changes in win margins when the sample is limited to races where at least two candidates are in the race or when there is an incumbent in the race, and the pattern of change over time remain very similar.

The next two sets of estimates examine the sensitivity of the trend estimates and are reported in Table 4. The first set of WLS estimates analyze the trends in win margins using all the variables used in specification (1) plus separate trends for each state. While strong arguments can be made to include the control variables used in the first set of estimates (e.g., whether an incumbent is present or the number of candidates in the race), the second set of estimates shown at the bottom of the table provide a check for the robustness of the results; they only account for year fixed effects and separate district fixed effects for the 1980's and 1990's.

The key results are the differences in the before-and-after trends and their associated *F*-tests. Not all the changes in trends are statistically significant, which is not too surprising given Figures 1A to 1G using a somewhat different specification, but, with two

[26]I also tried including variables for the public financing of state senate campaigns. Four states had different types of public financing during the sample period: Arizona, Maine, Minnesota, and Wisconsin. The rules for Arizona and Maine went into affect in 2000, while the ones for Minnesota and Wisconsin were in affect prior to the beginning of the sample period (Public Campaign, 2002). Thus any impact of public financing in Minnesota and Wisconsin is being picked up by the geographic fixed effects. Not surprisingly given the small number of observations affected including a simple dummy for public financing did not greatly change the results reported in this paper. The public financing laws tended to make the races more competitive, but with two states over just an election and a half it is probably difficult to put a lot of weight on this result. Given that the emphasis of the paper is on the BCFR Act, I will leave this discussion for another paper.

Table 4 The impact of campaign finance regulations on the winning vote margin in state senate primary and general election races: 1984–2002 (Two sets of results are reported. Both sets use weighted least squares, weighted by the number of voters. The first set control for whether an incumbent is in the race; number of candidates; number of votes and votes squared; dummies for state term limits and motor voter laws; state population and population squared; real per capita personal income; state unemployment, poverty, and prison population rates; dummies for democratic and republican primaries; 36 demographic categories; year and geographic fixed effects (separate fixed effects for the 1980s and 1990s for each state senate district); and state specific trends. The second set only uses the geographic and time fixed effects. Not all coefficients reported. Estimates clustered by state and robust absolute *t*-statistics reported)

	Regulations on donations to candidate by						Donations to political party donations by		
Variable	Individual	Corporation	Union	Political party	Variable limit	Minors	Individual	Corporation	Union
(1) All the control variables used previously plus separate state time trends									
Percent Change in	−.114	.018	.052	.234	.106	.109	.519	.508	.448
Winning margin by	(1.14)	(.15)	(.38)	(1.32)	(.41)	(1.27)	(2.88)**	(2.31)**	(2.43)***
Election in the years									
Leading up to law									
Percent change in	.126	.264	.182	.456	.012	.151	.571	.688	.631
winning margin by	(1.26)	(2.42)*	(1.71)	(2.74)***	(.04)	(1.13)	(3.66)***	(3.65)***	(4.26)**
election in the years									
after law adopted									
Difference in two	.239	.242	.130	.222	−.094	.042	.052	.180	.183
previous rows [*F*-test]	[4.14]††	[2.56]††	[1.12]	[4.18]††	[.59]	[.10]	[.23]	[3.41]††	[3.04]††
Incumbent	.146	.144	.148	.152	.144	.148	.153	.154	.152
	(2.18)**	(2.21)**	(2.20)**	(2.35)**	(2.14)**	(2.22)**	(2.34)**	(2.39)**	(2.36)**
Term limit	.058	−.013	.125	.059	.139	.138	.191	.141	.129
	(.45)	(.10)	(1.12)	(0.50)	(1.43)	(1.36)	(1.63)	(1.17)	(1.06)
Motor voter	.006	−.003	.002	−.100	.028	.012	.025	−.016	−.022
	(.06)	(.03)	(.02)	(0.96)	(.30)	(.12)	(.025)	(.15)	(.22)
Number of voters	−4.28 e − 07	−4.48e−07	−4.46 e − 07	−4.63 e − 7	−5.36 e − 07	−4.37e−07	−4.84e−07	−5.03 e − 07	−4.93 e − 07
	(.40)	(.41)	(.41)	(0.42)	(.49)	(41)	(.44)	(.45)	(.45)
Number of	−.628	−.628	.63	−.632	−.625	−.627	−.630	−.631	−.631
candidates	(4.02)**	(4.02)**	(4.60)***	(4.08)***	(4.04)***	(4.03)***	(4.05)***	(4.07)***	(4.06)***

(*Continued on next page*)

Table 4 (*Continued*)

	Regulations on donations to candidate by						Donations to political party donations by		
Variable	Individual	Corporation	Union	Political party	Variable limit	Minors	Individual	Corporation	Union
State population	$-1.36^{e}-8$	$3.54^{e}-8$	$4.55^{e}-8$	$3.7^{e}-8$	$3.3^{e}-8$	$3.69^{e}-8$	$-2.18^{e}-8$	$3.09^{e}-8$	$3.36^{e}-8$
	(0.53)	(2.08)**	(2.84)***	(2.44)	(2.05)**	(2.49)**	(0.86)	(1.96)**	(2.11)**
State population Sq	$-1.41^{e}-16$	$-1.52^{e}-15$	$-1.64^{e}-15$	$-1.42^{e}-15$	$-1.24^{e}-15$	$-1.4^{e}-15$	$5.27^{e}-16$	$-1.12^{e}-15$	$-1.19^{e}-15$
	(0.16)	(2.35)**	(2.93)***	(2.55)**	(2.24)**	(2.54)**	(0.58)	(2.04)^*	(2.13)**
Real per capita	−.000018	.000025	.000012	.00007	.000012	−.000011	.000054	−.000021	−.00003
Income	(0.19)	(0.21)	(0.11)	(0.61)	(0.10)	(0.09)	(0.58)	(0.19)	(0.24)
Unemployment rate	−.072	−.047	−.0487	−.016	−.043	−.0389	−.067	−.0396	−.029
	(1.91)*	(1.24)	(1.28)	(0.46)	(1.14)	(0.99)	(1.80)*	(1.16)	(0.88)
Poverty rate	.039	.0132	.013	.0086	.0152	.013	.043	.0061	.0056
	(2.20)**	(0.66)	(0.71)	(0.47)	(0.75)	(0.69)	(2.40)**	(0.36)	(0.32)
Percent of the	28.37	−.429	.0018	2.77	−1.02	−2.97	29.95	2.38	3.07
population in prison	(1.76)*	(0.12)	(0.00)	(0.80)	(0.30)	(0.59)	(1.83)*	(0.67)	(0.82)
Primary election	.237	.274	.275	.27	.26	.275	.229	.269	.269
dummy	(3.14)**	(2.50)**	(2.51)**	(2.49)**	(2.41)**	(2.50)**	(3.04)**	(2.48)**	(2.48)**
Republican primary	.09	.103	.104	.105	.109	.104	.0942	.094	.105
	(1.86)*	(1.80)*	(1.81)*	(1.83)*	(1.92)*	(1.82)*	(1.90)*	(1.88)*	(1.83)*
F- Statistic	1808.3	794.94	1826.41	560.9	63818.6	123.55	1219.35	6138.28	1326.82
Adj-R^2	.644	.644	.644	.645	.641	.644	.645	.645	.645
Number of Obs.	21241	21241	21241	21241	21241	21241	21241	21241	21241

*** Statistically significant at least at the 1 percent level for a two-tailed *t*-test
** Statistically significant at least at the 5 percent level for a two-tailed *t*-test
* Statistically significant at least at the 10 percent level for a two-tailed *t*-test
†† Statistically signifcant at least at the 10 percent level for an *F*-test
† Statistically significant at least at the 20 percent level for an *F*-test

exceptions, the results imply that the winning vote margin rose when the laws had been put into effect. In other words, the trend with the law in place was greater than the trend without the law. The most consistently statistically significant estimates across both specifications are for corporate and union donations to political parties and for direct corporate donations to state senate candidates. The change in the annual trend rate of between 11 and 27 percent is fairly large. Again referring to an average win margin of 30 percentage points, these estimates imply an annual change in trend of between 3 and 8 percentage points.

In the first set of estimates, all the coefficients imply reduced competition after the laws are enacted, though the change in trends are only statistically significant for five of the nine laws. (I also tried redoing these estimates using only the sample where there are contested races or where one incumbent was in the race and the results were very similar.) In the second set of estimates, all but one of the coefficients imply reduced competition, though half of these positive changes are not statistically significant.

Table 4 also lists out some of the results for the other variables. Unlike the previous specifications, the motor voter registration and the number of voters are no longer statistically significant. However, whether there is an incumbent in the race and the total number of candidates both still have statistically significant and large effects on the vote margin.

Weighted least squares (WLS) and two-stage least squares using a simple dummy variable for the laws were also examined. All the dummy variables using WLS imply that different laws cause an increase in win margins from the low teens to over 70 percent, with the restrictions on direct donations to candidates and restrictions on donations by PACs typically having a much smaller effect than restrictions on donations to political parties. The one exception is for donations by political parties to senate candidates, which has an effect of a similar magnitude to restrictions on donations to political parties. Given an average win margin of about 30 percentage points, the different laws are associated with anywhere from a 4 to over a 23 percentage point increase in win margins.[27] While similar in size to the other results, because so few states have these laws the estimates for variable donation limits and for minors are not statistically significant at the 10 percent level for a two-tailed *t*-test.

To deal with endogeniety, one instrument that might control for factors that may help determine the adoption of the laws, yet would affect the expected win margin, relies on how strong the Democratic Party is in any given state. The approach takes advantage of the fact that Democrats tend to view the campaign finance regulations much more favorably than do Republicans. There is no reason to believe that particularly Democratic states have significantly different win margins than states that are Republican. Indeed, the data confirms that the differences are relatively small. For Republican primaries, the average win margin is 80 percentage points whereas for Democratic primaries, it is 77 percentage points. States where the difference between the share of Republican and Democratic state senate seats

[27] All the regressions in this paper were rerun including a variable for whether there were campaign expenditure limits. The states with such regulations over at least part of the period were California, Colorado, Hawaii, Maine, Massachusetts, Minnesota, Nebraska, New Hampshire, Oregon, Rhode Island, Vermont, West Virginia, and Wisconsin. Including this variable strengthened the results of the campaign finance regulations being discussed. The results for the campaign expenditure limits were mixed. While a dummy variable for expenditure limits was always positive, in the regressions shown in Tables 5 and 6 frequently did not produce statistically significant results. As with the empirical results regarding donation limits, breaking down the results into trends before-and-after the implementation of campaign expenditure limits produce more statistically significant results.

exceeds 25 percentage points (62.5% to 37.5%) have almost identical general election win margins. In states where Republicans enjoy at least a 25 percentage point majority, the average win margin is 47.7 percentage points in general elections; in states where Democrats are equally well situated, it is 46.9 percentage points.

To try to capture this difference in views between the two parties I included the following instruments: a dummy for whether the Democrats control the state senate; a dummy for whether the Democrats control the state house; a dummy for whether the Democrats control the governorship; a dummy for whether the Democrats control both the legislature and the governorship; and a series of variables for the difference between the Republican and Democratic presidential candidates in the states.[28] Generally, the implied impact of the campaign finance regulations using instrumental variables are either the same or larger than reported for the WLS estimates presented earlier.[29]

Both the WLS and the 2SLS estimates generally provide similar, intuitively plausible results for the other control variables. The win margin is higher when there is an incumbent in the race, but it is lower when more voters participate or more candidates run. Two interesting results involve the other laws being accounted for here, term limits and motor voter registration. Term limits have a very tiny impact on win margins (only fractions of one percent) and the effect is never close to being statistically significant. By contrast, motor voter registration consistently reduces win margins by usually around 20 percent and the effect is statistically significant.[30]

While not all the laws have a consistently large and statistically significant effect in all the specifications, virtually all the results point to reduced competition when campaign finance regulations are imposed, sometimes the effects are very dramatic. And there certainly exists no consistent evidence that the reverse would be occurring.

[28]This last information was broken down into five different variables. For example, the 1984 presidential election results were used to create a variable that used the vote difference when election were held in 1984, 1985, or 1986 and had a value of zero otherwise. Similarly, the 1988 presidential election results were used for years 1987 to 1990, the 1992 presidential election results for 1991 to 1994, and so on up through 2002. These separate variables were used because there were different presidential candidates in different years and a 50 percent vote in the state for Ronald Reagan is not likely to imply the same thing about the state's political leanings as a 50 percent vote for Bob Dole.

[29]I also re-ran these estimates for just the general elections and including a variable for public financing of campaigns. The results corresponding to row 1 in Table 4 were as follows: Individual donations to candidate .377 (t-statistic = 2.46); corporate donations to candidate .57 (t-statistic = 2.19); Union donations to candidate .386 (t-statistic = 1.70); Political Party donations to candidate .58 (t-statistic = 3.39); Individual donations to political party .439 (t-statistic = 1.79); Corporate donations to political party .713 (t-statistic = 3.04); Union donations to political party .713 (t-statistic = 3.04); Independent PAC donations to candidate .323 (t-statistic = 2.06); Corporate PAC donations to candidate .352 (t-statistic = 2.16); Union PAC donations to candidate .318 (t-statistic = 2.02).

[30]The first stage estimates for the first 2SLS estimate indicate that relatively Republican-leaning states where the Democrats happen to have control of the legislature and the governorship are the most likely to adopt campaign finance reform regulations. Rows 2 and 3 in Appendix Table 2 report information on the validity of the instruments and whether the WLS estimates were significantly different from those reported using two-stage least squares. In all but two cases, the instruments do a good job of predicting when the campaign finance laws will be adopted (see the joint F-test in row 2), and it is not too surprising that the two cases were the results are week involve the variable variable limits and minors where the number of states with the laws are very limited. The Hausman test also indicates that in all but two cases the two-stage least squares estimates produce results that are statistically different than those produced by the simple WLS.

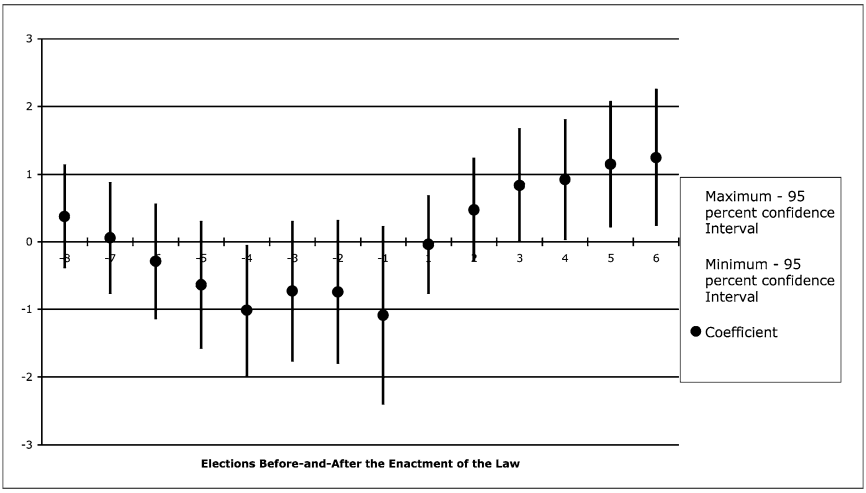

Fig. 2 The impact of regulating individual donations on the probability that only one candidate will run in a race

6.2. Campaign finance laws and other measures of electoral competition

Other measures of electoral competition involve the rate at which candidates run unopposed, the incumbent win rate, and the number of candidates. While the predictions from Section 2 are clear in terms of whether more candidates will run unopposed and whether incumbents are more likely to win, the implications for the number of candidates are not quite as clear. While it is true that campaign finance regulations will deter potential serious candidates when an incumbent is running for re-election, more candidates are likely to run for office when the seat is open precisely because having an even safer incumbency is highly valued.

Figures 2 through 4 provide graphs similar to those for Figures 1A through 1G, but only for regulations on individual donations to save space. The results are again fairly striking. In each case, the trend before the law is different from the trend afterward, though arguably, in Figure 4 the decline in the number of candidates running for office actually started slightly before the enactment of the law. Yet, even Figure 4 implies that donation limits on individuals produce a twenty percent decline in the number of candidates running. Clearly though, the probability that only one candidate would run for office hit its lowest point (see Figure 2) in the election immediately preceding the enactment of the law. The subsequent rise in the probability that candidates will run unopposed takes it well above the 95 percent confidence interval for even a single year, and the probability that only one candidate will be in a race essentially doubles after six years. Similarly, for an incumbent to win re-election (see Figure 3), the probability of re-election was falling right up until the last election prior to the law and then rising swiftly after that.

The graphs also provide a warning of the danger from relying too heavily on simple before-and-after averages to measure the impact of a law. Despite an obvious pattern existing when one examines the impact of the law on a yearly basis, it is easy to see how the "V" or "U" type pattern of these graphs would make it difficult to get an clear average before-and-after difference. Relying merely on such averages would fail to indicate a significant effect of the law.

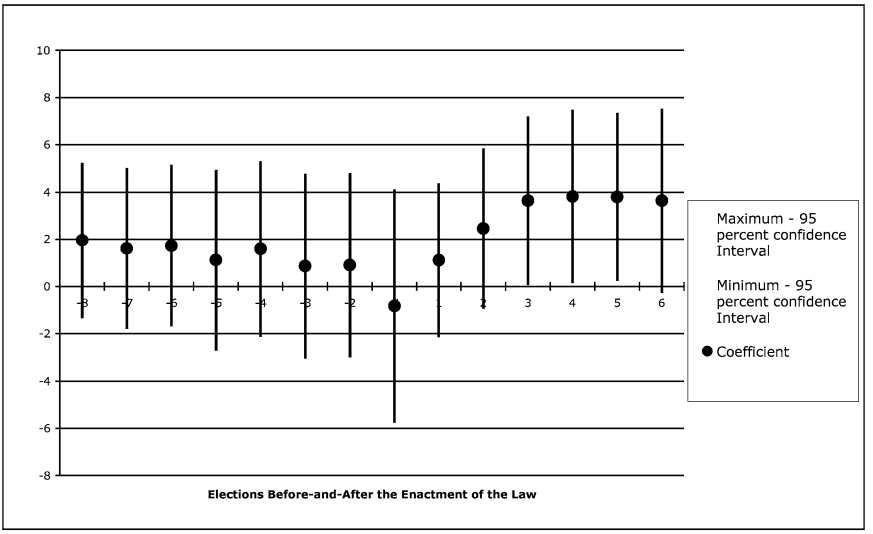

Fig. 3 The impact of regulating individual donations on the probability that an incumbent will win re-election

The regressions in Tables 5 through 7 use the specifications previously presented in the first part of Table 4, with modest changes to accompany the new endogenous variables being used. For example, the regressions measuring the probability that a candidate will run unopposed do not control for the number of candidates running because that is what the endogenous variable is measuring. The only other changes are that Table 6, which measures the probability of an incumbent winning, looks only at those races where an incumbent is running for re-election. Other changes were made in the type of estimation procedure used because of the different types of endogenous variables. In both Tables 5 and 6 where the probability that only one candidate will run for office and the probability that an incumbent will win re-election are being considered, logits were used because the endogenous variables take on values of either one or zero. As to Table 7, which investigates the number of candidates running for office, this data clearly takes on a Poisson type shape and thus will be treated as a count variable.

The results in these three tables are fairly consistent. To the extent that there are exceptions, they continue to be the generally insignificant results associated with the variable donation limit and the restrictions on donations by minors. As noted earlier, these lack of results are most likely due to the few observations with these laws. Of all the remaining laws, all of them produce the same sign (consistent with Figures 2 through 4) and in most cases they are statistically significant. For the estimated probability that an incumbent will win re-election all the laws other than for the variable limit and minors produce large and statistically significant results.

Among the three tables, regulating individual donations to candidates ranks about in the middle in terms of the size of its impact. The campaign laws that have the biggest impact on whether candidates will run unopposed are the restrictions on individual and corporate donations to political parties. Regulations governing donations by individuals to political parties and corporate and union to candidates produce the biggest benefit towards protecting incumbents from electoral competition and increasing the probability that they will win

Table 5 The impact of campaign finance regulations on the probability of only one candidate running in a state senate primary or general election race: 1984–2002: Logit results (Control variables used in the first set of regressions in Table 5, with the exception of the variable for the number of candidates because that is essentially what the endogenous variable is and the individual state trends because the estimates would not converge. xtlogit regression function used with I() and fe options.)

	Regulations on donations to candidate by						Donations to political party donations by		
Variable	Individual	Corporation	Union	Political party	Variable limit	Minors	Individual	Corporation	Union
Percent change in probability of one candidate in an election by election in the years leading up to the law	−.182 (3.11)***	.026 (0.36)	−.139 (2.39)**	−.138 (2.59)	−.719 (4.68)***	−.093 (0.56)	−.387 (5.35)***	−.505 (5.87)***	−.257 (3.78)***
Percent change in Probability of One Candidate in an election by election in the years after law adopted	.07 (1.29)	.116 (1.58)	.078 (1.33)	−.11 (2.03)	−.0013 (0.00)	.335 (.65)	−.056 (0.72)	.073 (1.08)	−.152 (2.02)**
Difference in two previous rows [F-test]	.252 [8.67]††	.09 [.65]	.217 [5.37]††	.03 [.02]	.72 [5.08]††	.43 [0.46]	.331 [8.46]††	.578 [26.94]††	.11 [.96]
Log likelihood	−5212	−5216	−5214	−5211.8	−5258.96	−5217.3	−5201	−5199.8	−5207
Chi2	5692.6	5684.8	5688	5693	5687.58	5682.4	5713	5717.5	5702.5
Number of obs.	17255	17255	17255	17255	17255	17255	17255	17255	17255

*** Statistically significant at least at the 1 percent level for a two-tailed *t*-test
** Statistically significant at least at the 5 percent level for a two-tailed *t*-test
* Statistically significant at least at the 10 percent level for a two-tailed *t*-test
†† Statistically significant at least at the 10 percent level for an *F*-test
† Statistically significant at least at the 20 percent level for an *F*-test

Table 6 The impact of campaign finance regulations on the probability of an incumbent winning state senate primary and general election races: 1984–2002: Logit results conditional on an incumbent being in the race. (Control variables used in the first set of regressions in Table 5, with the exception that the variables for whether an incumbent is running is excluded. xtlogit regression function used with I() and fe options.)

	Regulations on donations to candidate by						Donations to political party donations by		
Variable	Individual	Corporation	Union	Political party	Variable limit	Minors	Individual	Corporation	Union
Percent change in probability of incumbent winning by election in the years leading up to the law	−.297 (1.81)**	−.392 (1.93)*	−.35 (2.12)**	−.065 (.49)	−.333 (.94)	.685 (2.58)**	−.595 (3.58)***	−.617 (3.19)***	−.396 (2.37)***
Percent change in probability of incumbent winning by election in the years after law adopted	.489 (2.62)***	.428 (2.19)**	.472 (2.96)**	.229 (1.51)	33.6 (0.00)	.386 (.54)	.406 (1.93)*	.032 (.19)	.147 (.61)
Difference in two previous rows [f-test]	.786 [8.75]††	.82 [7.29]††	.822 [10.3]††	.294 [2.02]†	33.93 [0.00]	−.299 [0.15]	1.001 [12.13]††	.649 [6.02]††	.543 [3.11]††
Log likelihood	−696	−697	−695	−699.5	−723	−696.79	−693.1	−695.57	−697.9
Chi2	200.55	198.81	202.4	193.85	189.08	199.23	206	201.67	197.1
Number of obs.	2316	2316	2316	2316	2377	2316	2316	2316	2316

*** Statistically significant at least at the 1 percent level for a two-tailed *t*-test
** Statistically significant at least at the 5 percent level for a two-tailed *t*-test
* Statistically significant at least at the 10 percent level for a two-tailed *t*-test
†† Statistically significant at least at the 10 percent level for an *F*-test
† Statistically significant at least at the 20 percent level for an *F*-test

Table 7 The impact of campaign finance regulations on the number of candidates in state senate primary and general election races, 1984–2002: Poisson estimates reported as incidence rate ratios (Estimates control for whether an incumbent is in the race; number of candidates; number of votes; number of votes squared; dummy for when state term limits and motor voter laws were adopted; state population and population squared; real per capita personal income; state unemployment, proverty, and prison population rates; dummies for democratic and republican primaries; 36 demographic categories; year and geographic fixed effects (separate fixed effects for the 1980s and 1990s for each state senate district); and state specific trends. Not all coefficients reported. Regressions weighted by the number of voters. Estimates use xtpois option in STATA and used the i () and fe options.)

	Regulations on donations to candidate by						Donations to political party donations by		
Variable	individual	corporation	Union	Political party	Variable limit	Minors	Individual	Corporation	Union
Percent change in number of voters in a race by election in the years leading upto the law	1.016 (2.14)**	1.014 (1.24)	1.015 (1.88)*	1.009 (1.29)	1.004 (0.27)	.996 (0.21)	1.012 (1.38)	1.019 (2.09)**	1.031 (2.54)**
Percent change in number of voters in a race by election in the years after law adopted	.985 (1.45)	.980 (1.63)	.987 (1.27)	1.008 (0.85)	1.025 (0.58)	1.004 (0.13)	1.004 (0.36)	1.0008 (0.09)	1.0038 (0.48)
Difference in two previous rows [*F*-test]	−.031 [4.63]††	−.034 [2.89]††	−.03 [3.21]††	−.001 [0.00]	.021 [0.16]	.008 [0.04]	−.008 [0.22]	−.02 [1.39]	−.027 [2.55]††
Log likelihood	−27649.9	−27651	−27650	−27582.5	−28128	−27652	−27651	−27650	−27648
Number of obs.	21246	21246	21246	21246	21246	21246	21246	21246	21246

***Statistically significant at least at the 1 percent level for a two-tailed *t*-test
**Statistically significant at least at the 5 percent level for a two-tailed *t*-test
*Statistically significant at least at the 10 percent level for a two-tailed *t*-test
††Statistically significant at least at the 10 percent level for an *F*-test
† Statistically significant at least at the 20 percent level for an *F*-test

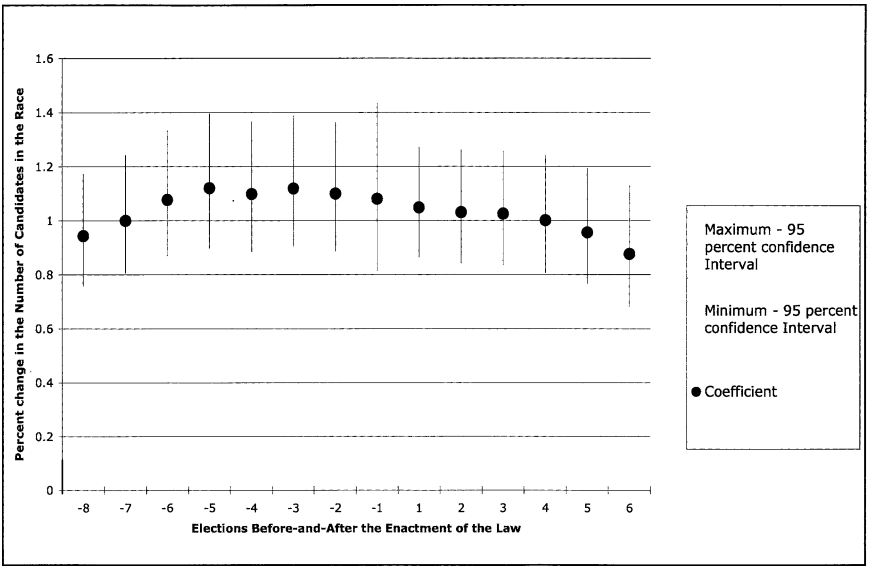

Fig. 4 The impact of regulating individual donations on the number of candidates running for office

re-election. Restricting corporate donations to individual candidates also reduce the number of candidates running for office by the largest amount.

7. Conclusion

Passing campaign donation regulations clearly reduce the competitiveness in political races. This is reflected in several dimensions. It dramatically and quickly increases the win margins in elections. It increases the probability that only one candidate will run for office. And it increases the probability that incumbents win re-election. Campaign finance regulations also tend to reduce the number of candidates who run for office, with restrictions on individual donations to candidates reducing the number of candidates running by 20 percent after six years. Elections were consistently becoming more competitive prior to regulations and much less competitive afterwards.

The theory behind these empirical results is straightforward. Incumbents already possess a great deal of political reputation and benefit from regulations that make it costly for challengers to raise large amounts of money or that make campaign expenditures less efficient. Even though limitations apply equally to incumbents and challengers alike, expensive campaigning is much less essential for incumbents to reach out to voters.

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Table A1 Correlations between similar types of campaign finance regulations

	Donations to political party by an			Donations by individual, corporation, or union to state senate candidate			Donations by type of political action committee to state senate candidate			Other	
	Individual	Corp.	Union	Individual	Corporation	Union	Independent	Corporation	Union	Variable limit	Limits on minors
Donations to political party donations by an individual	1.000										
Donations to political party donations by a corp	.8101	1.000									
Donations to political party donations by a union	.7755	.7738	1.000								
Donations by individual to state senate candidate	.2493	.2257	.2400	1.000							
Donations by corporation to state senate candidate	.0703	.0275	.0481	.5652	1.000						
Donations by union to state senate candidate	.1668	.1577	.1446	.6813	.7688	1.000					
Donations by independent PAC	.2686	.2478	.2541	.8423	.5163	.6809	1.000				

(*Continued on next page*)

Table A1 *(Continued)*

	Donations to political party by an			Donations by individual, corporation, or union to state senate candidate			Donations by type of political action committee to state senate candidate			Other	
	Individual	Corp.	Union	Individual	Corporation	Union	Independent	Corporation	Union	Variable limit	Limits on minors
Donations by corporate PAC	.2561	.2349	.2424	.8642	.5380	.6977	.9655	1.000			
Donations by union PAC	.2577	.2365	.2439	.8691	.5352	.7036	.9697	.9956	1.000		
Variable donation limit	.2548	.0203	.0276	.0318	.0175	.0311	.0453	.0421	.0425	1.000	
Lower limits on minors	.1012	−.0686	.1146	.1648	.1162	−.0662	.0113	.0405	.0413	−.0169	1.000
Political party donation to state senate candidate	.1253	.1231	.2486	.4753	.2443	.3608	.5870	.5619	.5650	−.0640	.0713

Table A2 The margin of the win using before-and-after averages: Weighted least squares and two sage least squares (The instruments: A dummy for whether the democrats control the state senate; a dummy for whether the democrats control the state house; a dummy for whether the democrats control the governorship; a dummy for whether the democrats control both the legislature and the governorship; and a series of variables for the difference between the republican and democratic presidential candidates in the states. The other variables include whether an incumbent is in the race; number of candidates; number of votes and votes squared; dummies for state term limits and motor voter laws; state population and population squared; real per capita personal income; state unemployment, poverty, and prison population rates; dummies for democratic and republican primaries; 36 demographic categories; and year and geographic fixed effects (separate fixed effects for the 1980s and 1990s for each state senate district).)

		Type of limit on contributions								
		Regulations on donations to candidate by						Donations to political party donations by		
	Variable	Individual	Corporation	Union	Political party	Variable limit	Minors	Individual	Corporation	Union
1	Dummy variable for law from second stage of 2SLS estimate	.333 (2.62)***	.534 (3.14)***	.194 (1.28)	.534 (3.84)***	.150 (0.22)	−.51 (0.48)	.247 (1.15)	.586 (3.26)***	.631 (3.26)***
2	Joint *F*-test for instruments in first stage	13.41††	11.01††	5.02††	7.83††	1.69†	0.71	6.93††	5.83††	5.83††
3	Dummy variable for law from WLS estimate	.144 (1.76)*	.127 (1.37)	.138 (1.79)*	.563 (3.68)***	.164 (0.96)	.172 (1.47)	.5397 (2.35)**	.579 (3.91)***	.717 (3.04)***
4	Hausman test (Chi^2test)	WLS is a consistent estimator	26.98	25.96	76.46	14.14	78.93	112.45	90.42	93.74

(*Continued on next page*)

Table A2 *(Continued)*

		Type of limit on contributions		
		Regulations on donations to candidate by type of political action committee		
	Variable	Independent	Corporation	Union
1	Dummy variable for law from second stage of 2SLS estimate	.372 (3.65)***	.414 (3.78)***	.371 (3.63)***
2	Joint *F*-test for instruments in first stage	6.37††	6.51†	4.69†
3	Dummy variable for law from WLS estimate	.180 (2.18)**	.135 (1.45)	.176 (2.24)**
4	Hausman test for whether the difference in coefficient estimates for the weighted least squares estimate and the two stage least squares are not systematic (Chi^2 test)	WLS is a consistent estimator	114.99	20.68

***Statistically significant at least at the 1% level for a two-tailed *t*-test
**Statistically significant at least at the 5% level for a two-tailed *t*-test
*Statistically significant at least at the 10% level for a two-tailed *t*-test
††Statistically significant at least at the 10% level for an *F*-test
†Statistically significant at least at the 20% level for an *F*-test

Table A3 First stage regression for the regulations on donations to candidate by individual regression reported in appendix Table 3

	Coef.	t	$P > \|t\|$
Incumbent	0.0011707	0.57	0.567
Number of voters	−1.37E-07	−2.29	0.022
Number of candidates	0.0046631	3.27	0.001
Term limits	0.52538	31.9	0
Motor voter	0.0572789	6.83	0
State population	1.52E-07	32.78	0
State population Squared	−5.64E-15	−38.92	0
Real income	0.0000329	5.5	0
% pop in prison	−138.8902	−15.69	0
Unemp rate	0.0637986	25.07	0
Poverty rate	−0.045594	−29.63	0
Demographics			
% population between 10 and 19			
Black male	2.321439	10.4	0
Black fem	1.068023	4.93	0
White male	3.399445	22.36	0
White fem	−3.584301	−21.97	0
Neither black or white male	2.255327	9.23	0
Neither black or white fem	−6.626468	−26.86	0
% population between 20 and 29			
Black male	1.484187	7.59	0
Black fem	−2.743263	−12.94	0
White male	0.06592	1.1	0.27
White fem	−0.4539378	−6.95	0
Neither black or white male	6.590105	35.92	0
Neither black or white fem	−9.02929	−32.98	0
% population between 30 and 39			
Black male	−7.327986	−38.52	0
Black fem	4.22561	30.06	0
White male	−0.6481882	−8.65	0
White fem	−0.1717075	−2.33	0.02
Neither black or white male	2.631359	8.7	0
Neither black or white fem	−3.269291	−11.98	0
% population between 40 and 49			
Black male	−8.190587	−28.57	0
Black fem	5.882772	27.28	0
White male	1.087425	11.28	0
White fem	−2.179558	−21.76	0
Neither black or white male	−2.531098	−6.73	0

(*Continued on next page*)

Table A3 *(Continued)*

	Coef.	*t*	$P > \|t\|$
Neither black or white fem	5.709916	15.83	0
% population between 50 and 64			
Black male	6.641526	22.28	0
Black fem	−11.31095	−40.7	0
White male	1.366143	13.64	0
White fem	−2.201236	−23.09	0
Neither black or white male	8.905721	26.7	0
Neither black or white fem	−4.50512	−15.06	0
% population between 65 and older			
Black male	−5.187492	−12.7	0
Black fem	5.959258	23.89	0
White male	0.9405266	13.26	0
White fem	−0.8117749	−16.43	0
Neither black or white male	−5.729651	−12.54	0
Neither black or white fem	−0.6240063	−2.1	0.036
Republican primary	−0.0030001	−1.02	0.307
Democratic primary	0.0004561	0.19	0.847
Year 1984	−0.8615182	−10.71	0
Year 1986	−0.6604052	−9.68	0
Year 1987	(dropped)		
Year 1988	−0.1274142	−7.09	0
Year 1990	(dropped)		
Year 1991	(dropped)		
Year 1992	(dropped)		
Year 1993	(dropped)		
Year 1994	0.0606655	3.27	0.001
Year 1995	(dropped)		
Year 1996	2.520873	35.14	0
Year 1997	3.161538	39.64	0
Year 1998	2.745437	35.28	0
Year 2000	2.854104	22.79	0
Democrats control State senate	0.110576	16.13	0
Democrats control State house	−0.1413504	−23.74	0
Dem gov Leg. & Gov.	−0.1104231	−14.08	0
Rep pres vote1984 Margin	0.3046644	33.33	0
Rep pres vote Margin 1988	0.039351	23.45	0

(*Continued on next page*)

Table A3 *(Continued)*

	Coef.	t	$P > \|t\|$
Rep pres vote Margin 1992	0.0560842	37.65	0
Rep pres vote Margin 1996	0.0000712	0.15	0.879
Rep pres vote Margin 2000	−0.0074062	−4.6	0
Constant	24.11035	41.9	0
sigma_u	2.2446675		
sigma_e	0.08301274		
rho	.99863419 (fraction of variance due to u_i)		
F test that all u_i = 0: $F(2229, 7885) = 56.49$	Prob > F = 0.0000		

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