# Political parties as a commitment technology: Effects of term limits on vote share

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Building on models of electoral competition with reputational mechanisms, I show that term limits decrease the vote share of candidates from parties less able to reward or punish candidates. Candidates suffer by not being able to credibly commit to policies far from their own preferences. Assuming that the major parties can provide better discipline of their members than third parties, the implication of the model is that third party candidates will be worse off, in terms of vote share garnered, in elections for offices with term limits. The hypothesis that third parties do worse under term limits is tested using state gubernatorial elections. Data from 1977-2008 show the vote share of third party candidates is approximately six percent lower in elections for a term-limited office when controlling for other election characteristics and regional and temporal trends in party popularity.

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## I. Introduction

Although political parties are a constant in democracies, they are often absent from models of political-economy. Theoretically and empirically there has been trouble supporting a useful role for political parties. When incorporated into models, political parties most often exist to increase voter turnout, choose political candidates, or to select policy platforms. In the following paper, I intend to provide support for the last of these roles. Like Levy (2004), I will show that political parties exist to increase the commitment ability of politicians. The way parties accomplish this, however, will differ from Levy's hypothesis. In the following model, parties will act as a commitment technology for politicians, even if the policy space is one dimensional, through repeated interaction with the politicians that make up the party.

Specifically, I will test the hypothesis that political parties play a role in solving the time consistency problems associated with the electoral game. I construct a model similar to Alesina (1988a) and Alesina

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(1988b) that implies larger parties will capture more of the vote in elections for offices that have term limits (i.e. where the last term of the politician is known) due to their ability to affect the space of credible platforms a candidate can campaign on. To test this implication of the model, I estimate the change in vote share of Democratic and Republican candidates in state gubernatorial elections after the imposition of term limits. The imposition of term limits acts a shift in the structure of the game. Without term limits, a politician's career is modeled as an infinitely repeated game, but imposing term limits makes the last period of the politician known. In this case, a politician's career is modeled as a finite stage game. In both models of electoral competition, political parties provide incentives to politicians to help increase the space of credible platforms.[1] However, in finite horizon games, these incentives must be strictly larger than in the infinite horizon game, holding the policy position and preferences constant. To the extent that major parties can more easily make larger transfers to the politicians, they should be more successful after the imposition of term limits. The data confirm this advantage. Using U.S. gubernatorial elections and controlling for the endogeneity of term limits, I find that the two major parties gain an additional 1-5% of the vote share in elections with term limits.

In the traditional Downsian model (Downs (1957)) politicians are strict vote maximizers. Politicians thus pick the policy position that will satisfy a majority of their constituents. The result is that both candidates in an election with a single issue space align themselves at the same point in the policy space, each capturing half of the votes. However important the Downsian model has been for understanding politics, the assumption that politicians do not care about the policy implemented stretches reality in a way that can create a great divide between public choice theory and empirical observation. In particular, introducing politicians' preferences over policy creates a time consistency problem. A politician may want to espouse a particular platform in order to increase his chances of winning an election, but once elected, the politician will have an incentive to shirk and follow his own policy preferences. There is a tension between the policy the politician wants to campaign on and the policy he wants to enact once in office.

In a world with fully informed, rational, forward-looking voters, a politician's desire to shirk will be accounted for when the voting decision is made. If politicians can be elected to only one term in office, forward looking voters (foreseeing this shirking) will not believe any promises by the politician about a policy other than the politician's own most preferred policy. That is, the politician cannot credibly commit to any policy other than his own most preferred policy. In this environment, each voter will vote for the politician with the platform nearest his own policy bliss-point. There is no convergence in the positions of the two candidates as there is in the typical Downsian model.

[1] Examples of such incentives include campaign contributions, political appointments, aid in passing legislation, and other pecuniary and non-pecuniary benefits to the politician or his family.

Using reputational mechanisms in an infinitely repeated game setting, policies other than that which is most preferred by the politician can be made time consistent. Alesina (1988a) models political parties playing an infinitely repeated game and applies the Folk Theorem of repeated games to show that full or partial policy convergence is possible (depending on the parties' rate of time preference) even when the parties do not have the ability to make binding pre-commitments. The intuition for this is that by deviating from the announced policy (i.e. shirking) a politician (party) loses the ability to credibly commit to anything but his (its) most preferred policy in all elections thereafter. Since being able to make credible commitments to a broader range of policies increases electoral success, a politician (party) can be induced to not shirk.

In a finite setting (that is, when the last period of the politician is known with certainty) a transfer scheme such as that presented in Alesina (1988b) can be used. Here, utility transfers are made from a "vice president" to a "president" in order for the president to not shirk in his last term.[2] Shirking by the president lowers the chances that the vice president is elected to the presidency in the following election. The vice president's electoral success suffers because of the damage to the reputation of the party, which he shares with the president. If the president shirks, voters will not believe the campaign promises of the vice president unless those promises are the vice president's most preferred position. The overlapping generations of party members encourages transfers to the current president to persuade him not to shirk and since the president does not shirk, the reputation of the party is kept alive benefiting the vice president in his campaign for presidency.

I proceed as follows. Section II introduces my theoretical model and discusses its implications. Section III describes the data. Section IV presents the reduced form model I will use to test the implications of the theoretical model. Section V presents the results, and Section VI concludes.

# II. Theoretical model

## A. Informal description of the model

Both parties and politicians care about policy outcomes leading to time inconsistent policy platforms. I assume that parties have the preferred policy of their representative member (i.e. all party members have the same preferred policy).[3] Parties are relatively long lived compared to individual politicians. Whenever

[2] For the rest of the paper, I will use the terms transfers and incentives interchangeably. Again, these include anything that an organized party may give to a politician to influence his behavior.

[3] This is a simplification, but highlights the fact that parties are important in pre-commitment even if all the members have the same preferred policy. Incorporating the political dynamics offers a different way for parties to act in order to commit politicians than is shown in Levy (2004), where bargaining over a multi-dimensional policy space is needed for parties to be able to pre-commit politicians. The assumption that the party and its representative members have the same preferences is not necessary for the qualitative results. These results hold so long as whatever function the party uses to select its policy position does not result in the party choosing "too extreme" of a position. A position that is "too extreme" is a position that is so far from the center that the party (even with its higher rate of time preference) could not credibly commit to a position that is more moderate than that which an individual party member could commit too. In such a case, there would be no role for parties in the model presented.

the two parties have preferred policies that differ, each has an incentive to announce a policy that is closer to the opposing party's position to capture, probabilistically, more voters. With repeated interaction and a two party system, the policies of the two parties will converge (although perhaps not fully) and reputational effects make the converged policies time consistent.

Individual politicians have platforms that tend to converge towards their challengers' platforms in a similar manner. However, due to the shorter careers of politicians, the party would like to adopt a policy that is much closer to that of the opposing party than is time consistent for the individual politician to adopt when facing a member of the opposing party. Individual politicians and the party would like to offer a policy that is as close to the challengers as possible, but because voters are rational and forward looking, politicians have to offer a policy that is time consistent.[4] In order for the politicians to offer a time consistent policy that is closer to their challengers', parties make transfers to politicians after they have implemented a policy. If politicians do not implement the policy the party would like, they get no transfer. In this way, parties allow politicians to increase the space of policies that are time consistent. This enables politicians to credibly announce policies that increase their chances for electoral success, benefitting both themselves and their parties. The size of these transfers will depend on how far the party's converged policy is from that of the politician, the rate of time preference for the politician, the preferences of the voters, and the value of a seat in office.

## B. Formal description of the environment

I now provide a formal description of the environment. Most of what follows is presented in Alesina (1988a) and Alesina (1988b). Alesina (1988a) models the repeated interaction of parties, while Alesina (1988b) models finitely lived politicians in an overlapping generations framework. I put elements of both models together. Like Alesina (1988a), I use the Folk Theorem of repeated games to get policy convergence, but allow politicians as well as parties to be modeled as playing an infinitely repeated game. Because the last period of the politician's career is not known, it is natural to model his career as having an infinite horizon, with the rate of time preference and the probability of running in the next election weighting future campaigns for office. From Alesina (1988b), I take the transfer scheme that helps to achieve policy convergence in the finite setting, but have transfers coming from the parties rather than individual politicians. I also allow transfers in the infinite horizon setting.

*Preferences of candidates and parties.* Politicians have a bliss point in the policy space $x^b, y^b \in [0,1]$. Let $x^b$ be the bliss point for candidates from Party 1 and $y^b$ be the bliss point for candidates from Party 2 and let $x^b > y^b$. Let the utility from realized policy position $z$ be $U(z)$ and assume that $U$ is the same for both

[4] A politician (party) will never choose policy such that the challenger's policy is between the preferred policy of the politician (party) and the voters' most preferred policy.

parties.[5] $U$ has the following properties:

- $U'(z^b) = 0$
- $U'(z) \geq (\leq) 0$, if $z \leq (\geq) z^b$
- $U''(z) < 0 \forall z$

Candidates from each party have a bliss point in the policy space and their utility is decreasing as they get farther from that point. Candidates also realize a benefit to holding office unrelated to the policy they implement, given by $k$. The weight placed on the utility from policy is given by $\alpha$. Note that the use of $\alpha$ allows for the Downsian case as a specific example. If $\alpha = 0$ then the candidate only cares about holding office and we are in the Downsian case where credibility is not a concern since politicians care only about a seat in office and not policy *per se*. Politicians' rate of time preference and survival rate are integrated into the parameter $\delta < 1$. I assume that the preferences of the party are identical to that of the politicians in that party, but parties have a different rate of survival and time preference given by $\beta$.[6] Party level preferences can be thought of as the party's platform. There is some social choice function within the party that aggregates the preferences of all its members, from which I abstract. It is assumed that $\beta > \delta$ since political parties tend to have a longer life than political candidates.

*Preferences of the voters.* Voters are defined by a function $P_t = P(x_t^e, y_t^e)$, where $P_t$ the probability that Party 1 will be successful in period $t$ given voter expectations of candidate policy, $x_t^e, y_t^e$. I assume that $P$ has the following properties:

- $P_t(\cdot)$ is time invariant and common knowledge
- $0 \leq P \leq 1$ for all $x^e, y^e \in I$, where $I = [0,1]$. $0 < P < 1$ for all $(x^e, y^e) \in B$, where $B = \{(x,y) \in I \times I | y^b \leq y \leq x \leq x^b\}$
- $P(x_t^e, y_t^e)$ is twice continuously differentiable for all $(x_t^e, y_t^e)$ except, possibly, at $x_t^e = y_t^e$
- $\partial P(\cdot)/\partial x_t^e \equiv P_1 > (<) 0$ if and only if $x_t^e < (>) y_t^e$; $\partial P(\cdot)/\partial y_t^e \equiv P_2 > (\leq) 0$ if and only if $x_t^e \leq (>) y_t^e$ [7]

Alesina and Cukierman (1987) derive a probability function with the above properties from the underlying preferences of voters. Voters vote for the candidate with the expected policy closest to their bliss point, but there is uncertainty about the distribution of these preferences and about the number of voters that turnout, which results in the politicians viewing the election in a probabilistic manner.

[5] The assumption that candidates from both parties have the same utility function could be generalized and does affect the amount of policy convergence, but it is not important for the qualitative implication of the model that I test.

[6] For the rest of the paper I will call $\beta$ and $\delta$ rates of time preference. While not pure rates of time preference since they incorporate the survival rate of parties and candidates, they do reflect how future campaigns are discounted.

[7] Assume $P_1(x,x) = P_2(x,x) = 0$ if the function $P(\cdot)$ is differentiable on the diagonal.

*Information.* The bliss points of politicians and parties, $x^b, y^b$ and $U(\cdot)$, $\delta$, $\beta$, $k$, and $\alpha$ are common knowledge. There is uncertainly about the distribution of voter preferences, but the beliefs about this distribution are common knowledge (i.e. all candidates, parties, and voters know $P(\cdot,\cdot)$).

*Transfers.* Each period, the party may make a utility transfer to the politician if he has followed a specified policy. Let the transfer be defined by the function $g(x)$.

*Beliefs.* Politicians believe that if the transfers were not given for some period in the past by a particular party, they will not be given again by that party. If transfers were always made, they will be made again if the specified policy is followed. If a politician deviates from his announced policy then voters will expect the politician (party) to follow his (its) most preferred policy in the future. Cooperation between the candidates/parties is broken and the game reverts to the one-shot Nash equilibrium. That is, in every election after $x \neq x^a$ or $y \neq y^a$ voters have $x^e = x^b$ and $y^e = y^b$.

*Timing*. The timing of the model is as follows for each election cycle. First, candidates/parties simultaneously announce platforms $x_t^a, y_t^a$. Next, elections take place and Party 1 wins with probability $P(x_t^e, y_t^e)$. Once in office, a politician implements a particular policy, $x_t$ or $y_t$. If the policy is that which was announced by the party, the politician gets a transfer $g(x)$. It is very important that this transfer be made after the politician has carried out the policy. If the transfer comes before the politician does so, the transfer does not help solve the time consistency problem. The politician would take the transfer and then implement his most preferred policy.

## C. The party's problem

Political parties are made up of party members who have preferences over policy outcomes. As I explain in Section II.A, I assume that all party members have the same policy preferences, although the results generalize to parties who have a non-degenerate distribution of member preferences. Since parties are made up of members who care about policy outcomes, parties support candidates for office in order to affect policy. Like individual candidates, parties announce a preferred policy position during an election. Party members serve terms in office and chose policy when in office. Depending on the chosen policy, the party member may be disciplined or rewarded by the party.

Parties are thought of as relatively long lived organizations. I model them as infinitely lived organizations as in Alesina (1988a), but allow them to make transfers to their members as done in Alesina (1988b). Two parties compete in an infinitely repeated game. In each election cycle, parties announce a platform then elections are held. After the election, the winning candidate implements a policy. Voters are rational and forward looking and have expectations about the policies to be implemented. Call Party 1's policy $x$ and

Party 2's policy $y$. The expected policies are $x^e$ and $y^e$. Rational expectations implies that in equilibrium the expected policies will be those implemented. In the following models, I impose the restriction that $x = x^e$ and $y = y^e$. I describe only the problem for Party 1, but Party 2's problem is symmetric. Since the parties act simultaneously, the equilibrium concept used is a sub-game perfect Nash Equilibrium. Party 1 solves:

$$\max_x \; v = P(x,y)[\alpha(U(x) - g(x)) + (1-\alpha)k] + (1 - P(x,y))[\alpha U(y)] + \beta v_1 \tag{1}$$

subject to:

$$\alpha(U(x') - g(x')) + \beta v_1 \geq \alpha U(x^b) + \beta v_2 \;\; \forall x' \in X, \tag{2}$$

where $v_1$ is the continuation value if a politician of the party does not deviate from its announced policy. The value $v_1$ is given by:

$$v_1 = \frac{P(x,y)[\alpha(U(x) - g(x)) + (1-\alpha)k] + (1 - P(x,y))[\alpha U(y)]}{(1-\beta)} \tag{3}$$

The continuation value if a politician of the party does make a deviation from its announced policy, $v_2$, is:

$$v_2 = \frac{P(x^b,y^b)[\alpha U(x^b) + (1-\alpha)k] + (1 - P(x^b,y^b))[\alpha U(y^b)]}{(1-\beta)} \tag{4}$$

Substituting in the constraint and rearranging, I can write the following:

$$\begin{aligned} U(x) - g(x) - U(x^b) \geq \frac{\beta}{1-\beta}[P(x^b,y^b)\left(U(x^b) + \frac{1-\alpha}{\alpha}k\right) + (1 - P(x^b,y^b))U(y^b) - \\ P(x,y)\left(U(x) - g(x) + \frac{1-\alpha}{\alpha}k\right) - (1 - P(x,y))U(y)] \end{aligned} \tag{5}$$

Applying the Implicit Function Theorem to Equation 5, I get the following equation for $\frac{\partial x}{\partial \beta}$:

$$\frac{\partial x}{\partial \beta} = \frac{\left(\frac{2\beta-1}{(1-\beta)^2}\right)A}{\left(1+\frac{\beta P(x,y)}{1-\beta}\right)(U'(x)-g'(x)) + \frac{\beta}{1-\beta}\left[\left(\frac{\partial P(x,y)}{\partial x}+\frac{\partial P(x,y)}{\partial y}\frac{\partial y}{\partial x}\right)\left(U(x)-g(x)+\frac{1-\alpha}{\alpha}k-U(y)\right)-P(x,y)\frac{\partial U(y)}{\partial y}\frac{\partial y}{\partial x}\right]}, \tag{6}$$

Where $A = P(x^b,y^b)\left(U(x^b)+\frac{1-\alpha}{\alpha}k\right)+(1-P(x^b,y^b))U(y^b)-P(x,y)\left(U(x)-g(x)+\frac{1-\alpha}{\alpha}k\right)-(1-P(x,y))U(y) \leq 0$ for any $x$ the Party would choose. The sign of numerator is therefore negative if $\beta > \frac{1}{2}$. Because $x^b > y^b$ the sign of $\frac{\partial y}{\partial x}$, $\frac{\partial P(x,y)}{\partial x}$, $\frac{\partial P(x,y)}{\partial y}$ are negative. The sign of the denominator is thus dependent on the sign of $\frac{\partial P(x,y)}{\partial x}+\frac{\partial P(x,y)}{\partial y}\frac{\partial y}{\partial x}$. In the case of a change in $x$ that results in the probability of Party 1 winning the election weakly increasing, we have $dP = \frac{\partial P(x,y)}{\partial x}dx+\frac{\partial P(x,y)}{\partial y}dy \geq 0$. Rearranging, we find that $\frac{\partial P(x,y)}{\partial y}\frac{\partial y}{\partial x}+\frac{\partial P(x,y)}{\partial x} \geq 0$.

Thus as the rate of time preference increases (e.g. because the expected life of the party increases) the constraint gets looser and thus $x$ can move farther from $x^b$. Although the party has a preferred policy position, it is willing to compromise on this for electoral success. Indeed, even if the value of a seat in office, $k$, is equal to zero, the party will still want to move its policy position to capture more votes. The longer the time horizon of the party, the more the party cares about future electoral success and the more able it is to credibly commit to policies further away from its most preferred. Having party specific parameters does not change the qualitative result that parties with longer time horizons can credibly commit to policies further from their bliss point, but does affect the location of policies chosen in equilibrium. Politicians solve a similar problem which I model next.

## D. The politician's problem

Politicians identify with political parties and campaign for office. The important aspects of the campaign are the "campaign promises" or announcement of a policy position that will be taken once in office. Upon being elected, politicians choose policy. Following a term, a politician may be rewarded by his party for the position taken in office and may seek another term in office.

### 1. The finite electoral game

I use a two period problem to find the value of transfers that will be needed in the finite game. No matter the length of the game, the last period determines the size of the transfer so the two period problem extends to an N period problem without loss of generality.

At the start of his career a politician from Party 1 solves the following problem in the face of term limits:

$$\max_x \; v = P(x,y)V(x,k) + (1-P(x,y))[\alpha U(y)] + \delta\{P(x,y)V(x,k) + (1-P(x,y))[\alpha U(y)]\} \tag{7}$$

subject to: $U(x) + g(x) \geq U(x^b)$, where $V(x,k) = [\alpha(U(x) + g(x)) + (1-\alpha)k]$.

The incentive compatibility constraint says that a transfer must make the politician at least as well off as if he implemented his optimal policy in the last period. This is the best one shot deviation. Thus if there is no incentive to shirk in this period, there will not be shirking in other periods. Without the transfer, the politician will always implement his best policy in his last term. Forward looking, rational voters will expect this behavior and so the politician will not be able to credibly commit to anything but his most preferred policy $x^b$. That this constraint gives us a unique value for $g(x)$ and that this constraint is the same for a finite game of any length, it is clear that any finite game will require the same size transfer in order to prevent shirking. The value for $g(x)$ in a finite game is thus $g(x) = U(x^b) - U(x)$ for any $\alpha > 0$.

## 2. The infinitely repeated electoral game

In the absence of term limits, voters do not know with certainty the last period of the politician. In this case, a politician solves the following problem at the beginning of his career:

$$\max_x \; v = P(x,y)[\alpha(U(x) + g(x)) + (1-\alpha)k] + (1-P(x,y))[\alpha U(y)] + \delta v_1 \tag{8}$$

subject to:

$$\alpha(U(x') + g(x')) + \beta v_1 \geq \alpha U(x^b) + \beta v_2 \;\; \forall x' \in X, \tag{9}$$

where $v_1$ is the continuation value if the politician does not deviate from his announced policy. This value is given by:

$$v_1 = \frac{P(x,y)[\alpha(U(x) + g(x)) + (1-\alpha)k] + (1-P(x,y))[\alpha U(y)]}{(1-\delta)} \tag{10}$$

The continuation value if the politician does make a deviation from his announced policy, $v_2$, is given by:

$$v_2 = \frac{P(x^b, y^b)[\alpha U(x^b) + (1-\alpha)k] + (1 - P(x^b, y^b))[\alpha U(y^b)]}{(1-\delta)} \tag{11}$$

By definition, the best policy a politician can choose is $x^b$, thus $x' = x^b$. Given this, I can solve for the function $g(x)$. Substitution and some algebra results in:

$$g(x) = \frac{U(x^b - U(*x) + (1 - P(x^b, y^b))\delta \left[U(y^b) - U(x^b) + \frac{1-\alpha}{\alpha} k \left(\frac{P(x^b,y^b) - P(x,y)}{1 - P(x^b,y^b)}\right) + \left(\frac{1-P(x,y)}{1-P(x^b,y^b)}\right)(U(x) - U(y))\right]}{1 - \delta(1 - P(x,y))} \tag{12}$$

Because $P(x^b, y^b) < P(x, y)$ for any $x \neq x^b$ the politician would choose, the term in brackets in the numerator is less than zero. Thus, $g(x)$ is decreasing in $\delta$ and reaches its maximum at $\delta = 0$. In fact, at $\delta = 0$, $g(x) = U(x^b) - U(x)$. This means that transfers from the parties must be largest in the face of term limits (when $\delta = 0$ at some known time) holding constant the value of a seat in office, $k$. Larger transfers allow the politician to credibly commit to a policy farther from his bliss point and thus capture more votes. To the extent that larger parties are more able to provide larger transfers, one should find major parties gaining an advantage in the face of term limits. It is well established that the two major political parties have much greater access to political appointments, lobbying groups, and fundraising sources than do third parties. Assuming these major parties can provide larger awards, candidates from these parties should be able to credibly commit to platforms further from their ideal point and therefore capture more voters. The role of party discipline as a commitment device and the size of transfers needed will increase in the presences of term limits and therefore term limits ought to benefit candidates from one of the major parties. This is the implication of the model that I choose to test. Section IV discusses how I do so, but I first provide a discussion of the transfer mechanism and party discipline.

While the commitment problem of politicians is highlighted in the finite game, even in the infinitely repeated game it is unlikely the politician will be able to credibly commit to an $x$ far from $x^b$ in the absence of transfers from the party. The reason is that one should not expect the politician's rate of time preference to be very high relative to the party's. Even the most successful political families have dynasties that are much shorter than the lives of the parties they belong to. If parties have the same preferences as the politicians that join them, the policy the party can credibly commit to is much closer to the policy of the competing party than the policy the politician can credibly commit to. Thus parties have a great incentive to make these transfers to the politicians: it helps politicians win office and motivates them to carry out a policy close to the party's

ideal point. Politicians benefit from the transfer and from the ability to credibly commit to a policy closer to the challengers, thus capturing more votes.

Similar transfer schemes are suggested for corruption in law enforcement by Becker and Stigler (1974) and for political parties and political shirking by Barro (1973). Besley and Case (1995) study policy choices by lame duck governors and find evidence of shirking. They claim that such problems are likely limited by political parties who exert control over governors either with future career options or through party loyalty.

More direct evidence of party discipline is provided by Lott (1990) and Carey (1994). In a unique dataset, Lott (1990) finds evidence that employment after a political career, either for the politician or his family, helps to reduce the lame duck problem. Lott shows that shirking, in the form of absenteeism from congressional roll call votes, is eliminated only if both the retiring congressman and their offspring are involved in politics, either by holding elected office or as a lobbyist. Carey (1994) reports that congressmen shirk the interest of their constituents, but not their party before they retire to run for statewide office. DeBacker (2012) finds that retiring senators shirk the interests of the voters, but not the interests of their party, in their final years in office. In addition to the academic research, the popular press is filled with anecdotes about the "revolving door" that symbolizes the relationship between politicians and highly paid lobbying positions.

Careers in lobbying, nominations for political office, campaign contributions, and other rewards constitute the transfers parties can make to their members. The focus of this paper is to uncover how parties affect the electoral prospects of the candidates they are affiliated with, thus testing the predictions of the theoretical model described above. While beyond the scope of the paper, I recognize the importance of documenting direct evidence of such a reward system and the relationship between candidate positions and the possible transfers of money and power the party can make. However, in order to test the predictions of the theoretical model, I need only assume that such transfers can happen. I then look for indirect evidence of the transfer scheme through the relative success of political parties before and after term limits. Such evidence will provide support for the role of political parties as a commitment mechanism for politicians.

# III. Data

State gubernatorial races provide excellent data to test the hypothesis that larger parties fare better when time consistency problems are more severe.

There is a large degree of variation in when states adopt term limits for their governors. Thirty-seven of the 50 states have had, at one time, gubernatorial term limits in place.[8] Of these 37, 17 have instituted term limits some time after 1950, and 10 have adopted term limits since 1977, the beginning of my sample period.

[8] Utah repealed term limits in 2003.

Table 1 provides a list of which states have term limits and the year of approval. Also included is whether or not the state had term limits on their U.S. Congressmen that were repealed with the *US Term Limits v. Thornton* ruling in 1995 and whether or not the state has a ballot initiative process. These two variables will be useful as instruments for gubernatorial term limits, which I discuss in more detail when outlining the econometric model in the next section.

The variation in the adoption of gubernatorial term limits provides the best data to estimate the effects of term limits on party vote share. Other elected offices, have some of the following drawbacks: the U.S. Congress does not have term limits, the Presidency lacks observations and variation, and state legislatures did not begin adopting term limits until very recently (the vast majority in 1992 or later), which make it difficult to control for intertemporal trends in popularity of the major parties.[9]

[Table 1 about here.]

Gubernatorial election data were collected by Jensen and Beyle (2003) and include both election outcomes and detailed data on campaign expenditures. Data on presidential elections are from the Inter-university Consortium for Political and Social Research Study No. 13, "General Election Data for the United States, 1950-1990" and from the Federal Election Commission. Information about term limits for state governors comes from the *Book of the States* (2008). In 32 of the 37 states with term limits, candidates are allowed to run again after taking a term (or two) off.[10] Although term limits described in the theoretical model are lifetime term limits (i.e. you get a limited number of terms to serve in your lifetime), I do not differentiate between consecutive term limits and lifetime term limits in my empirical analysis.[11] This is done for two reasons. First, in practice, limits on consecutive terms serve as lifetime limits, as very few candidates run again after a hiatus.[12] Thus, even non-lifetime limits generally have the effect of making clear the last term of the politician because returning to office following a hiatus is both anomalous and difficult. Second, because so few states have lifetime limits, dropping these states from the sample or coding those with consecutive term limits as not having term limits, leaves less variation from which to identify the model.

I focus my investigation on the effects of term limits on the vote share of candidates from the two major parties as compared to those from of third parties. The two major parties (the Democrats and Republicans in the era of this study) are those that would most easily have an effect on credibility of the politicians.[13]

[9] Trends in popularity for particular parties may arise due to the current popularity of particular policy issues, political scandals, or extraordinary political successes.

[10] The five states with lifetime limits are Delaware, Michigan, Minnesota, Mississippi, and Missouri.

[11] Section V.A includes several specifications which control for the type of term limits. The results provide some evidence that stronger term limits further disadvantage third party candidates.

[12] There are six governors in my sample period who serve in office after have previously been term limited.

[13] Minnesota's Democratic Farm Labor party is considered part of the Democratic party. For the time period 1975-1995, the Independent Republicans of Minnesota are labeled as Republicans since they were considered to be a party of the national Republican Party. Similarly, those running as liberals and conservatives as well as under the major party labels in New York's gubernatorial races are

Because they have more resources available to them, these parties can more easily provide the larger transfers needed to make a more moderate policy time consistent for politicians. Furthermore, they are the parties that are seen as more stable and as lasting farther into the future, meaning their time horizon is longer. Due to the longer time horizon of these parties, even holding the size of transfers constant, they can credibly commit to a more moderate policy than smaller parties. Since candidates from the larger parties can credibly commit to policies farther from their bliss point, all else equal they can capture more of the vote share in an election. This advantage will grow under term limits because of the increase in the size of the transfer needed to make a given policy time consistent. When term limits are present, an increase in vote share of the major parties should be expected to increase, if the model presented in Section II is correct.

Demographic and economic control variables come from the Current Population Survey (CPS). From the survey I take measures of the population's age, racial and ethnic composition, percent married, and percent female. To control for economic factors, I gather data on the fraction of the populace with a college degree, the median income in the state, the coefficient of variation of income, the unemployment rate, and the percent of workers employed by the government.[14]

[Table 2 about here.]

Table 2 presents summary statistics regarding the vote share variables. There are 422 gubernatorial elections from 1977-2008. Each state is observed a minimum of seven times and a maximum of 16 times. I drop three elections from the sample because data on campaign expenditures were missing and unavailable.[15] Clearly, the two major parties perform much better than third parties. The means for the two major parties individually are also remarkably close together suggesting that they are very competitive with each other, while third parties are generally not serious contenders. In only 5 of the 422 elections since 1977 did a third party candidate win. On average, the two major parties account for about 96% of the votes. Of the 419 elections in the sample, Republicans won 197, Democrats won 217, and third parties won 5.

# IV. Econometric model

To see the role of political parties in solving time consistency problems, I test whether or not major parties have an advantage under term limits. I estimate the following model:

recorded as members of the major parties. Such changes are to capture the true party of membership and avoid regional labels. These changes reduce support for the hypothesis since both New York and Minnesota lack gubernatorial term limits.

[14]Table B.1 in Appendix B presents summary statistics for these socio-economic variables.

[15]These elections include Arkansas's 1984 race, won by a Democrat, Montana's 1996 race, won by a Republican, and West Virginia's 1984 race, won by a a Democrat.

$$V_{it} = \alpha TL_{it} + \gamma P_{it} + \beta X_{it} + \delta_{it} + \nu_{it} + \varepsilon_{it} \tag{13}$$

Subscripts $i$ and $t$ refer to the election state and year, respectively. $V$ is the vote share of the party (or parties) of interest in the general election. All third parties are grouped together and fall under the third party label. Depending on the specification, I may put the vote shares of the two major parties (the Democrats and Republicans) together. $TL$ is a dummy variable that equals one if there are term limits for the office contested in the election. $P$ is a vector of political control variables that includes dummies for incumbent candidates from the Democrat, Republican and third parties, shares of money spent by Democrats and Republicans, dummy variables indicating the party's candidate is a sitting lieutenant governor, the closeness of the election, and the vote share of the two major parties in the most recent presidential election. Closeness of the election is measured by the absolute value of the difference in vote share between the Republican and Democratic candidate. If they both have the same vote share, the closeness = 0 and it increases as the distance between the two parties increases. The closeness term is intended to capture the effect of voters not wanting to "waste" their vote on a third party candidate. $X$ is a vector of economic and demographic control variables. Included in $X$ are average age, percent black, percent other non-white races, percent hispanic, percent married, percent female, percent of the population with a college degree, the log of median income for the state, the unemployment rate, percent of workers employed by the government, and the coefficient of variation of income. $\delta$ and $\nu$ are region and time fixed effects, respectively. Regional fixed effects are meant to account for time-invariant regional party preferences. Time effects control for national trends in party popularity over-time. The portion of vote share not explained by the covariates is given by $\varepsilon$. The time fixed effects break the 1977-2008 period into eight periods. For each period, I have four years of election data, thus each period has each state represented one (or two) times depending on whether or not a term is two or four years.[16] Controlling for the four-year time periods helps to capture trends in national party popularity over time, but are not biased by the group of states voting in a particular year as year fixed effects would be. The model is estimated using robust standard errors in case of heteroskedasticity in the error term.

The theoretical model predicts that transfers to politicians need to be larger in the face of term limits, holding constant the policy position. Such a change in electoral rules, therefore, may confer advantages to larger parties who can more easily make large transfers. Under the assumption that larger parties have such an advantage due to factors including larger membership and more room for upward mobility within the party, the above specification provides a test of the ability of parties to commit politicians to platforms that

[16] Only New Hampshire and Vermont currently have two-year terms, but for portions of the sample period, Arkansas (1977-1986) and Rhode Island (1977-1994) also have two-year terms.

would not otherwise be time consistent. The hypothesis under examination is that political parties act as a commitment technology. The test is whether the vote share of candidates from major parties increases after the imposition of term limits, as the theoretical model in Section II implies will be the case if these parties can more easily provide larger transfers. Term limits provide a natural test of the role of parties as a commitment technology because term limits have a clear effect on the time consistency of candidate platforms but little effect on the other cited roles of political parties. The value of parties as bodies to increase voter turnout or to fund campaigns remains largely unchanged after term limits.[17]

Much of the support for term limits stems from wanting to increase political competitiveness. Thus if particular parties are very successful, it may affect the probability that term limits will be instituted. Given that the two major parties have held the vast majority of governorships, the expected effect is an upward bias on the term limits coefficients in the OLS regressions where Democratic and Republican vote shares are the dependent variables. There will also be a corresponding downward bias in the measurement of the effect of term limitation on third parties. Term limits may also arise when voters have a strong "throw the bums out" sentiment. This may bias upward the coefficient on the term limit dummy variable in the third party regression and bias downward the coefficient in the major party regressions. That is, the institution of term limits may correlate with an increase in the vote share of third party candidates, not because of term limits *per se*, but because of voter sentiment. These endogeneity problems do not permit one to sign the direction of the bias *a priori*, but do call into question the validity of the OLS estimates.

Due to the potential endogeneity of term limits, I also estimate instrumental variables models. I use a Two-stage Least Squares (2SLS) version of Equation 13 where the excluded instrumental variable is a dummy variable indicating whether or not U.S. Congressmen were term limited by the state prior to *US Term Limits v. Thornton* (1995). To be a valid instrument, congressional term limits must be correlated with gubernatorial term limits and uncorrelated with the success of parties in gubernatorial races. The data show that states with a preference for term limits at one level of government often favor them at other levels. For example, of the 37 states who have gubernatorial term limits at some point, 18 had term limits on U.S. Congressmen prior to the 1995 Supreme Court ruling. In contrast, of the 12 states who have never had a gubernatorial term limit, only four had term limits on Congressmen prior to the 1995 ruling. In addition, regressing the term limits dummy on the instruments shows that there is a strong correlation, as one can see in the first stage results presented in Table B.2 in the appendix.

[17] One might argue that the role of parties as providers of information on politicians might increase since there are less incumbents running when term limits are present. The specification above controls for incumbency in hopes of controlling for this role parties may play.

There is some evidence that funding for campaigns is smaller when the seat contested is term limited. Empirical evidence of this in state level politics can be found in Daniel and Lott (1997). The evidence of lower campaign funding for term limited seats suggest the campaign funding role of parties may be lower after term limits.

One may be concerned that because congressional term limits were strongly affected by the conservative politics of the 1980's and 1990's, that this instrument may be correlated with the success of particular parties at the state level. While there is support for congressional term limits being related to party success at the federal level, there is little evidence for a relationship between gubernatorial party preferences and congressional term limits. The correlation between support for congressional term limits and the share of votes going to Republican candidates for the U.S. House of representatives is 0.072. The correlation between support for congressional term limits and the share of votes going to Democratic candidates for the U.S. House of representatives is -0.045.[18] Correlations between the vote share of presidential candidates and state support for congressional term limits show a similar relationship. At the state level, the relationship between party preferences and support for congressional term limits is less strong. The correlation between support for congressional term limits and Republican (Democrat) vote share in gubernatorial elections is 0.013 (-0.035). Although this correlation is not zero, it is small. Such relationships lead one to believe that congressional term limits are related to party success at the federal level, but not at the state level, but that support for term limits on one level of government provides a good predictor of support for term limits at another level.

Because the model with one instrument is perfectly identified, I am unable to use standard tests to determine the exogeneity of the instruments. To provide additional support the IV results, I estimate an IV model where I use both support for congressional term limits and the existence of a ballot initiative process as instruments for gubernatorial term limits. Referenda provide the most common means by which states affect gubernatorial term limits. Twenty-four of the 37 states with term limits had referenda that resulted in changes to gubernatorial term limits. The existence of the initiative process allows voters to put issues on the ballot after satisfying some criteria (usually support determined by a number of signatures on a petition). There are 24 states with the initiative process and 14 of these have gone on to pass referenda on gubernatorial term limits. The existence of a ballot initiative process has made it easier for states to pass gubernatorial term limits by allowing citizens to place the proposal directly on the ballot without the support of the state legislature. Using both the presence of the initiative process and support for congressional term limits I am able to test the exogeneity of these instruments more formally. I report the results in the next section.

# V. Results

OLS estimates of Equation 13 are presented in Table 3. I estimate the equation using the vote share of the two major parties together, Republicans, Democrats, and third parties as dependent variables. Coefficients

[18] It is worth noting that both these correlations are significantly smaller during the 1980's and 1990's, the time during which on would think they would be largest. As corroborating evidence, Ansolabehere and Snyder (2004) conduct a more rigorous analysis and find no relationship between support for legislative term limits and the vote share of Democratic candidates in state legislative elections.

for the term limits dummy and the political variables are presented, but the coefficients on the economic and demographic variables and the regional and time fixed effects are omitted. All the incumbency and campaign spending variables have the expected sign, with the exception of the third party incumbency coefficient. Although this shows a negative relation, the term is small and insignificant. In fact, there are only three third party incumbents in this sample, so this coefficient should be interpreted with caution. The magnitude of the incumbency advantage is consistent with the measures found in empirical studies of the incumbency advantage in Congress, for example Levitt and Wolfram (1997). Term limits do not have a statistically significant effect in any of the regression models. The coefficient on the term limits dummy indicates that third party candidates see an increase of about 0.7 percentage points in the vote share they receive when term limits are present. My model's prediction of a decrease in vote share by third party candidates is not supported by the OLS results. Using a differences in differences approach gives similar results. Both methods are likely to be biased since there is good reason to believe that the adoption of term limits in not exogenous. Indeed, a Hausman (1978) test reveals that one can reject the hypothesis that term limits are exogenous to the vote share of major parties at normal levels of significance (p-value = 0.004).

[Table 3 about here.]

Table 4 presents the results of an instrumental variables approach that corrects for the bias resulting from the endogeneity of term limits. These models use use a 2SLS estimation procedure and instrument for gubernatorial term limits with support for congressional term limits and the presences of a ballot initiative process. The size of the coefficient increases for the two major parties together and for each separately. For third parties, the coefficient decreases. The results for the one instrument model are untabulated, but are very similar to those presented in Table 4. A Sargan (1958) over-identification test fails to reject the hypothesis that the instruments are uncorrelated with the error term and thus are exogenous (p-value = 0.510), supporting their validity as instruments.

[Table 4 about here.]

Term limits have a larger effect in the instrumental variables models. Democrats gain almost five percent of the vote share and third parties lose about six percent. The effects of term limits are quantitatively significant. To see this, note that the incumbency advantage for Democrats is 5.7% and for Republicans is 6.5%, whereas term limits increase the vote share of major party candidates by 6.2%. The incumbency advantage is often cited as a large barrier to entry in electoral competition and is a prominent reason many favor term limits. Another way to see the quantitative significance of the effect of term limits is to note that Democrats

would have to spend and additional nine percentage points of the total money spent in the election to gain an advantage as large as they gain through the imposition of term limits.[19]

The significance of the effect of term limits can also be seen in electoral outcomes. Using the point estimates of the effect of term limits, I find that had term limits never been instituted, 32 elections would have had different outcomes. Third parties would have won three additional governorships (Illinois, 1986; Hawaii, 1994; Maine, 2006). Republicans, due to their relative disadvantage under term limits, would have picked up an additional 29 wins had term limits not been in place.

## A. Controlling for type of term limits

Theoretically, there may be large differences in the effects of lifetime term limits versus consecutive term limits on political and policy outcomes. For example Streb (1999) provides theoretical evidence that "transitory" term limits, in which a politician can run again following a hiatus, result in fewer political budget cycles than is the case when lifetime term limits are in place.

Table 5 presents results from instrumental variables models where I include an indicator variable for non-lifetime term limits. Given the arguments presented in the main text, one would expect thirds parties to be more disadvantaged under lifetime term limits than consecutive term limits. Indeed, this does appear to be the case. We can see that term limits (of any type) harm third party candidates and advantage major party candidates. However, this effect becomes much smaller when the term limits in place are not lifetime limits. Results are similar when I estimate the model for only those states which have lifetime term limits or if I code those states with consecutive term limits as not having term limits.

[Table 5 about here.]

While the results agree with theoretical priors, I caution the reader to extrapolate from the results based on these limited observations. Only five states (DE, MI, MN, MS, MO) have lifetime term limits. Despite statistical significance of the coefficient on term limits, the results on the effect of term limits seem to be appear to be implausibly large - likely due to the imprecision of the estimates resulting from the small number of observations affected by lifetime term limits. Furthermore, in practice, at least for U.S. governors, consecutive term limits often serve as lifetime limits, so seldom do politicians run again following a hiatus. The marginal impact of non-lifetime term limits, having a negative impact on the vote share of third party candidates of about -1.5 percentage points, is quite plausible.

[19] The increase in spending to equal the benefit of term limits may seem large, but the result is consistent with Levitt (1994) who finds little effect of campaign spending on vote share.

### B. Open versus closed primaries

The ability of the party discipline its members may be affected by other institutional features. One of these are the rules governing primary elections. About half of U.S. states hold "closed" primaries, where primary elections are open only to party members. In other states, all voters may vote in the primary elections. One might then infer that states with closed primaries allow more direct discipline of candidates who have shirked the interests of the party. Because closed primaries strengthen the ability of major parties to discipline their members, third party candidates should be particularly disadvantaged in states with both term limits and closed primaries.

In Table 6, I show the results for the third party regressions when running the model separately for states with closed primaries (column one) and open primaries (column two). I find that the coefficient on term limits is much more negative in states with closed primaries (-9.624 compared to -3.709). Though this suggests a compounding effect of closed primaries and term limits on third party candidates, the coefficients are not statistically significant and it's difficult to form conclusions from this reduced sample.

Column three of Table 6, uses the full sample of gubernatorial elections and identifies the effect of open primaries on third party candidates by interacting the term limits indicator with an indicator for the state having open primary elections. In this case. the coefficient on term limits shows up negative, but the coefficient on the interaction between term limits and open primaries is positive. This indicates that third party candidates are relatively less disadvantaged in the presence of term limits if the state allows for open primaries. These results are significant at the 10% level and support the hypothesis that closed primaries benefits major party candidates by increasing the party's ability to incentivize the behavior of its members.

[Table 6 about here.]

## VI. Conclusion

By making the last period of an elected official's career certain, term limits take away an individual politician's ability to use his own reputation to credibly commit to a policy that is not his most preferred. In doing so, the relative advantage to joining a political party increases. If the ability of the party to increase the space of credible policies is related to the size of the transfers it can make to politicians, larger parties will be able to support politicians with credible policies farther from the politician's bliss point. Being able to credibly commit to a broader range of platforms increases the chances of the politician winning the election and results in an advantage to larger parties under term limits. The effect of term limits on party vote share in gubernatorial elections is large, equal 20%-80% of the incumbency advantage for Republicans and Democrats. If term

limits are meant to increase the democratic expression of voters (as argued in Elhauge et al. (1997)), then to the extent that candidates from the major parties share beliefs with others in the party, term limits do not succeed.

By reducing the role of a politician's reputation, term limits affect not only election outcomes, but the choice of policy. While policy choices are not the focus of this paper, Besley and Case (1995) show that state gubernatorial term limits increase spending and taxes in the final term because of the loss of reputational effects. Evidenced here is the ability of political parties to act as a commitment mechanism when term limits reduce the role of a politician's own reputation in a repeated electoral game. It would be ideal to examine how policy variables change in an officials final term when when he or she is a member of a third party. While there are too few third party governors to test this, the indirect approach taken in this paper provides some evidence of such an experiment. Given that voters care about policy outcomes and have some rationality and forward looking ability, the changes in vote shares when term limits are present is an indicator that third party governors would have had less desirable policy outcomes (from the voters' point of view) during their lame duck terms.

Left for future research is a more detailed analysis of how parties act as a commitment device. For example, can we identify precisely how intra-party transfers are made? Looking at the effects of open versus closed primary states on third party candidates is suggestive of one channel. However, more research is needed to identify how party discipline keeps politicians in-line and which institutional features help or hinder the role of parties in constraining the behavior of their members. The results of this paper show that parties do play a role as a commitment technology for politicians. Future research on the way in which parties carry out this role will better our understanding of such electoral institutions.

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# Appendix A: Robustness Tests

## Controlling for contemporaneous preferences

One might interpret the negative coefficient on term limits in the third party models as an artifact of a "throw the bums out" sentiment that accompanies the adoption of term limits. The IV models are intended to control for such endogeneity. To test that they have done so, I run the IV specification with a dummy variable for the election being the closest to the adoption of term limits of one of the two closest to adoption. Table A.1, columns 3 and 4, contain these results. In both cases, the coefficient on term limits remains essentially unaffected after inclusion of the additional covariates. Such results suggest that the IV models control appropriately for the endogeneity concerns arising from the correlation of preferences for term limits and third party candidates.

**Table 1: State Gubernatorial Term Limits**

| State | Year Term Limits Approved | Term Limits on U.S. Congress | Initiative Process |
|---|---|---|---|
| Alabama | 1901 | | |
| Alaska | 1959 | Yes | Yes |
| Arizona | 1992 | Yes | Yes |
| Arkansas | 1992 | Yes | Yes |
| California | 1990 | Yes | Yes |
| Colorado | 1990 | Yes | Yes |
| Connecticut | - | | |
| Delaware | 1787 | | |
| Florida | 1845 | Yes | Yes |
| Georgia | 1824 | | |
| Hawaii | 1978 | | |
| Idaho | - | | Yes |
| Illinois | - | | Yes |
| Indiana | 1851 | | |
| Iowa | - | | |
| Kansas | 1972 | | |
| Kentucky | 1799 | | |
| Louisiana | 1812 | Yes | |
| Maine | 1957 | Yes | Yes |
| Maryland | 1947 | Yes | |
| Massachusetts | - | Yes | Yes |
| Michigan | 1992 | Yes | Yes |
| Minnesota | - | | |
| Mississippi | 1890 | | Yes |
| Missouri | 1821 | Yes | Yes |
| Montana | 1992 | Yes | Yes |
| Nebraska | 1966 | Yes | Yes |
| Nevada | 1970 | Yes | Yes |
| New Hampshire | - | Yes | |
| New Jersey | 1844 | | |
| New Mexico | 1912 | | |
| New York | - | | |
| North Carolina | 1789 | | |
| North Dakota | - | Yes | Yes |
| Ohio | 1954 | Yes | Yes |
| Oklahoma | 1907 | Yes | Yes |
| Oregon | 1859 | | Yes |
| Pennsylvania | 1874 | | |
| Rhode Island | 1992 | | |
| South Carolina | 1926 | | |
| South Dakota | 1972 | Yes | Yes |
| Tennessee | 1796 | | |
| Texas | - | | |
| Utah | 1994 | | Yes |
| Vermont | - | | |
| Virginia | 1851 | | |
| Washington | - | Yes | Yes |
| West Virginia | 1872 | | |
| Wisconsin | - | | |
| Wyoming | 1992 | Yes | Yes |

**Table 2: Summary Statistics for Vote Share Variables**

| Vote Share of: | Obs | Mean | Std. Dev. | Max | No. of Wins |
|---|---|---|---|---|---|
| Two Major Parties | 419 | 96.165 | 7.871 | 100 | 414 |
| Republicans | 419 | 47.126 | 11.301 | 78 | 197 |
| Democrats | 419 | 49.047 | 11.809 | 82 | 217 |
| Third Parties | 419 | 3.636 | 7.894 | 70 | 5 |

**Table 3: Results from OLS Regressions**

| Vote Share of: | Two Major Parties | Republicans | Democrats | Third Parties |
|---|---|---|---|---|
| Term Limits | -0.759 | -0.668 | -0.087 | 0.710 |
| | (0.495) | (0.856) | (0.836) | (0.495) |
| Democratic Incumbent | -0.023 | -4.784*** | 4.781*** | -0.285 |
| | (0.545) | (1.058) | (1.054) | (0.527) |
| Republican Incumbent | 0.572 | 6.376*** | -5.807*** | -0.548 |
| | (0.662) | (1.199) | (1.183) | (0.653) |
| Third Party Incumbent | -0.035 | -5.867 | 5.822 | -0.300 |
| | (4.754) | (5.666) | (4.392) | (4.626) |
| Democratic Governor | 2.520 | 3.614 | -1.115 | -2.469 |
| | (5.410) | (3.597) | (3.522) | (5.416) |
| Republican Governor | 2.411 | 2.588 | -0.175 | -2.574 |
| | (5.412) | (3.614) | (3.536) | (5.416) |
| Republican % Money | 0.732*** | 0.444*** | 0.289*** | -0.740*** |
| | (0.089) | (0.059) | (0.071) | (0.089) |
| Democratic % Money | 0.739*** | 0.172*** | 0.568*** | -0.748*** |
| | (0.090) | (0.057) | (0.072) | (0.090) |
| Lt. Gov. Democrat | 0.397 | -0.777 | 1.171 | -0.324 |
| | (0.541) | (1.159) | (1.132) | (0.535) |
| Lt. Gov. Republican | 1.398** | 3.299** | -1.908 | -1.188* |
| | (0.663) | (1.648) | (1.740) | (0.681) |
| Lt. Gov. Third Party | -2.216 | -1.341 | -0.911 | 1.873 |
| | (9.990) | (6.907) | (3.919) | (9.958) |
| Closeness of Election | -0.008 | -0.056 | 0.048 | 0.011 |
| | (0.022) | (0.037) | (0.039) | (0.022) |
| Republican % Pres. Vote | 0.118 | 0.040 | 0.078 | -0.124 |
| | (0.080) | (0.186) | (0.168) | (0.081) |
| Democrat % Pres. Vote | 0.152* | -0.016 | 0.168 | -0.159** |
| | (0.079) | (0.179) | (0.165) | (0.079) |
| $R^2$ | 0.675 | 0.592 | 0.626 | 0.685 |
| Observations | 419 | 419 | 419 | 419 |

[a] *p<0.10, **p<0.05, ***p<0.01

[b] Standard deviations appear in parentheses below parameter estimates.

[c] Untabulated control variables include the log of median income, the coefficient of variation of income, the unemployment rate, the percent of the workforce employed by the government, the percent of population with a college degree, the mean age, the percent of population that is black, the percent of population that is Hispanic, the percent of population that is not white or black, the percent of population that is married, the percent of population that is female, regional fixed effects, and election cycle fixed effects.

**Table 4: Results from Instrumental Variables Regressions, Two Instrumental Variables**

| Vote Share of: | Two Major Parties | Republicans | Democrats | Third Parties |
|---|---|---|---|---|
| Term Limits | 6.208** | 1.256 | 4.971 | -6.462** |
| | (3.028) | (4.483) | (4.693) | (3.018) |
| Democratic Incumbent | 1.316 | -4.414*** | 5.754*** | -1.664* |
| | (0.916) | (1.358) | (1.424) | (0.903) |
| Republican Incumbent | 0.850 | 6.453*** | -5.605*** | -0.834 |
| | (0.835) | (1.170) | (1.174) | (0.831) |
| Third Party Incumbent | -0.169 | -5.904 | 5.725 | -0.162 |
| | (4.051) | (5.235) | (4.459) | (3.952) |
| Democratic Governor | 5.300 | 4.382 | 0.903 | -5.331 |
| | (5.628) | (3.939) | (3.815) | (5.650) |
| Republican Governor | 5.572 | 3.461 | 2.120 | -5.828 |
| | (5.628) | (4.074) | (3.916) | (5.652) |
| Republican % Money | 0.721*** | 0.441*** | 0.280*** | -0.728*** |
| | (0.096) | (0.060) | (0.073) | (0.096) |
| Democratic % Money | 0.717*** | 0.166*** | 0.552*** | -0.725*** |
| | (0.096) | (0.059) | (0.074) | (0.096) |
| Lt. Gov. Democrat | 0.076 | -0.865 | 0.938 | 0.007 |
| | (0.699) | (1.111) | (1.172) | (0.725) |
| Lt. Gov. Republican | 2.889** | 3.711** | -0.826 | -2.723** |
| | (1.291) | (1.868) | (2.186) | (1.312) |
| Lt. Gov. Third Party | 1.577 | -0.293 | 1.843 | -2.032 |
| | (10.430) | (7.190) | (4.928) | (10.403) |
| Closeness of Elect n | -0.025 | -0.061 | 0.036 | 0.028 |
| | (0.025) | (0.037) | (0.040) | (0.025) |
| Republican % Pres. Vote | 0.098 | 0.035 | 0.064 | -0.104 |
| | (0.093) | (0.177) | (0.165) | (0.095) |
| Democrat % Pres. Vote | 0.146 | -0.018 | 0.163 | -0.153 |
| | (0.096) | (0.173) | (0.161) | (0.098) |
| Observations | 419 | 419 | 419 | 419 |

[a] *p<0.10, **p<0.05, ***p<0.01

[b] Standard deviations appear in parentheses below parameter estimates.

[c] Excluded instrument is term limits on U.S. Congressmen and whether the state has the ballot initiative process.

[d] The $R^2$ statistic is not meaningful for IV models and therefore not reported.

[e] Untabulated control variables include the log of median income, the coefficient of variation of income, the unemployment rate, the percent of the workforce employed by the government, the percent of population with a college degree, the mean age, the percent of population that is black, the percent of population that is Hispanic, the percent of population that is not white or black, the percent of population that is married, the percent of population that is female, regional fixed effects, and election cycle fixed effects.

**Table 5: Instrumental Variables Regression, Dummy Variable for Non-lifetime Limits, One Instrumental Variable**

| Vote Share of: | Two Major Parties | Republicans | Democrats | Third Parties |
|---|---|---|---|---|
| Term Limits | 15.921** | 4.398 | 11.593 | -16.335** |
| | (7.955) | (10.542) | (11.574) | (8.011) |
| Non-lifetime Limit | -14.474** | -4.573 | -9.975 | 14.727** |
| | (6.795) | (9.026) | (9.955) | (6.852) |
| Democratic Incumbent | 0.913 | -4.528*** | 5.462*** | -1.252 |
| | (0.927) | (1.219) | (1.309) | (0.924) |
| Republican Incumbent | 1.114 | 6.539*** | -5.427*** | -1.102 |
| | (0.867) | (1.186) | (1.231) | (0.865) |
| Third Party Incumbent | 0.661 | -5.643 | 6.298 | -1.006 |
| | (4.765) | (5.357) | (4.539) | (4.662) |
| Democratic Governor | 4.214 | 4.068 | 0.126 | -4.222 |
| | (5.425) | (3.616) | (3.643) | (5.445) |
| Republican Governor | 4.250 | 3.076 | 1.176 | -4.478 |
| | (5.408) | (3.664) | (3.673) | (5.431) |
| Republican % Money | 0.702*** | 0.435*** | 0.267*** | -0.709*** |
| | (0.090) | (0.061) | (0.072) | (0.091) |
| Democratic % Money | 0.709*** | 0.163*** | 0.547*** | -0.717*** |
| | (0.090) | (0.060) | (0.072) | (0.090) |
| Lt. Gov. Democrat | 0.542 | -0.721 | 1.262 | -0.468 |
| | (0.840) | (1.129) | (1.210) | (0.865) |
| Lt. Gov. Republican | 1.072 | 3.152** | -2.094 | -0.871 |
| | (1.723) | (1.573) | (2.168) | (1.772) |
| Lt. Gov. Third Party | -0.008 | -0.754 | 0.711 | -0.413 |
| | (9.851) | (6.784) | (4.245) | (9.823) |
| Closeness of Election | -0.021 | -0.059* | 0.039 | 0.024 |
| | (0.024) | (0.036) | (0.040) | (0.025) |
| Republican % .. Vote | 0.082 | 0.030 | 0.052 | -0.088 |
| | (0.101) | (0.178) | (0.166) | (0.103) |
| Democratic % .. Vote | 0.126 | -0.024 | 0.150 | -0.132 |
| | (0.109) | (0.173) | (0.165) | (0.110) |
| Observations | 419 | 419 | 419 | 419 |

[a] *p<0.10, **p<0.05, ***p<0.01

[b] Standard deviations appear in parentheses below parameter estimates.

Excluded instrument is term limits on U.S. Congressmen

[d] The $R^2$ statistic is not meaningful for IV models and therefore not reported.

[e] Untabulated control variables include the log of median income, the coefficient of variation of income, the unemployment rate, the percent of the workforce employed by the government, the percent of population with a college degree, the mean age, the percent of population that is black, the percent of population that is Hispanic, the percent of population that is not white or black, the percent of population that is married, the percent of population that is female, regional fixed effects, and election cycle fixed effects.

**Table 6: Instrumental Variables Regression, Open vs. Closed Primary States**

| Vote Share of: | Closed Primary States Third Parties | Open Primary States Third Parties | All States Third Parties |
|---|---|---|---|
| Term Limits | -9.624 | -3.709 | -9.553* |
| | (6.785) | (3.686) | (5.267) |
| Term Limits*Open Primary | | | 5.498* |
| | | | (3.236) |
| Democratic Incumbent | -2.194 | -0.996 | -2.104* |
| | (1.590) | (0.848) | (1.194) |
| Republican Incumbent | -0.575 | -1.162 | -0.833 |
| | (1.424) | (0.731) | (0.959) |
| Third Party Incumbent | -0.448 | 4.729*** | 0.272 |
| | (6.238) | (1.113) | (3.606) |
| Democratic Governor | -9.728 | 18.357*** | -5.944 |
| | (7.408) | (6.829) | (5.936) |
| Republican Governor | -10.887 | 18.860*** | -6.658 |
| | (7.553) | (6.888) | (5.987) |
| Republican % Money | -0.643*** | -1.455*** | -0.730*** |
| | (0.104) | (0.252) | (0.101) |
| Democratic % Money | -0.639*** | -1.449*** | -0.721*** |
| | (0.105) | (0.247) | (0.101) |
| Lt. Gov. Democrat | -0.343 | -0.682 | 0.306 |
| | (1.218) | (0.668) | (0.878) |
| Lt. Gov. Republican | -2.920 | -1.242* | -2.970* |
| | (2.590) | (0.754) | (1.634) |
| Lt. Gov. Third Party | -5.753 | | -3.017 |
| | (10.318) | | (10.950) |
| Closeness of Election | 0.008 | 0.028 | 0.031 |
| | (0.030) | (0.022) | (0.029) |
| Republican % Pres. Vote | -0.201 | -0.032 | -0.127 |
| | (0.197) | (0.138) | (0.109) |
| Democrat % Pres. Vote | -0.284 | -0.056 | -0.186* |
| | (0.223) | (0.144) | (0.113) |
| Observations | 258 | 161 | 419 |

[a] *p<0.10, **p<0.05, ***p<0.01

[b] Standard deviations appear in parentheses below parameter estimates.

Excluded instrument is term limits on U.S. Congressmen

[d] The $R^2$ statistic is not meaningful for IV models and therefore not reported.

[e] Untabulated control variables include the log of median income, the coefficient of variation of income, the unemployment rate, the percent of the workforce employed by the government, the percent of population with a college degree, the mean age, the percent of population that is black, the percent of population that is Hispanic, the percent of population that is not white or black, the percent of population that is married, the percent of population that is female, regional fixed effects, and election cycle fixed effects.

**Table A.1: Instrumental Variables Regression, Controlling for Contemporaneous Preferences**

| Vote Share of: | Third Parties | Third Parties |
|---|---|---|
| Term Limits | -6.086** | -5.613** |
| | (2.951) | (2.769) |
| Election preceding/following TL | -0.934 | |
| | (1.533) | |
| Two elections preceding/following TL | | -1.388 |
| | | (1.013) |
| Democratic Incumbent | -1.539* | -1.492* |
| | (0.884) | (0.845) |
| Republican Incumbent | -0.804 | -0.667 |
| | (0.814) | (0.796) |
| Third Party Incumbent | -0.229 | -0.355 |
| | (3.955) | (3.955) |
| Democratic Governor | -5.179 | -4.971 |
| | (5.572) | (5.555) |
| Republican Governor | -5.629 | -5.452 |
| | (5.566) | (5.553) |
| Republican % Money | -0.729*** | -0.731*** |
| | (0.095) | (0.094) |
| Democratic % Money | -0.727*** | -0.728*** |
| | (0.095) | (0.094) |
| Lt. Gov. Democrat | -0.040 | -0.023 |
| | (0.699) | (0.682) |
| Lt. Gov. Republican | -2.649** | -2.464** |
| | (1.282) | (1.223) |
| Lt. Gov. Third Party | -1.951 | -1.818 |
| | (10.297) | (10.288) |
| Closeness of Election | 0.027 | 0.025 |
| | (0.025) | (0.024) |
| Republican % Pres. Vote | -0.111 | -0.111 |
| | (0.093) | (0.090) |
| Democrat % Pres. Vote | -0.158 | -0.156* |
| | (0.096) | (0.093) |
| Observations | 419 | 419 |

[a] *p$<$0.10, **p$<$0.05, ***p$<$0.01

[b] Standard deviations appear in parentheses below parameter estimates.

Excluded instrument is term limits on U.S. Congressmen

[d] The $R^2$ statistic is not meaningful for IV models and therefore not reported.

[e] Untabulated control variables include the log of median income, the coefficient of variation of income, the unemployment rate, the percent of the workforce employed by the government, the percent of population with a college degree, the mean age, the percent of population that is black, the percent of population that is Hispanic, the percent of population that is not white or black, the percent of population that is married, the percent of population that is female, regional fixed effects, and election cycle fixed effects.

# Appendix B: Additional Results

**Table B.1: Summary Statistics for Control Variables**

| Variable | Mean | Std. Dev. |
|---|---|---|
| Political Controls | | |
| Term Limits | 0.516 | 0.500 |
| Non-Lifetime Limit | 0.418 | 0.494 |
| Democratic Incumbent | 0.291 | 0.455 |
| Republican Incumbent | 0.277 | 0.448 |
| Third Party Incumbent | 0.007 | 0.084 |
| Democratic Governor | 0.535 | 0.499 |
| Republican Governor | 0.451 | 0.498 |
| Republican % Money | 47.790 | 19.931 |
| Democratic % Money | 49.916 | 20.396 |
| Lt. Gov. Democrat | 0.100 | 0.301 |
| Lt. Gov. Republican | 0.029 | 0.167 |
| Lt. Gov. Third Party | 0.007 | 0.084 |
| Closeness | 16.814 | 13.879 |
| Republican % Pres. Vote | 43.544 | 8.067 |
| Democrat % Pres. Vote | 50.289 | 9.163 |
| Socio-Economic Variables | | |
| ln(Median Income) | 10.152 | 0.209 |
| Coef. Var. of Income | 0.902 | 0.116 |
| Unemp. Rate | 0.052 | 0.026 |
| % Gov't Employees | 0.109 | 0.025 |
| % College Educated | 0.129 | 0.037 |
| Average Age | 44.113 | 1.657 |
| % Black | 0.082 | 0.087 |
| % Hispanic | 0.069 | 0.096 |
| % Other Races | 0.043 | 0.094 |
| % Married | 0.641 | 0.040 |
| % Female | 0.527 | 0.013 |

**Table B.2: Results from Instrumental Variables Regressions, Stage 1**

| | One Instrument | Two Instruments |
|---|---|---|
| Congressional Term s | 0.180*** | 0.192*** |
| | (0.049) | (0.054) |
| Ballot Initiative | | -0.019 |
| | | (0.060) |
| Democratic Incumbent | -0.177*** | -0.177*** |
| | (0.062) | (0.062) |
| Republican Incumbent | -0.022 | -0.023 |
| | (0.071) | (0.071) |
| Third Party Incumbent | 0.013 | 0.011 |
| | (0.133) | (0.134) |
| Democratic Governor | -0.379*** | -0.381*** |
| | (0.126) | (0.127) |
| Republican Governor | -0.434*** | -0.435*** |
| | (0.127) | (0.129) |
| Republican % Money | 0.002 | 0.002 |
| | (0.003) | (0.003) |
| Democratic % Money | 0.004 | 0.004 |
| | (0.003) | (0.003) |
| Lt. Gov. Democrat | 0.061 | 0.059 |
| | (0.073) | (0.074) |
| Lt. Gov. Republican | -0.178 | -0.177 |
| | (0.117) | (0.117) |
| Lt. Gov. Third Party | -0.534*** | -0.535*** |
| | (0.195) | (0.197) |
| Closeness of Election | 0.002 | 0.002 |
| | (0.002) | (0.002) |
| Republican % .. Vote | 0.003 | 0.002 |
| | (0.009) | (0.009) |
| Democratic % .. Vote | 0.002 | 0.002 |
| | (0.008) | (0.009) |
| ln(Median Income) | -0.182 | -0.191 |
| | (0.270) | (0.273) |
| Coef. Var. of Income | -0.825** | -0.828** |
| | (0.357) | (0.359) |
| Unemp. Rate | -1.094 | -1.075 |
| | (1.342) | (1.345) |
| % Gov't Employees | 2.468** | 2.469** |
| | (1.057) | (1.059) |
| % College Educated | -6.474*** | -6.445*** |
| | (1.286) | (1.301) |
| Average Age | 0.011 | 0.011 |
| | (0.021) | (0.021) |
| % Black | 2.072*** | 2.087*** |
| | (0.366) | (0.372) |
| % Hispanic | 0.201 | 0.200 |
| | (0.278) | (0.279) |
| % Other Race | 1.096*** | 1.089*** |
| | (0.261) | (0.266) |
| % Married | 2.050** | 2.051** |
| | (1.042) | (1.042) |
| % Female | 1.835 | 1.859 |
| | (2.520) | (2.535) |

**Table B2: (continued)**

| | Term Limits | |
|---|---|---|
| Northeast | 0.096 | 0.087 |
| | (0.113) | (0.121) |
| West | -0.245* | -0.253* |
| | (0.140) | (0.148) |
| Southeast | -0.167* | -0.168* |
| | (0.099) | (0.100) |
| 1977-1980 | -0.676*** | -0.678*** |
| | (0.207) | (0.206) |
| 1981-1984 | -0.457** | -0.462** |
| | (0.201) | (0.201) |
| 1985-1988 | -0.380** | -0.382** |
| | (0.158) | (0.158) |
| 1989-1992 | -0.272* | -0.273* |
| | (0.151) | (0.151) |
| 1993-1996 | -0.006 | -0.012 |
| | (0.199) | (0.199) |
| 1997-2000 | -0.008 | -0.010 |
| | (0.133) | (0.133) |
| 2001-2004 | -0.062 | -0.064 |
| | (0.102) | (0.102) |
| Constant | 0.874 | 1.007 |
| | (3.554) | (3.569) |
| $R^2$ | 0.278 | 0.277 |
| Observations | 419 | 419 |

[a] *p<0.10, **p<0.05, ***p<0.01

[b] Standard deviations appear in parentheses below parameter estimates.