

## Kill Bill: Buying the Legislative Agenda

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*Abstract: Roughly 90% of proposed congressional legislation fails to gain passage. Yet standard theoretical models of lobbying and legislative bargaining and empirical research fail to explain this critical fact. I develop a new model of agenda setting and lobbying that argues that in equilibrium, interest groups may intentionally pay politicians to introduce legislation that will never be enacted. I support this result empirically using a original, disaggregated dataset containing detailed information on every bill introduced in the United States Congress from 1989-2008. I conclude that instead of influencing actions on the chamber floor, political expenditures largely affect the behavior of legislators in committee where the legislative agenda is set. In particular, I find that interest groups make attempts to suppress 56% of bills in the House and 69% of bills in the Senate. I also provide suggestive evidence that sponsors negatively impact their legislative success by obfuscating the actual text of their bills.*

### I. Introduction

Any attempt to explain the legislative process in the United States must contend with three inescapable facts. First, legislators continue to collect substantial sums of money – in excess of \$4 billion in 2008 – from private agents (firms, groups and individuals) in various forms. Second, a strong systematic relationship does not seem to exist between the money that legislators receive and their votes on legislation brought before the full chamber (Parker (1996), Ansolabehere, deFigueiredo and Snyder (2003)). Third, the vast majority – over ninety percent – of proposed legislation is fails at some point along the arduous route to passage.

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<sup>1</sup> Department of Economics, UC Berkeley. **Preliminary Draft, Job Market Paper-- please do not cite.** I thank Gérard Roland, Alan Auerbach, Robert Van Houweling, Ernesto Dal Bó, Clifford Winston, Sean Gailmard, Frederico Finan, Stefano Dellavigna, Ted Miguel, Ashley Langer, Willa Friedman and Owen Ozier for helpful comments. All errors are my own.

These facts raise two critical puzzles. First, why do private agents continue to contribute substantial funds to legislators if those funds have no effect on the legislator's voting behavior? Second, why do members incur the costs of drafting legislation if failure rates are so high? Without further explanation, these observed facts would require substantial uncertainty over both the prospects of legislative success and returns to successful legislation highly in excess of the costs of creating and passing legislation. The importance of shedding light on these questions is considerable: a deeper understanding of the relationship between political expenditures and policy ought to guide constructive and efficient political finance reforms. Furthermore, legislative realities suggest that this relationship must be understood in the context of bill failure.

Though well developed, the theoretical literature on interest group behavior and competition starting with Olson (1965) has thus far been inadequate to explain the facts outlined above.<sup>2</sup> In well known papers, Peltzman (1976) and Becker (1983) formalize the work of Stigler (1971) to argue that competition among interest groups generally leads to policies that are as efficient as possible, given the existence of such groups. However, these treatments focus primarily on characterizing redistributive efficiency and hence place the entire legislative and political process in a "black-box," taking the relationship between interest group spending and favorable policies as given. Grossman and Helpman (1996) view lobbying in a common agency framework which has been applied elsewhere in legislative bargaining (Helpman and Persson 2001), taxation (Dixit, Grossman and Helpman 1997) and elections (Grossman and Helpman 2002). A general implication of these models is that failed legislation is exceptional --policies will almost

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<sup>2</sup> The inadequacy of the scant empirical literature on interest competition to explain the facts above has already been mentioned.

always be crafted in such a way that they will be implemented, standing at odds with the observation that the vast majority of legislation fails to be signed into law. Groseclose and Snyder (1996) propose a model of vote buying in which dominant groups bribe supermajorities of voters to push forth their legislation but do not pursue the issue of agenda setting. In what is perhaps the closest model in spirit to the one provided in this paper, Snyder (1990) jointly considers both vote buying and agenda setting by lobbyists but does not explore such matters in the context of competing interest groups.

In this paper, I develop a new legislative model that bridges the theoretical and empirical literature on lobbying and agenda setting. I show that when interest groups play an active role in both the process of drafting legislation and in building support for or opposition to a given policy agenda, then bills may be strategically blocked. That is, interest groups who find that status quo is sufficiently palatable may choose to maintain it by intentionally targeting expenditures to create an agenda designed to fail. I indicate the specific conditions whereby policies will be promoted or blocked, and argue that in equilibrium, successive policy proposals will either fail, thereby leaving welfare unchanged, or if they pass, weakly improve a crude measure of aggregate welfare. That is, either the status quo prevails, or a new policy is passed, but the utilities of all interest groups involved and the legislative sponsor does not decrease.

I test the formal implications of this model using a novel dataset which combines detailed information over time on both legislation and political expenditures. I automatically sift through every bill introduced in both houses of Congress during the twenty year period from 1989-2008 with the use of a self designed computer program. For each bill, I extract key information regarding sponsorship and legislative activity. I

also compute objective measures of the textual complexity of each bill using well known methods in linguistics and educational psychology. With this legislative data in hand, I assess every distinct campaign contribution made by political action committees to a federal candidate. I connect these expenditures with individual bills, paying close attention to both timing and institutional considerations. The analysis of the linguistic components of bill texts allows me to investigate directly a potential mechanism for the predicted and observed legislative behavior. If a legislator wants to design a bill intentionally to fail, then obfuscating the language of the proposal is an effective method of achieving this goal. To my knowledge, this is the first application of such automated textual analytical tools in economics.

I find that political spending does in fact affect policy, though not by influencing floor voting behavior. Instead, political spending alters the actual substance of legislation that politicians consider – that is, it affects the legislative agenda. Specifically, the effects of money on legislation are most pronounced when bills are being considered in committee rather than when they are on the floor of their respective chamber. Political expenditures may have positive or negative effects on legislative success depending on the motives of the groups involved. I argue that the direction of this effect is predictable and present evidence corroborating this claim. In addition I estimate that in committee, interest groups actively suppress 56% of bills in the House and 69% of bills in the Senate. My findings are consistent with the inability of researchers to uncover a systematic relationship between lobbying and floor voting and suggest a more comprehensive explanation of why private agents contribute funds to policymakers.

## II. Relevant Background on the US Legislative Process

The legislative process of the federal government is broadly defined in Article 1 of the United States Constitution. The actual rules of the legislature are largely established by the respective chambers and standing precedent. Any member of Congress may propose a piece of legislation.<sup>3</sup> This bill is allocated to the appropriate committee of jurisdiction for review. While in committee, the legislation can be sent to subcommittees or other committees, and hearings may be held, to collect information. Changes, or amendments, to the text of the bill may also be made. At this point, the chairman of the committee may bring the bill to a vote in committee or leave it to die. If brought to vote and the bill passes, it then moves to the floor of the appropriate chamber where it is debated and then brought to vote. After clearing one chamber of Congress, it moves to the floor of the next chamber. If after debate, the bill passes a second vote, then it is sent to the desk of the President who may either veto the bill or sign it into law.

The first stylized fact is that legislators have been collecting and continue to collect substantial sums of money from private interests. Generally speaking, money in the political process can be broken down into one of three categories: campaign contributions from individuals, campaign contributions from Political Action Committees (PACs), and general lobbying expenditures from private firms and interest groups.

Individuals can contribute money to political candidates' campaigns; since 1990, these contributions are documented by the Federal Election Commission (FEC).

Individual contributions had been limited to \$1000 per candidate per election. At the end

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<sup>3</sup> There are four main types of legislation: bills, joint resolutions, simple resolutions and concurrent resolutions. The first two require approval of both chambers of Congress before the president can sign them into law. The latter two address internal matters to one or both chambers respectively and are never signed into law. Accordingly, I consider only the first two and hereafter use the terms "bill" and "legislation" interchangeably to describe both bills and joint resolutions.

of the 2002 Federal election, the Bipartisan Campaign Finance Reform Act (BCFRA) came into effect, raising the limit on individual contributions immediately to \$2000, and thereafter increasing the limit by \$100 per electoral cycle.<sup>4</sup> Individuals may also contribute to national parties and PACs.

Firms and labor organizations cannot make direct contributions to candidates, but they may establish PACs to act as proxies. These committees can raise money from employees, stockholders, and union members, and their families. These funds can then be directly contributed to candidates. Multicandidate PACs may contribute up to \$5000 per candidate per election. This limit was unchanged by BCFRA.

Finally, firms and interest groups may also lobby their representatives for favorable legislation. While this money cannot be directly transferred to politicians, it potentially serves to inform legislators on relevant issues, signal interest group preferences and influence actual policy (Grossman and Helpman 2002).

Each of these three types of political spending has been increasing in real terms within the past twenty years for which this data is available. In figure 1, I plot real campaign contributions to Congressional candidates over the past ten federal electoral cycles broken down by source.<sup>5</sup> In this time period, contributions from individuals have increased roughly by a factor of two and a half to \$1 billion in 2008, which contributions from PACs have nearly doubled to \$400 million.<sup>6</sup> The number of PACs has increased by roughly 80% in the last decade to nearly five thousand today. As shown in figure 2,

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<sup>4</sup> While limits on individual contributions *increased* with the passage of BCFRA, soft money contributions were eliminated altogether. Before, individuals and PACs could contribute unlimited amounts of “soft” money to national parties which could then be redistributed at the party’s discretion.

<sup>5</sup> All monetary variables hereafter are inflated to real 2008 dollars using the US Bureau of Labor Statistics consumer price index for all urban consumers.

<sup>6</sup> In a broader historical context, the total amount raised by all congressional candidates from all sources in the 1951-1952 race, adjusted for inflation, was estimated to be a mere \$45 million by the *Congressional Quarterly Almanac 1953* (Ornstein, Mann and Malbin 2008).

lobbying expenditures have nearly doubled to over \$3.2 billion *annually* in the past decade. Note that this corresponds to roughly *six times* as much as individual campaign contributions, as those are aggregated over two year cycles. Private money is a large and growing component of the political process.

The second stylized fact of interest stands in some contrast to the observation that more and more money is entering the political arena. In particular, the evidence linking political expenditures and legislative voting behavior is, at best, ambiguous.

Ansola-behere, deFigueiredo and Snyder (2003) provide a careful summary of nearly forty studies attempting to link PAC contributions with some form of roll call voting behavior, either direct votes or voting score indices developed by various third parties. Their ultimate finding is that PAC contributions have relatively few effects on voting behavior. In particular, three of four studies failed to report statistically significant positive effects of PAC contributions on roll call votes. Ansola-behere, deFigueiredo and Snyder also provide some original regression results of their own supporting this finding.

To be sure, some studies do find connections between campaign contributions and public policy in the United States. For example, deFigueiredo and Edwards (2007) show that campaign contributions by the telecommunications industry affected the regulatory decisions of state public utility commissions. Similarly, Gordon and Hafer (2005) argue that corporations use political expenditures to signal their willingness to contest regulatory decisions, which results in less oversight. Hoffman (2007) explores the connection between campaign contributions from businesses and labor and voting behavior in state legislatures. And Mian, Sufi and Trebbi (2008) find that campaign contributions are correlated with voting patterns on two specific pieces of financial

legislation. However, to my knowledge, no broad and conclusive evidence exists to link spending at the federal level to congressional voting behavior

The dramatically simplified explanation of the legislative process given above lends itself to the third stylized fact, as there are several opportunities for legislation to fail. I summarize the final destination of every bill considered by the House of Representatives and Senate for a twenty year period spanning the 101<sup>st</sup> Congress to the 110<sup>th</sup> Congress (roughly 1989-2008) in table 1. In total, a mere 6% of all bills introduced in the House of Representatives and 4% of bills introduced in the Senate are signed into law. The bulk of bill failure takes place in committee – approximately nine out of every ten bills don't see the chamber floor. Roughly half of the bills that reach the chamber floor make it out of Congress. Bills are more likely to die on the Senate floor than the House floor, which is consistent with the perception that individual Senators are more autonomous than their counterparts in the House. On the whole, Presidential veto rarely tends to disrupt legislation.<sup>7</sup>

### **III. A Model of Agenda Setting with Lobbying**

Politicians write legislation for a number of reasons. In addition to promoting their policy ideals in hopes of changing the law, legislators may sponsor bills to signal effort, competence and preferences to their constituents and fellow legislators, to curry favor with special interest groups or to focus legislative resources and attention upon

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<sup>7</sup> In light of the low passage rate, it is worth mentioning that crafting and sponsoring a bill can be a rather costly endeavor. The full costs of bill sponsorship are difficult to enumerate; however there is evidence that they are a substantial constraint on legislative activity. The initial costs of sponsorship come in the form of specialization, or the acquisition of the relevant background knowledge to draft the text of a bill. For example, Gilligan and Krehbiel (1997) show that a politician's level of specialization, as measured by their probability of legislative co-sponsorship, decreases in various costs to the politician of acquiring bill-specific expertise. Further costs of legislative sponsorship include the devotion of legislative staff and other resources to the task of crafting a bill and shepherding it along.



their policy positions at the expense of other legislators (see, for example, Fenno 1978).<sup>8</sup> This list is by no means exhaustive. Interest groups develop relationships and access with politicians to provide specialized information and ultimately to influence relevant policies. Interest groups may leverage their financial resources, access and know-how to shape the actual text and substance of legislation. They may also utilize their position to directly influence coalition building, voting and other legislative behavior.

More formally, there is a status quo policy of  $s$  in a potentially multi-dimensional policy space.<sup>9</sup> A legislative sponsor possesses a quasi-linear, separable utility function over policy,  $y$ , and consumption,  $C$ , given by  $\bar{U}(y, C) = U(y) + C$ , and two interest groups each possess similarly defined utility functions over policy and consumption given by  $\bar{V}_i(y, C) = V_i(y) + C$ .<sup>10</sup> For simplicity then, all utilities over policy can be measured as pure consumption. All preferences over policy are single peaked, and the interest groups have opposing views. That is, their bliss points lie on either side of the status quo policy, or

$$d\left(\arg \max_y V_i(y), \arg \max_y V_j(y)\right) > d\left(\arg \max_y V_i(y), s\right) \quad (1)$$

for all  $i, j$  where  $d$  is some metric defined on the policy space.

I model the legislative process as a two stage game. Each stage captures a different aspect of the interaction between political expenditure and legislation. In the

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<sup>8</sup> In his classic treatment of Congressional motives for action, Fenno (1978) explores the value and importance of various legislative activities, especially the sponsoring of legislation, based upon hundreds of interviews of Representatives and congressional staff conducted over an eight year period.

<sup>9</sup> The policy space need not be continuous. In reality, the set of potential policy agendas is likely to be discrete.

<sup>10</sup> The forthcoming argument generalizes to any number of interest groups greater than or equal to two. With multiple groups, the “losing group” described in the argument below should simply be replaced by the second strongest group (the group that would otherwise have been the dominant group had the “winning group” been removed from contention.)

first stage, interest groups exploit their political access to shape legislation, and in the second stage, interest groups may explicitly utilize their influence to alter a legislative vote. Following Baron and Ferejohn's (1989) canonical model of legislative bargaining, I assume that the legislative sponsor is exogenously determined. In the first stage, the policy agenda is set.<sup>11</sup> Interest groups may submit take it or leave it bids to the sponsor consisting of a transfer in return for a specific policy agenda.<sup>12</sup> The sponsor then chooses at most one of these bids, and the agenda is set. In the second stage, interest groups may offer payments to members of the legislature in return for favorable votes. A summary of these stages follows:

1. Each interest group  $i$  submits a bid to the sponsor. This bid consists of a policy,  $y_i$ , and a lump sum payment,  $X_i(y_i)$ , to the sponsor conditional on acceptance. The sponsor selects their favored bid, and a single payment is made. If the two bids generate equal utility for the sponsor, the sponsor chooses the bid of the group with higher net valuation for their policy.<sup>13</sup>
2. The sponsor proposes legislation to the relevant committee. Interest groups may make payments to legislators for votes. Payment offers are made sequentially, if at all. The group (if any) in favor of the bill makes payments first. The group defending the status quo then has an

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<sup>11</sup> For simplicity, I model the agenda setting process as a closed rule with no possibility for amendment. Approximately 97% of bills introduced in the House and 96% of bills introduced in the Senate are not amended, and over 99% of bills introduced in both houses are amended fewer than four times. To be sure, with an open rule, amendment might be largely an out of equilibrium action, so the threat of amendment might potentially impact the legislative agenda. This admittedly merits further investigation.

<sup>12</sup> This stands in contrast to models of influence where payments are made conditional upon outcomes or votes being pivotal (e.g., Dal Bo 2007).

<sup>13</sup> This tiebreaking rule is merely a technical condition. It is substantively equivalent to modeling the bidding space as discrete.

opportunity to make payments second. The bill's sponsor may not receive any payments.

The second stage of this game is adapted from Groseclose and Snyder's (1996) vote buying game in which interest groups are free to offer legislators payments conditional on their votes, and pivotal legislators are willing to vote for a given policy if their utility over that policy is not less than their utility over an alternative policy by the amount of their payment.<sup>14</sup> My formulation is one of complete information, and there is no uncertainty in any stage of the game. Though unrealistic, this is an appropriate modeling choice as my goal is to show that even in the absence of uncertainty, failing legislation can be an equilibrium outcome. I now consider the subgame perfect Nash equilibria (SPNE) of this game in pure strategies. Proofs can be found in the mathematical appendix A.

*Proposition 1.* There exists a SPNE in pure strategies the game described above.

The existence of equilibrium hinges upon two features of the game. The first stage can be thought of as a common knowledge auction where interest groups are vying for control of the sponsor. The tiebreaking rule ensures a unique winner. Sequential vote buying payments ensure the existence of a Nash equilibrium in pure strategies within the second stage.<sup>15</sup>

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<sup>14</sup> The sequential timing of payments generates equilibrium strategies that are equivalent to the equilibrium strategies in a simultaneous vote buying game with minimal structure. Suppose groups simultaneously decide whether to initiate the vote buying game and then play proceeds as above. If both groups opt to initiate, then the initiator is determined by random assignment, and if neither group opts to initiate, then no roll call vote is taken. Then the group in favor of the status quo will never initiate payments as they have the luxury of waiting to respond to the group opposed to the status quo (Groseclose and Snyder 1996).

<sup>15</sup> The first stage of the game could also be thought of as a menu auction where interest groups offer payment schedules to the legislative sponsor consisting of payments conditional upon the final agenda. With the additional assumption of strict concavity of interest groups' utility over policy (and the relaxing of

The equilibrium decisions of the three participants in the game – the group that wins the first stage auction,  $W$ , the losing group,  $L$ , and the legislative sponsor – can be described in three inequalities.<sup>16</sup> Let  $P_i(\cdot)$  indicate the expenditures that group  $i$  must make to other legislators to promote their legislation in the second stage of the game. In any subgame perfect Nash equilibrium, the following individual rationality constraint for  $W$  must hold:

$$X_W(y_W) + P_W(y_W) \leq V_W(y_W) - V_W(y_L) \quad (2)$$

The full costs of implementing  $W$ 's policy,  $y_W$ , which are given on the right side of (2) as the sum of the first stage payment to the sponsor and second stage payments to other legislators, must not exceed the benefits  $W$  would enjoy from their policy relative to the alternative losing policy  $L$ .

Similarly, the legislative sponsor also faces an individual rationality constraint, namely

$$X_W(y_W) + U(y_W) \geq X_L(y_L) + U(y_L). \quad (3)$$

This inequality simply describes the condition for which the sponsor writes  $W$ 's bill over  $L$ 's bill – the sponsor's utility from the winner's bid plus their legislation must exceed the sponsor's utility from the loser's bid plus their legislation. While  $L$  does not face an individual rationality constraint, strictly speaking, the full costs of implementing their policy must exceed the benefits that they derive from their policy relative to the  $W$ 's policy alternative. Otherwise,  $L$  would face an opportunity to manipulate their first stage

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the assumption of opposing views), a Nash equilibrium exists in such an auction and possesses the efficiency property described in theorem 2 (Bernheim and Whinston (1986b)).

<sup>16</sup> Hereafter, I only consider pure strategies.

bid to the sponsor which would result in a beneficial deviation and the policy  $y_L$  being implemented. Formally,

$$X_L(y_L) + P_L(y_L) \geq V_L(y_L) - V_L(y_W) \quad (4)$$

These inequalities can be combined to form the following result.

*Proposition 2.* In any subgame perfect Nash equilibrium (SPNE) in pure strategies, the aggregate utilities of all groups and the sponsor must not decrease either when the winning policy is adopted over the status quo, or when the status quo is defended over a losing policy. That is,

$$V_W(y_W) - V_W(y_L) - P_W(y_W) + V_L(y_W) + P_L(y_L) - V_L(y_L) + U(y_W) - U(y_L) \geq 0. \quad (5)$$

The  $y_i$  are the policies that would be actually implemented if group  $i$ 's agenda was followed and can be equal to the status quo policy.

It is important to note that each player's surplus is weighted equally. This is also a feature of the noncooperative menu action model of Bernheim and Whinston (1986a) and the truthful equilibria of the common agency model in Dixit, Grossman and Helpman (1997). This result can also be viewed in a somewhat different perspective as an analog of Becker's (1974) "Rotten Kid Theorem."<sup>17</sup> In spite of the lack of altruism in the model, the bidding stage links groups' incentives in such a way that their actions would be consistent with explicitly modeled altruism, which only leads to outcomes that increase total welfare.

This proposition constitutes a weak claim on the efficiency of lobbying in setting policy agendas. If all members of society were represented by one of the two groups, and

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<sup>17</sup> In a familiar formulation of the "Rotten Kid Theorem," a parent has two children, one of whose utility is based strictly upon their consumption (the rotten kid), and the other of whose utility is based upon some combination of their consumption and their sibling's consumption (the prodigal kid). Children take actions that affect their private consumption and their parent's income. If the parent commits to redistributing household wealth in an equitable manner, then Becker shows that both the rotten kid and the prodigal kid take the same actions because their incentives are linked through the parent.

the legislative sponsor's utility was representative of social utility, then lobbying would necessarily push policies in the direction of improving social welfare. Inasmuch as weaker interests are disorganized and legislators are unrepresentative, lobbying distorts policies in the direction of stronger interests' and legislative sponsors' blisspoints.

Proposition 2 does not ensure that the alternative policy proposed will defeat the status quo policy. Note the weak inequality in (5). In fact, the key result of the model is that there is a specific condition under which a new policy will replace the status quo (and conversely, a condition under which the status quo will persist.) Interest groups may spend to move the policy towards their blisspoint. However, if faced with sufficient opposition – some combination of the legislative sponsor demanding a greater payment in the first stage and the opposing interest group forcing them to spend a greater amount buying legislator's votes in the second stage – that the dominant interest group is unable to move the policy towards their blisspoint, they may decide to spend money to set an agenda in the first stage that is known to fail in the second stage as a way of preventing the equilibrium policy from moving further from their own blisspoint. This condition is described in the following statement:

*Proposition 3.* Legislation will be promoted if and only if the total surplus that  $W$ ,  $L$  and the legislative sponsor derive from  $y_w$  versus the status quo policy is positive. That is, legislation will be promoted if and only if

$$V_w(y_w) - V_w(s) - P_w(y_w) + V_L(y_w) - V_L(s) + U(y_w) - U(s) > 0 \quad (6)$$

holds. Otherwise  $W$  will play a blocking strategy intentionally introducing legislation to fail.

The key takeaway from proposition 3 is that the determination of whether interest groups spend to buy favorable legislation or to suppress unfavorable legislation is an empirical one. There exist certain conditions under which money will be spent to increase the probability of legislative success, but there also exist conditions under which interest groups will spend to decrease the probability of legislative success. In particular, if no feasible policy exists that will increase the aggregate welfare of the groups and the sponsor, then *the status quo must necessarily prevail*. Sometimes interest groups will pay legislative sponsors to kill their own bills.

How often might such conditions for blocked policy present themselves? In reality, the policy space is often discrete, perhaps even binary. There are only a small number of potential policies that could be written into bills. Hence, if alternatives to the status quo are sufficiently unpalatable to one of the interest groups or the legislative sponsor, then blocked policy will be the norm. In addition, the policy space is often multidimensional. If the component policies of a particular piece of legislation are highly substitutable for each other, then potential policy improvements are less likely to exist, and accordingly, groups will spend to block legislation.

In summary, there are two forces acting on the policy agenda. The “stronger” group would like to spend money to move the agenda towards their blisspoint, while the “weaker” group wields the threat of payment in order to keep the agenda from moving too far away from their blisspoint. The costs of policy implementation in the second stage (through vote buying) potentially keep the stronger group from moving policy, thus maintaining the status quo. In effect, the cost of building broader support for policy in the second stage serves as a wedge which keeps policy fixed at the status quo.

For simplicity, consider the representation of the continuous, uni-dimensional policy space in figure 3. The blisspoints of the two interest groups are given by  $L$  and  $R$  respectively, and I refer to the groups by their blisspoints. The status quo policy is at  $s$  and the median voting politician's blisspoint is at  $m$ . We can summarize the second stage as follows. Policies in intervals A and C would fail without vote buying (i.e.,  $B_i(y) = 0$  and  $P_i(y) > 0$ ), and policies in interval B would pass on their own without vote buying (i.e.,  $B_i(y) > 0$  and  $P_i(y) = 0$ ).

For example, assume that  $R$  is the winning group and  $P_R(y)$  and  $V_R(y)$  are differentiable at the point  $y = s$ . Then  $R$  would prefer to keep the policy at  $s$  instead of moving it to the right if the marginal cost of moving to the right (which is comprised of the first stage marginal cost of buying the agenda plus the second stage marginal cost of buying votes) exceeds the marginal benefit of moving to the right, or

$X'_R(s) + P'_R(s) > V'_R(s)$ . Similarly,  $R$  would prefer to keep the policy at  $s$  instead of allowing it to shift leftward if the marginal utility loss from moving left exceeded the money saved from allowing the policy to move left (the marginal cost of buying the agenda in the first stage), or  $V'_R(s) \geq X'_R(s)$ . Combining these conditions, a blocking strategy is an SPNE if

$$X'_R(s) + P'_R(s) > V'_R(s) \geq X'_R(s). \quad (7)$$

In the simple case described, the marginal costs of building support in the second stage to overturn the status quo,  $P'_R(s)$ , define the “width” of the range of interest group preferences which would lead such a group to pursue a blocking strategy. As the costs of



building broader support in the second stage increase, the potential for intentionally failing policies to be introduced increases as well.

In general, if  $L$  has very strong distaste for  $s$  relative to  $R$  (that is,  $L$  would be willing to pay relatively large amounts to change the policy) then the proposed policy will pass and the status quo will move to the left. Conversely, if  $R$  has very strong relative distaste for  $s$ , then the proposed policy will pass and the status quo will move to the right. Now suppose  $R$  only has moderately more distaste for  $s$  than  $L$ . Being the “stronger” group,  $R$  will certainly not allow the policy to move leftward. However, the strength of  $L$ 's preferences still keep the policy from moving rightward. As a result,  $R$  will pay for the power of proposal, and the policy will fail.

Legislation will be promoted, on average, when the dominant group greatly dislikes the status quo and will be suppressed otherwise, and groups hoping to change policy are more likely to assert themselves when a particular legislative sponsor dislikes the status quo. However, when opposing groups have very strong policy preferences, it is likely that the status quo will be maintained. This could come at cost to the more dominant group, as they may be induced to set the agenda intentionally to be blocked by the threat of the opposing group's actions. In general, groups will propose legislation that takes into account the preferences of all players. This serves to moderate policy. After moving to a new status quo policy, a change in the aggregate utilities of both groups and the legislative sponsor will be required to move to a new policy alternative. Though sponsors may vary, the policy effects of differences in their preferences will be dampened by the stability of the preferences of the two interest groups.

#### IV. Empirical Strategy

The main testable implication of this model is that money can potentially distort the policy agenda that legislators vote on. These distortions are likely to take place when bills are in committee, as this is the time when the agenda is shaped. Hence, the inability of earlier studies to correlate campaign contributions with voting behavior is simply a case of looking in the wrong place – or rather wrong time. Instead of focusing on bills which have left committee in a more or less refined form, I focus on bills at their nascent stages. The two basic empirical questions left by the theory concern the legislative motives of interest groups and the legislative effects of interest groups. In particular, it is ambiguous whether groups will spend to pass or block legislation. I begin by exploring the effects of PAC contributions on overall legislative success. I then directly and parametrically estimate the probability that a given bill is intentionally blocked by an interest group to shed light on the prevalence of different group motives.

##### *Effects of Contributions*

For a given bill  $i$  that is introduced, I define  $\pi_i$  equal to 1 if it emerges successfully from committee and equal to 0 if it fails passage. Let  $X_i = X_w(y_i)$ , the first stage payments to the legislative sponsor, and let  $P_i = P_w(y_i)$ , the second stage payments to the entire committee membership. Then the overall effect of PAC contributions on legislative success are captured by the parameters  $\beta_x$  and  $\beta_p$  in the regression

$$\pi_i = 1(X_i\beta_x + P_i\beta_p + W_i'\beta_w + \varepsilon_i > 0) \quad (8)$$

Where  $1(\cdot)$  is the indicator function,  $W$  is a vector of bill, sponsor and committee specific characteristics, and  $\varepsilon_i$  is an i.i.d. normally distributed error term consisting of unobserved determinants of bill  $i$ 's success.

Proposition 3 implies that the effects of PAC contributions on legislative success of will vary with the motive of the dominant interest group. When groups are motivated to block legislation,  $\beta_x$  is expected to be negative and  $\beta_p$  is expected to be zero as there should be no second stage payments related to the bill. When groups are motivated to pass legislation, both  $\beta_x$  and  $\beta_p$  are expected to be positive.

Of course, these motives are determined by the relative preferences for the policy  $y_i$  to the status quo, which are unobserved. Defining  $v_i = V_w(y_i) - V_w(s)$  and  $u_i = U(y_i) - U(s)$ , the error term in equation (8) can be decomposed into

$$\varepsilon_i = u_i + v_i + e_i \tag{9}$$

where  $e_i$  is assumed to be uncorrelated with all of the observed variables. Under the assumptions that  $E[X \cdot (v + u + e) | W] = 0$  and  $E[P \cdot (v + u + e) | W] = 0$ ,  $\beta_x$  and  $\beta_p$  could be estimated by straightforward methods. However, these assumption is unlikely to hold.

If the interest group is trying to pass legislation, I expect  $v_i$  to be negatively correlated with  $X_i$  and  $P_i$ , and I expect  $u_i$  to be positively correlated with  $X_i$  and  $P_i$ . As the winning interest group's surplus utility over the agenda relative to the status quo increases, the level of the payment they would be willing to make to the sponsor might

also increase. And as the legislative sponsor's utility over the agenda relative to the status quo increases, the level of payment they would require to craft that particular agenda might decrease. On the other hand, if the interest group is trying to block legislation, I expect  $v_i$  to be positively correlated with  $X_i$  and  $P_i$ , and I expect  $u_i$  to be uncorrelated with  $X_i$  and  $P_i$ . I deal with the problem of endogeneity in two ways. First, I include a number of bill specific and legislator specific explanatory variables in my estimation. This should absorb some of the explanatory power of the problematic unobserved variables. Second, I utilize instruments which are not likely correlated with the unobserved variables to identify the  $\beta_x$  parameter.

The additional explanatory variables I include in the regression fall into two categories – bill specific determinants of legislative success and sponsor specific determinants of legislative success. Bill specific variables include the number of cosponsors on a bill, the number of times the particular bill has been amended, and the amount of time the bill spends in committee. Bills with more cosponsors are more likely to be successful, as this is a signal of broader legislative support and policy importance. Bills with more amendments are also more likely to be successful, as the extra attention given to the legislation may also reflect greater policy importance. More time spent in committee may reflect increased attention paid to the issue, or it may reflect low scheduling priority. I also include dummies for the committee in which the bill was introduced to account for any committee specific precedents and idiosyncrasies that might influence legislative success.

Sponsor specific variables include measures of sponsor ideology, a measure of the electoral strength of the sponsor, and a dummy for the majority status of the sponsor's party. Bills sponsored by more moderate members are more likely to be successful, as these politicians might be more skilled at building consensus. Bills sponsored by members who were elected with a greater share of the vote are also more likely to be successful, as these members are more representative of their constituents. Bills sponsored by members in the majority party are also more likely to be successful due to the substantial gatekeeping power afforded to committee chairpersons. I also include sponsor fixed effects which should account for any unobserved sponsor specific attributes. In addition, I include measures of the total amounts of contributions that committee members of the sponsor's party and members of opposing parties raise during the relevant period. These variables are likely to appear in the vector  $P_i$ .

Finally, I include ten fixed effects for each two year congressional period and twenty four seasonal fixed effects defined for the month of bill introduction in the House (two year terms) and seventy two season fixed effects defined for the month of bill introduction in the Senate (six year terms). The former should account for broader historical trends in legislative behavior, while the latter should account for variation in intra-annual legislative sessions and due to vacations.

Using standard maximum likelihood techniques, I employ a vector of instruments  $Z_i$  which are uncorrelated with the unobservable variables to identify the coefficients of the endogenous variables  $\beta_X$  and  $\beta_P$ . The  $Z_i$  include four measures of PAC contribution activity that are intended to predict the endogenous variables without directly affecting

the legislative prospects of bill  $i$ . In particular, I compute aggregate contributions from relevant PACs to legislators both of the sponsor's party and of opposing parties who are not members of the committee where bill  $i$  is being considered, and I compute aggregate contributions from relevant PACs to legislators both of the sponsor's party and of opposing parties who are members of the legislative chamber where bill  $i$  is *not* being considered.

The key maintained assumption behind this identification strategy is that these PAC contributions do not directly affect the chance that bill  $i$  emerges from committee. This is defensible upon institutional grounds, as committees in both the House and Senate possess a great deal of autonomy regarding the proceedings within their purview. As such, pressure applied by interest groups to members who do not sit upon the committee of jurisdiction for a particular bill is unlikely to affect that that bill's prospects. These members can neither participate fully in committee and subcommittee hearings nor cast committee votes. This autonomy is even more pronounced between chambers. Pressure applied by interest groups to Senators is unlikely to affect the proceedings in a House committee and vice versa.

However, the instruments are valid predictors of the endogenous variables for a number of reasons. Inasmuch as there are broad national political and economic determinants of campaign contributions, these four instruments should capture these trends. For example, concerted political fundraising efforts or scandals might result in short run increases or decreases in overall campaign contributions. And general macroeconomic trends might result in medium run increases or decreases in overall campaign contributions. The instruments may also capture determinants of campaign

contributions that are more narrowly defined for a particular piece of legislation. For example, if agricultural PACs are contributing heavily in a particular period, then they may not be able to contribute as much for a particular piece of legislation as they face both self imposed budget constraints and exogenous constraints on contributions defined by federal election statutes.

### *Motives for Contribution*

The motives of interest groups – whether to promote or suppress legislation – are unobserved. In a world of no uncertainty and perfect information, interest group motives should be perfectly correlated with actual legislative outcomes. If a group made efforts to pass a bill, then that bill would necessarily pass committee. Hence,  $\pi_i$ , an observed variable, would conveniently convey the unobserved interest group motive. Based on the data, this suggests that groups intend to kill roughly 90% of all federal legislation.

Of course, uncertainty and imperfect information are salient features of the legislative process, hence  $\pi_i$  is likely to overstate the true motives of interest groups. Suppose that in the second stage of the game, there was uncertainty in vote buying. That is, vote buying efforts were imperfect and stochastic some way. I model this imperfection generally with two parameters capturing the two types of error in correlating unobserved motives and observed bill success. Let  $\sigma_i$  be a variable equal to 1 if the dominant interest group's motive is to pass bill  $i$ , and 0 if the dominant interest group's motive is to block bill  $i$ . Then define the following parameters

$$\alpha_0 = \Pr[\sigma = 0 | \pi_i = 1], \text{ and} \tag{10}$$

$$\alpha_1 = \Pr[\sigma = 1 | \pi_i = 0]. \quad (11)$$

The parameter in (10) is the probability that an interest group attempting to block legislation was unsuccessful, and the parameter in (11) is the probability that an interest group attempting to pass legislation was unsuccessful. With knowledge of these parameters, the share of bills that interest groups intentionally suppress is therefore simply given by

$$1 - E(\sigma) = \alpha_0 E(\pi) + (1 - \alpha_1)(E(1 - \pi)) \quad (12)$$

According to proposition 3, the probability that an interest group plays to pass a bill is a function of the utilities of the winning and losing groups and the sponsor, and the cost of implementing the policy in the second stage. I proxy for these probabilities using the bill and legislator specific explanatory variables described above, specifying

$$\sigma_i = 1(W_i' \beta + e_i > 0) \quad (13)$$

where  $e_i$  is an i.i.d. error term with cumulative distribution  $F$  that is assumed to be uncorrelated with the vector of explanatory variables  $W_i$ . The parameters in the equation in (13) cannot be estimated since the variable on the left hand side is unobserved.

However, the parameters  $\alpha_0$  and  $\alpha_1$  link the unobserved dependent variables with the observed variable  $\pi_i$  by capturing the extent to which the observed variable is “misclassifying” the true value of the unobserved variable. Hausman, Abrevaya and Scott-Morton (1998) provide a method for obtaining consistent estimates of these parameters and the misclassification parameters.



The probability that a bill is successful is given by

$$\Pr[\pi_i = 1] = \alpha_0 + (1 - \alpha_0 - \alpha_1) F(W_i' \beta). \quad (14)$$

Hasuman et. al. argue that if  $F$  is a symmetric distribution and  $\alpha_0 + \alpha_1 < 1$  then the parameters in (14) can be estimated by nonlinear least squares based on minimizing the moment condition

$$\{\hat{\alpha}_0, \hat{\alpha}_1, \hat{\beta}\} = \arg \min_{\alpha_0, \alpha_1, \beta} \sum_i \left( \pi_i - \alpha_0 - (1 - \alpha_0 - \alpha_1) F(W_i' \beta) \right)^2 \quad (15)$$

The misclassification parameters are identified by the nonlinear functional form of  $F$ .

## V. Description of the Data

The theoretical argument above has two key implications for the understanding of interest group behavior. That is, there should be heterogeneity in both the motives of interest groups and the effects of their spending on the legislative processes. Some expenditures should further legislation along, while others should suppress it. To identify these two aspects of interest group behavior, I employ federal data from the United States spanning the most recent two decades. This dataset combines a wealth of legislative data with detailed information on the type, source and target of interest group funding. Using these two sources, I construct a number of variables describing various features of bills and political contributions. To my knowledge, this is the first time such detailed data at the level of individual bills has been used to analyze the role that interest group spending plays in all phases of the legislative process.

The key variables in the model are the agenda and the payments made by relevant interest groups. Accordingly, the analysis ought to be conducted at the bill level. I consider all bills and joint resolutions introduced in both the House of Representatives and the Senate from the 101<sup>st</sup> Congress (beginning January 3<sup>rd</sup>, 1989) to the 110<sup>th</sup> Congress (ending January 3<sup>rd</sup> 2009).<sup>18</sup> The text and relevant information of each bill is available in the Thomas Legislative Database which is maintained by the Library of Congress. For each bill, I locate the primary sponsor, cosponsors and amendments made to the bill. I also identify the dates in which major legislative actions occurred. This allows me to construct the time frame that a bill spent in committee and in the chamber, if applicable. Some four percent of bills do not pass on their own but are rolled into other bills that do end up being written into law. In these cases, I omit the intermediate bills and consider only the final legislation.

For political expenditure data, I use bulk data from the Federal Elections Committee collated by the Center for Responsive Politics ([opensecrets.org](http://opensecrets.org)), a non-partisan watchdog group that monitors various manifestations of money in politics. Of the three main types of political expenditures outlined in the introduction, I choose to focus on PAC contributions as a proxy for policy influential payments. PACs are organized by specific political interests, hence their contributions are more likely to be associated with influence peddling as opposed to individual campaign contributions

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<sup>18</sup> I omit bills and joint resolutions promoted by discharge petition, a technique that allows legislators to circumvent the committee stage and bring bills directly to the chamber floor, provided an absolute majority of members agrees. As the usual agenda setting process takes place in committee, it is reasonable to omit these rare bills which account for no more than 0.15% of all legislative activity in any Congress. I also omit a small number (less than 0.2%) of bills introduced by members of jurisdictions that lack voting rights in the House (representing Puerto Rico, Guam, American Samoa and the US Virgin Islands) since not all variables can be constructed for these bills.

which may be as little as twenty dollars and have greater potential to be associated with simple political consumption. Lobbying expenditures by firms and interest groups are also likely associated with influence peddling; however, the information required by the Internal Revenue Service in accordance with the Lobbying Disclosure Act of 1995 does not include the legislative targets of lobbying spending. In other words, lobbying expenditure data suffer from the fact that their recipient is unspecified.

Each campaign contribution made by a PAC contains information linking the donor PAC, the recipient candidate, and the date it was made. I first identify the primary policy interest of every PAC using the following objective algorithm. In every congress, I locate every contribution that a particular PAC made. For each recipient of these contributions, I identify which committees they sit upon using committee membership data from Nelson 2009 and Stewart and Woon 2009 and tally the contributions accordingly. I can then identify to which committee's members a particular PAC was most actively contributing and label the group as such. Hence, for each bill in my sample, I can use this information to construct the total contributions that a bill's sponsor received from interested PACs during the period that the bill was in committee consideration, and the total contributions that a bill's sponsor received during the period that the bill was under floor consideration. I can also construct the total contributions from relevant PACs that all members of a given committee or party received during the relevant periods of time for a particular piece of legislation. In contrast to the two year aggregate expenditure variables used in most studies attempting to link money and voting, these finely tuned proxies for political contributions vary by time, committee, and legislative sponsor.

I define the period that a bill is in committee consideration as seven days before and after the date of introduction. There is an inherent tradeoff in this arbitrary definition of this legislative period. If the window is too narrow, then the chance of not accounting for expenditures that are germane to the drafting of the particular bill increases. However, if the window is too wide, then the chance of accounting for expenditures that are not germane to the particular bill increases as well. This latter concern might introduce the possibility that error terms in regressions featuring legislative expenditures as an independent variable are not independently distributed. The fourteen day window mitigates this, as fewer than 1.5% of all bills are introduced by the member within seven days of another bill that is introduced in the same committee by the same member.<sup>19</sup> I define the period that a bill is under floor consideration similarly.

It is helpful to note that there is a constant flow of PACs contributions to candidates, that legislators are also constantly introducing bills, and that there is a general connection between the two. Overall, in the 110<sup>th</sup> Congress (2007-2008), the probability that a Senator introduced a bill in a given week increased by 3% with every additional \$10,000 raised the week before. As a motivating example, consider the case of Senator Mel Martinez (R-Florida) during the 110<sup>th</sup> Congress.<sup>20</sup> In figure 3, I follow the PAC

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<sup>19</sup> I begin the period of committee consideration a week prior to the introduction of the bill because that is when much of the drafting of the bill takes place. As a robustness check, I tried specifying the periods beginning 3 days and 2 weeks prior to the date of introduction. The econometric results remained qualitatively unchanged. and ending either at the date at which the bill moved to the floor or for failed bills, the date of the final major legislative action on the bill. I also extended the period of committee consideration to the date of final major committee actions on a bill, but again, the results were qualitatively unchanged.

<sup>20</sup> I choose Senator Martinez as an example since he was not up for reelection until the fall of 2010. Furthermore, Senator Martinez announced on December 2, 2008 that he would not be seeking reelection at the end of his term. (In fact, Senator Martinez resigned from his seat on September 9<sup>th</sup> 2009 prior to completing his elected term.) It is arguable that the political contributions that Senator Martinez raised during the 110<sup>th</sup> Congress were less correlated with electoral timing and more correlated with legislative activity than the average Senator. This relationship is more easily visually observed.

contributions that Senator Martinez raised during this period along with the legislation he sponsored. Nearly every bill he sponsored, as indicated by the arrows, was preceded by a bout of PAC spending in the previous week. Furthermore, nearly every bout of PAC spending (with the notable exception of the lucrative summer of 2007) was followed by sponsored legislation. This anecdotal evidence by no means suggests that legislation is always precipitated by PAC activity. Nevertheless, it raises the question of whether, and to what extent, a link exists between Senator Martinez's setting of policy agendas and fundraising activity.

Finally, I use DW-NOMINATE (dynamic, weighted, nominal three step estimation) scores developed by Keith Poole and Howard Rosenthal to proxy for the multidimensional ideology of each congressman and senator during the sample (Carroll et. al., 2009). These scores aggregate the information contained in every floor vote cast by legislators during their time in Congress by evaluating voting decisions under the framework of a random utility choice model along two dimensions. The first score captures politicians' differing views on government intervention in the economy. The second score captures North-South conflict on slavery and civil rights, though the realignment of the South from the Democratic party to the Republican party since 1980 has reduced the importance of this dimension. These ideology measures vary by both politician and Congress and assume values between -1 and 1 with a median of zero. Summary statistics for the data can be found in table 2.

On average, legislative sponsors in the House of Representatives receive approximately four hundred dollars in campaign contributions from PACs of interest for the periods in which their bills are under committee consideration. This is roughly one

twentieth of the total amount of contributions that all members on the committee receive during the same period. Since committees have many more than twenty members on average, this means that money disproportionately flows to writers of legislation while bills are under committee consideration. In the Senate, legislative sponsors receive roughly two thousand dollars in campaign contributions from PACs of interest for the periods in which their bills are under committee consideration, which is a similarly approximately one twentieth of total committee contributions in the same period. Bills stay in committee roughly fifty days in the house and thirty five days in the Senate, though there is tremendous variance in this time period.

Both of the average bill sponsor's ideology scores are close to zero. This suggests that sponsors of legislation don't tend to be disproportionately left or right leaning. This does not, however, suggest that legislators are largely moderates, as evidenced by the sizeable standard deviations of these variables. Sponsors in both houses tend to have won their electoral races with substantial majorities. Bills have on average eighteen cosponsors. However, the standard deviation of this variable is quite high. In fact, the modal bill has zero cosponsors. Bills are amended less than once on average, and roughly ninety five percent of bills are not amended at all. Again there is great heterogeneity in this variable, as some bills contain well over one hundred amendments.

## **VI. Empirical Results and Analysis**

I present various tests of the efficacy of political spending in table 3. The coefficients in the first four columns are estimated using bills introduced in the House of Representatives, and the coefficients in the last four columns are estimated using bills

introduced in the Senate. In the first two columns of each set, I present regression results based on the full sample of bills in each house. These represent the average determinants of legislative success. In the third and fourth columns of each set, I present regression results based on subsamples of bills defined by cosponsorship of bills. The general idea behind these estimates is that if legislative sponsors know they are writing their bill to intentionally fail, then they will be less likely to expend resources to build the support of cosponsors. On the other hand, if sponsors are aiming to pass legislation, they will seek to attract a large number of cosponsors. For bills intended to fail, PAC money should diminish their legislative prospects, and for bills intended to pass, PAC money should improve their legislative prospects.

The key coefficient of interest, interested PAC contributions to the legislative sponsor, can be found in the first row of the table. In the House, the average effect of contributions to the sponsor found in the first two columns is negative. For those bills with few cosponsors (column 3), this effect is more strongly negative and more precisely estimated, as suggested by theory. An additional \$1000 in campaign contributions to a legislator sponsoring a bill with at most one cosponsor is estimated to decrease the prospects of that bill passing committee by eight percent. For bills with many cosponsors (column 4), payments to the sponsor have a small and imprecisely measured effect. In the Senate, the average effect of contributions to the sponsor found in columns 5-6 is positive, but statistically indistinguishable from zero. For bills with few cosponsors, I find that an additional \$10,000 in campaign contributions results in a 0.4% decrease in legislative success, but with bills with many cosponsors, that same addition money will result in a roughly seven percent increase in legislative success. PAC money raised by

other committee members has a positive effect on average in both the House and Senate. In accordance with the theoretical result that groups do not buy votes when blocking legislation, this effect of this variable on legislative success is statistically indistinguishable from zero in both chambers when bills have few cosponsors (columns 3 and 7). However, when bills are heavily cosponsored, an additional million dollars to committee members results in a twenty three percent increase in legislative success in the House and an additional two percent increase in legislative success in the Senate. Overall, these results are consistent with the idea that money is given to legislative sponsors and committee members for differing reasons, and hence has different ultimate effects on legislative success depending on the type of bill.

Other explanatory variables tend to be statistically significant and of expected sign. Other things equal, bills sponsored by more ideologically extreme politicians are more likely to fail. The strongest determinants of legislative success are the party and the relative electoral strength of the sponsor. Bills written by politicians in the majority party have a substantially greater chance of passage than bills written by politicians in the minority party, likely due to the considerable gatekeeping power of the committee chairperson and the availability of more favorable votes. Bills with more cosponsors and bills that are more often amended enjoy greater chances of legislative success as expected. In the house, the longer a bill remains in committee, the more successful it is, although this effect is reversed in the Senate. This could be a result of the fact that scheduling rules are more rigidly defined in the House.

I explore the motives of interest groups by directly estimating the misclassification parameters described in the previous section by nonlinear least squares.



Regression results are shown in table 4. The regressions in the odd numbered columns do not include committee, congress and monthly fixed effects. The key parameters of interest are in the first two rows. The probability that a group was trying to suppress a bill that was ultimately observed to have passed is given by  $\hat{\alpha}_0$ . As expected, this probability is small; that is, the small number of successful bills is not overstated. The probability that a group was trying to promote a bill that ultimately failed is given by  $\hat{\alpha}_1$ . This parameter is very precisely estimated and roughly 0.37 in the House and 0.22 in the Senate. Utilizing equation (12) I compute

$$1 - E(\sigma_{HR}) = 0.56 \quad (16)$$

$$1 - E(\sigma_S) = 0.69 \quad (17)$$

In other words, interest groups spend to suppress legislation on 56 percent of bills introduced in the House and 69 percent of bills introduced in the Senate. Other variables are of expected sign.

## VII. Extensions

### *Linguistic Complexity*

I now attempt to shed light on a potential mechanism that sponsors might employ to affect the potential success of their legislation. By increasing the linguistic complexity of the text of a bill, the obfuscation of policy could enable politicians to sponsor bills intended to fail at the behest of special interest groups, as legislators are given an excuse for voting “no” without signaling their policy preferences.<sup>21</sup> Linguistic complexity and

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<sup>21</sup> For example, Rep. John Boozeman (R-AR) justified his prospective “no” vote on H.R. 3200 (America’s Affordable Health Choices Act of 2009) with the following statement: “This is not light reading. It’s

the parsing of public statements has been shown to be a mechanism for the intentional manipulation of signals in central banking. For example, and Romer and Romer (2000) go through central bank statements by hand, scoring complexity by the presence of particular phrases, while Lucca and Trebbi (2008) refine and automate this method for a similar application, keying in on specific words and phrases. I also investigate if PAC contributions are correlated with the several automated measures of the textual complexity of legislation, and if the complexity of legislation affects legislative outcomes.

The full, final text of each bill is available in the Thomas Legislative Database. From this, I construct four well known measures of textual complexity. *FRE*, the Flesch reading ease score (Flesch 1948), *ARI*, the automated readability index (Kincaid, et. al. 1975), *FOG*, the Gunning-FOG index (Gunning 1952) and the *SMOG* index can all be computed from primitive corporal variables related to the number of syllables, words, and sentences in the text. Detailed formulas for these measures appear in Appendix C. The general idea underlying the textual analysis is that complexity is an increasing function of the number of words per sentences and of the number of syllables per word. Larger values of these measures reflect greater textual complexity (except for the aptly named Flesch reading ease score, which I multiply by negative 1 to make larger values correspond to greater complexity.) To be sure, these measures were all developed using large corpora based on broad samples of English literature and prose. Legislative language is hardly representative of standard prose, as it is rife with jargon and complex,

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difficult reading, it involves policy and things. Right now, because of those things, I will probably vote against it.”

multi-clause sentences. This renders an absolute interpretation of these measures – each measure is calibrated to correspond to the reading comprehension ability of an American student at that grade level – somewhat suspect. Nevertheless, relative interpretation between bills is still of value. Summary statistics of these measures for the sample of bills are provided in table 2.

In table 5, I regress the four measures of linguistic complexity on the amount of PAC contributions the legislative sponsor collects. I instrument the PAC contributions with the same set of instruments as before. The first set of four columns of results are estimated using the full sample. In both the House and the Senate, bills tend to be more complex when their sponsor receives more campaign contributions. The second set of four columns of results are estimated using the subsample of bills that are likely to be blocked. In this subsample, campaign contributions appear to obscure legislation more than in the entire sample. The third set of four columns of results are estimated using the subsample of bills that are unlikely to be blocked. Here, there appears to be no precise relationship between campaign contributions and legislative complexity. The qualitative results are largely robust to the various metrics of linguistic complexity. Overall, these estimates are strongly suggestive that the text of bills that attract large amounts of PAC contributions for their sponsor tends to be far more complicated than the text of bills that attract small amounts of PAC contributions for their sponsor. As argued above, the magnitude of these coefficients is of little interpretive value, but their uniformly positive values are consistent with the notion that these contributions induce legislators to obfuscate the content of their bills.

Moreover, I robustly find that the obfuscation of legislation is detrimental to its success. In table 6, I present probit regressions of legislative success on the four measures of linguistic complexity along with previously used control variables. The dependent variable is equal to one if the bill passes committee and zero otherwise. In both chambers, the more semantically complex a piece of legislation is (as measured by all metrics), the more likely it is to fail. Other control variables have coefficients of similar sign and significance to their counterparts in table 3. This is evidence that textual complexity affects legislative success through a similar channel as PAC contributions to the sponsor (and consistent with the idea that the obfuscation of legislation *is* one of the very channels that PAC contributions induce intentionally failing legislation.)

#### *Floor Voting*

For the sake of comparison with the existing literature attempting to link campaign contributions and legislative behavior, it is worth investigating what happens to bills once they've passed committee and made it to the floor for debate. At this point in the legislative process, the agenda has largely been set, so I do not claim to be conducting tests of the model presented. Furthermore, I must stress the differences between my investigation and the existing literature. The overwhelming majority of studies conduct their empirical analysis at the politician level. That is to say, each observation is a politician in a given congress, the dependent variable is some voting score derived from an aggregation of all of the floor votes the individual politician cast, and the independent variable of interest is the total amount of campaign contributions the politician raised in the same time period. The analysis presented here is unique because my dataset allows me to conduct the analysis at the level of the individual bill, and I can parse out campaign

contributions over time.<sup>22</sup> In addition, most studies restrict their attention to the House of Representatives, whereas I consider both legislative houses.

In table 7, I present results from instrumental variables probit regressions of legislative success on various covariates conducted on the subsample of bills which have emerged from committee successfully. Here, the two relevant groups of legislators are the entire chamber delegation of the party of the legislative sponsor, and all other legislators. I aggregate the PAC contributions raised by these two groups of legislators during the period that the particular bill is under floor consideration, and instrument these two variables by the contribution totals for the two analogous groups in the opposite chamber. I include committee, congress and monthly fixed effects, but I do not include sponsor fixed effects because a sizeable fraction of legislators have no successful bills in a given congress, so many observations are lost due to colinearity.

Money to legislators does not seem to have much of an effect on bill success in either chamber. That is to say, there is scant evidence of vote buying on the floor of the House or the Senate. In general, bills sponsored by more ideologically extreme legislators are less likely to pass a floor vote. Interestingly, conditional on seeing the floor of the House, bills from the majority have a *lower* probability of passage than bills from the minority. This is likely an artifact of the tremendous power delegated to the committee (see, for example, Cox and McCubbins 2007), as House committees may promote lower quality bills if they are introduced by the majority party rather than the minority party. Bills with heavy cosponsorship are predictably more likely to see

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<sup>22</sup> Some studies (e.g., Wawro (2001)) do conduct their analysis at the level of individual legislation; however, they only consider a very small subset of total legislation considered. In contrast, I consider all pieces of legislation that make it to the floor of the relevant chamber.

favorable results on the chamber floor, and the longer time a bill is under floor considered, the more successful it is.

### **VIII. Conclusion**

Legislative observers have long described the development of “political access” as a primary motive of interest group expenditures. This ill defined construct has been often used as a catchall justification for the persistent and increasing levels of money in politics. In a very real sense, political access enables special interests to influence legislation by shaping the very policy up for debate. In a presidential primary campaign speech, Barack Obama proclaimed his intent to, “...tell the corporate lobbyists that their days of setting the agenda in Washington are over.”<sup>23</sup> It was as widely apparent to him as it is to practitioners of legislative politics that interest groups play a prominent role in agenda setting. In my formal description of this role, I have provided an explanation for the observation that legislative failure is the norm.

By empirically testing a key proposition of my model, I have provided robust evidence that political spending affects the legislative process in a measureable way. The relationship between spending and legislative success is emerges when analysis is conducted at a disaggregate level. (This should come as little surprise since the majority of legislative models consider the decisionmaking process at the level of individual bills.) Furthermore, the utilization of basic linguistic analysis sheds light on a potential mechanism for this relationship. I do not claim to explain completely why interest groups spend so much and why so many bills fail; mine is by no means a comprehensive

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<sup>23</sup> Said on December 12, 2007 in Exeter, New Hampshire.

answer. That said, I hope to emphasize the value of disaggregate legislative data in future empirical investigations.

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## Appendix A. Selected Proofs.

*Lemma 1.* In any SPNE in pure strategies, at most one group will make payments to legislators in the second stage.

*Proof.* Because the two groups have opposing views, as defined above, one will be in favor of the status quo policy and one will be in favor of the bill. By assumption, the group in favor of the alternative can make payments first, and then the group in favor of the status quo can opt to make payments second. Say both make payments. If the bill ultimately passes, then the group in favor of the status quo would have been better off avoiding payments, as they have no effect on policy. If the bill ultimately fails, then the group in favor of the bill would have been better off avoiding payments, as they have no effect on policy. Hence, only one group will make payments in equilibrium.

*Proposition 1.* There exists a SPNE in pure strategies the game described in the text.

*Proof.* In the second stage, there is a pure strategy Nash equilibrium where at most one group makes the minimal payment required to either push the bill through or block it depending on their preference. The minimal payment is well defined by the opposing group's willingness to pay to for the bill or the status quo, depending on their preference.

The paying group in stage two can either spend to promote the policy (buy "yea" votes) or to suppress the policy (buy "nay" votes). Hence for any policy  $y$ , I can define functions  $P_i(y)$  and  $B_i(y)$  that are the respective costs to group  $i$  of passing or blocking policy  $y$ .

In the first stage, both groups submit bids consisting of payments and policies. Since the proceedings of stage 2 are completely captured in the functions  $P_i(y)$  and  $B_i(y)$ , I can define the private value to each group  $i$  of a policy  $y$  as

$$Value_i(y) = \max \{V_i(y) - P_i(y), V_i(s) - B_i(y)\} . \quad (A1)$$

Since it is known whether a given policy will ultimately pass or fail in stage 2, the legislative sponsor also has a well defined valuation for each policy given by his utility over the policy in the event of a pass or his utility over the status quo in the event of a block, plus the payment  $X$  he accepts in this stage.

I define the "winning" group as that group which makes payments in the second stage, and the "losing" group as that group which does not make payments in the second stage. If neither group makes payments, the "winning" group is the one who prefers the outcome of the vote. Denote these groups by  $W$  and  $L$  respectively.

For every potential policy  $y$ ,  $X_w(y)$  is well defined for  $W$  as the lowest amount they would need to pay the sponsor for policy  $y$  such that the sponsor's valuation exceeds their valuation of all offers that  $L$  might make.

This reduces the first stage to a first price auction with public valuations. The item to be auctioned is the right to control the legislative sponsor, who plays the role of the auctioneer. Since I assume that the bidder with higher valuation of sponsor control wins the auction when the sponsor derives equal utility from both bids, this auction possesses a Nash equilibria in pure strategies. Hence, we can induce a Nash equilibrium in pure strategies in each subgame, which proves the claim.

*Proposition 2.* In any subgame perfect Nash equilibrium (SPNE) in pure strategies, the aggregate utilities of all groups and the sponsor must not decrease either when the winning policy is adopted over the status quo, or when the status quo is defended over a losing policy. That is,

$$V_W(y_W) - V_W(y_L) - P_W(y_W) + V_L(y_W) + P_L(y_L) - V_L(y_L) + U(y_W) - U(y_L) \geq 0 \quad (A2)$$

where the first stage winning group is denoted with a  $W$ , the first stage losing group is denoted with an  $L$  and  $P_i(\cdot)$  indicates the expenditures that group  $i$  must make to other legislators to promote their legislation in the second stage of the game. The  $y_i$  are the policies that would be actually implemented if group  $i$ 's agenda was followed and can be equal to the status quo policy.

*Proof.* I proceed by backwards induction. The second stage of the game has already been described. At most one group makes payments, and for any policy  $y$ ,  $P_i(y)$  and  $B_i(y)$  that are the respective costs to group  $i$  of passing or blocking policy  $y$ .

*Claim 1.* If the winner makes a bid in stage 1 that will lead to him blocking the policy in stage 2,  $B_W(y_W) = 0$ .

*Proof.* First assume such a policy exists such that  $B_W(y) = 0$ . Then selecting a policy that is costly to block will result in the same outcome at greater cost. So  $W$  could always deviate to  $y$ .

Any policy that is farther from the median voter than the status quo in the direction of  $W$ 's blisspoint will neither pass on its own nor be fought for by the opposing lobby. Hence for those policies,  $B_W(y) = 0$ .

There are two individual rationality (IR) constraints that must hold for the winning group and the sponsor respectively. For the winning group  $W$ , the costs of pursuing policy  $y_W$  must be exceeded by the surplus benefit to  $W$  from implementing policy  $y_W$  over  $y_L$ , or

$$X_W(y_W) + P_W(y_W) \leq V_W(y_W) - V_W(y_L). \quad (A3)$$

The legislative sponsor must be better off accepting  $W$ 's bid for policy  $y_W$  than they would be if they went for the policy  $y_L$ , or

$$X_W(y_W) + U(y_W) \geq X_L(y_L) + U(y_L). \quad (A4)$$

*Claim 2.* In any subgame perfect Nash equilibrium,  $W$ 's bid must make the sponsor IR constraint bind.

*Proof.* Suppose not. Then  $W$  could lower their bid by some positive amount and still satisfy the sponsor IR constraint. But this is a utility increasing deviation for the winning group, so it does not constitute a SPNE.

Claim 2 simply implies that  $W$  spends just barely enough to win. For  $L$ , there does not exist an IR constraint, strictly speaking. However, their bid must satisfy an equilibrium condition.

*Claim 3.* In any SPNE,  $L$ 's bid must satisfy

$$X_L(y_L) + P_L(y_L) \geq V_L(y_L) - V_L(y_W). \quad (A5)$$

*Proof.* Suppose not. Then the costs to  $L$  of pursuing policy  $y_L$ , as given on the left hand side of (A5), are smaller than the benefits to  $L$  of pursuing  $y_L$ . By claim 2,  $W$ 's bid forces the sponsor's IR constraint to bind. That is,  $W$  bids the minimum amount necessary to make the sponsor better off with their bid over  $L$ 's bid. As such, any increase in  $X_L(y_L)$  switches the winning policy to  $y_L$ . But since  $X_L(y_L) + P_L(y_L) < V_L(y_L) - V_L(y_W)$  by assumption,  $L$  could increase  $X_L(y_L)$  by some nonzero amount and be better off with policy  $y_L$  over  $y_W$ . This represents a profitable deviation for  $L$ , so it does not constitute a SPNE.

Define  $\bar{X}$  to be the bribe any group must offer the sponsor to propose a bill which will be ultimately blocked. There are three potential cases to consider, all of which can be neatly represented by inequalities (A3)-(A5).

Case 1:  $W$  induces the sponsor to write their bill over the alternative of  $L$ 's bill. In this case, (A3)-(A5) remain as is.

Case 2:  $W$  induces the sponsor to write the bill over the alternative of the status quo. In this case,  $y_L = s$ ,  $X_L(y_L) = \bar{X}$ , and  $P_L(y_L) = 0$ . That is to say,  $L$ 's proposed policy is functionally equivalent to the status quo, their payment to the sponsor in favor this policy is equal to that of any bill which would be ultimately blocked, and the cost to get a status quo bill passed in the second stage is obviously zero.

Case 3:  $W$  induces the sponsor to write an intentionally failing bill in defense of the status quo. In this case,  $y_w = s$ ,  $X_w(y_w) = \bar{X}$ , and  $P_w(y_w) = 0$ . That is to say,  $W$ 's policy alternative is functionally equivalent to the status quo, their payment to the sponsor in favor this policy is equal to that of any bill which would be ultimately blocked, and the cost to get a status quo bill passed in the second stage is zero.

Hence all possible cases are embedded within (A3)-(A5).

Since the three IR constraints all hold, I can simplify the set of inequalities which define a SPNE as follows:

$$(A3) + (A4) + (A5) \Rightarrow$$

$$\underbrace{V_w(y_w) - V_w(y_L)}_{W\text{'s surplus} > 0} + \underbrace{V_L(y_w) - V_L(y_L)}_{L\text{'s surplus} < 0} + \underbrace{U(y_w) - U(y_L)}_{\text{sponsor's surplus } y_w} \geq \underbrace{P_w(y_w) - P_L(y_L)}_{\text{surplus cost of implementing } y_w} \quad (A6)$$

For further intuition, suppose inequality (A6) did not hold. Then rearranging,

$$\begin{aligned} & V_w(y_L) - V_w(y_w) - P_w(y_w) - X_w(y_w) + \\ & V_L(y_L) - V_L(y_w) + P_L(y_L) + \\ & U(y_L) - U(y_w) + X_w(y_w) > 0 \end{aligned} \quad (A7)$$

Inequality (A7) simply states that the sum of utilities from enacting  $y_L$  exceeds the sum of utilities from enacting  $y_w$ . Since  $V_w(y_L) - V_w(y_w) - P_w(y_w) - X_w(y_w) < 0$ , either  $V_L(y_w) - V_L(y_L) + P_L(y_L) > 0$  or  $U(y_L) - U(y_w) + X_w(y_w) > 0$  or both. If the former is true,  $L$  could increase  $X_L(y_L)$  to enact their policy, and if the latter is true, then the sponsor is not being compensated enough by  $W$  to enact their policy. Both are incompatible with a SPNE, hence inequality (A6) must hold

*Proposition 3.* Legislation will be promoted if and only if the total surplus that  $W$ ,  $L$  and the legislative sponsor derive from  $y_w$  versus the status quo policy is positive. That is, legislation will be promoted if and only if

$$V_w(y_w) - V_w(s) - P_w(y_w) + V_L(y_w) - V_L(s) + U(y_w) - U(s) > 0 \quad (6)$$

holds. Otherwise  $W$  will play a blocking strategy intentionally introducing legislation to fail.

*Proof.* For legislation to be promoted, the winning group must be better off than they would be with the status quo policy remaining. Formally, this is the same as

$$V_w(y_w) - X_w(y_w) - P_w(y_w) > V_w(s) - X_w(s) \quad (A9)$$

holding. In order to win,  $W$  must ensure the sponsor's IR constraint holds for all choices of  $y_L$ . Invoking the fact that the sponsor's IR constraint must bind,

$$X_W(y) = \max_{y_L} \{X_L(y_L) + U(y_L) - U(y)\} \quad (A10)$$

$$\text{s.t.} \quad X_L(y_L) + P_L(y_L) = V_L(y_L) - V_L(y_W) \quad (A11)$$

for all policies  $y$ . Note that  $P_L(s) = 0$ . Substituting (A10) into (A9) and simplifying yields

$$V_W(y_W) - V_W(s) - P_W(y_W) + V_L(y_W) - V_L(s) + U(y_W) - U(s) > 0 \quad (A12)$$

as the condition under which  $W$  will pass policy.

If this does not hold, then  $W$  blocks and the associated net utility change on the left hand side is equal to 0. This represents a simple transfer of  $X_W(s)$  from  $W$  to the legislative sponsor.

## Appendix B. Measures of Textual Complexity

Below are standard measures of textual complexity. For a given body of text, the following objects can be enumerated:

$wc$  = word count

$sc$  = syllable count

$lc$  = letter (and number) count

$cc$  = complex word (three or more syllables) count

SC = sentence count

From these I can define the following metrics:

$$\text{Flesch reading ease score} = 206.8 - 1.015 \frac{wc}{SC} - 84.6 \frac{sc}{wc} \quad (FRE)$$

$$\text{Automated readability index} = 4.71 \frac{lc}{wc} + 0.5 \frac{wc}{SC} - 21.43 \quad (ARI)$$

$$\text{Gunning-FOG index} = 0.4 \left( \frac{wc}{SC} + 100 \frac{cc}{wc} \right) \quad (FOG)$$

$$\text{SMOG index} = 3.1291 + 1.043 \sqrt{30 \frac{cc}{SC}} \quad (SMOG)$$

The sources for these metrics are Flesch 1948, Kinkaid, et. al. 1975, Gunning 1952, and McLaughlin 1969 respectively. The general idea behind these variables is that the complexity of a corpus is increasing in the number of words per sentence and the number of syllables per word. Accordingly, textual complexity is decreasing in the Flesch reading ease score and decreasing in the remaining four indices.



**Table 1. Legislative Failure Rates, 101<sup>st</sup>-110<sup>th</sup> Congress**

	House		Senate	
	Number	Conditional Failure Rate*	Number	Conditional Failure Rate*
All Introduced Bills**	59894	--	31764	--
Bills that leave Committee	5777	0.90	3510	0.89
Bills that leave Congress	3346	0.42	1476	0.58
Bills that become law	3307	0.01	1306	0.12
<b>Total Failure Rate</b>		0.94		0.96

\*Conditional Failure Rate is the probability that a bill fails conditional on reaching the previous stage.

\*\*Includes all bills and joint resolutions except those promoted to the floor by discharge petition.

**Table 2. Summary Statistics of the Data, 101<sup>st</sup>-110<sup>th</sup> Congress**

Variable	House		Senate		Source
	Mean	Standard Deviation	Mean	Standard Deviation	
While bill is under committee consideration:					
Money raised by Sponsor	376.8	4840	1995	87321	Center for Responsive Politics
Money raised by Republicans in Committee	4938	13948	18081	85481	Center for Responsive Politics
Money raised by Democrats in Committee	4404	15595	19948	155876	Center for Responsive Politics
Days bill is in committee	47.27	97.04	34.73	92.31	
Sponsor's first dimension DW-NOMINATE score	0.004	0.46	-0.07	0.41	<a href="http://www.voteview.com">www.voteview.com</a>
Sponsor's second dimension DW-NOMINATE score	-0.090	0.40	-0.06	0.44	<a href="http://www.voteview.com">www.voteview.com</a>
Sponsor's election winning Percentage	0.671	0.139	0.597	0.108	
Number of cosponsors on the bill	18.11	39.47	5.57	11.05	Thomas Legislative Database
Number of times bill is amended	0.31	4.22	0.40	5.62	Thomas Legislative Database
Textual Complexity of Bill:					
Flesch Reading Ease	56.65	10.00	51.66	12.64	Author's Calculation
Automated Readability Index	10.52	3.55	11.06	3.21	Author's Calculation
Gunning-FOG Index	12.82	2.72	13.03	2.47	Author's Calculation
SMOG Index	12.09	1.90	12.12	1.75	Author's Calculation
<b>Number of Bills</b>	<b>59894</b>		<b>31764</b>		

All monetary variables are 2008 dollars.

**Table 3. Campaign Contribution Effects on Legislative Success in Committee, 101<sup>st</sup>-110<sup>th</sup> Congress**

Dependent variable is equal to one if the bill passed committee, and zero otherwise. Huber-White robust standard errors are in parentheses.

Number of cosponsors:	House				Senate			
	All Obs. (1)	(2)	0,1 (3)	3+ (4)	All Obs. (5)	(6)	0,1 (7)	3+ (8)
Interested PAC money raised by sponsor †	-0.042** (0.020)	-0.063** (0.026)	-0.098** (0.010)	-0.031* (0.017)	7.26 (7.85)	3.45 (3.62)	-0.356** (0.063)	8.48** (3.57)
Interested PAC money raised by comm. members †	0.163** (0.014)	0.346** (0.154)	0.225 (0.278)	0.260** (0.129)	2.33** (0.395)	1.45** (0.374)	-0.727 (0.467)	2.12** (0.704)
Sponsor's economic ideology score (DW <sub>1</sub> ) <sup>2</sup>	--	-0.244** (0.058)	-0.119 (0.094)	-0.293** (0.074)	--	-0.235** (0.085)	-0.417** (0.126)	-0.052 (0.135)
Sponsor's North-South ideology score (DW <sub>2</sub> ) <sup>2</sup>	--	-0.065* (0.037)	-0.096 (0.062)	-0.021 (0.047)	--	-0.031 (0.041)	-0.157** (0.060)	0.100 (0.065)
Majority Party Dummy	--	0.678** (0.021)	0.675** (0.036)	0.649** (0.027)	--	0.416** (0.023)	0.381** (0.034)	0.422** (0.037)
Number of Cosponsors (x10)	--	0.021** (0.002)	3.344** (0.033)	0.019** (0.002)	--	0.202** (0.008)	2.03** (0.321)	0.172** (0.011)
Number of Amendments	--	0.056** (0.003)	0.029** (0.003)	0.096** (0.006)	--	0.026** (0.002)	0.035** (0.004)	0.020** (0.003)
Sponsor winning percentage in previous election	--	0.557** (0.064)	0.664** (0.106)	0.460** (0.082)	--	0.651** (0.102)	0.846** (0.143)	0.582** (0.171)
Days in committee (x10)	--	0.040** (0.007)	0.043** (0.001)	0.040** (0.001)	--	-0.006** (0.001)	-0.009** (0.001)	-0.005** (0.001)
Committee, Congress, Month, Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Number of observations	59642	59642	24500	32401	31371	31371	16977	11944
First Stage Summaries:								
R2, sponsor money	0.09	0.10	0.16	0.17	0.25	0.25	0.18	0.20
F, sponsor money	81.36	74.24	72.37	82.10	186.6	164.33	68.96	53.21
R2, comm. money	0.92	0.92	0.94	0.91	0.92	0.92	0.91	0.92
F, comm. money	9429	8499	5721	3942	6205	5466	3283	2691

\*\* Significant at 5% level

\* Significant at 10% level

† Endogenous variable

All monetary variables are denominated in 2008 dollars. PAC money raised by sponsor is denominated in thousands of dollars for the House and millions of dollars for the Senate.

**Table 4. Campaign Contributions and Interest Group Motives, 101<sup>st</sup>-110<sup>th</sup> Congress**

Misclassified dependent variable is equal to one if the bill passed committee, and zero otherwise. Huber-White robust standard errors are in parentheses.

	House		Senate	
	(1)	(2)	(3)	(4)
$\hat{\alpha}_0$	0.009 (0.013)	0.026** (0.008)	0.014 (0.030)	0.045** (0.002)
$\hat{\alpha}_1$	0.323** (0.006)	0.373** (0.007)	0.232** (0.022)	0.217** (0.014)
Money raised by comm. Members (millions) †	0.029** (0.006)	0.213** (0.054)	-0.067** (0.010)	-1.19* (0.516)
Sponsor's economic ideology score (DW <sub>1</sub> ) <sup>2</sup>	-0.011 (0.010)	-0.762** (0.190)	-0.024 (0.017)	-1.57** (0.377)
Sponsor's North-South ideology score (DW <sub>2</sub> ) <sup>2</sup>	-0.021** (0.007)	-0.393 (0.984)	0.007 (0.012)	-0.077** (0.005)
Majority Party Dummy	0.087** (0.004)	0.949** (0.235)	0.081** (0.006)	1.12** (0.128)
Number of Cosponsors (x10)	0.004** (0.001)	0.043** (0.011)	0.057** (0.004)	0.771** (0.005)
Number of Amendments	0.819 (1.03)	1.50 (1.16)	0.820** (0.062)	4.65** (0.310)
Sponsor winning percentage in previous election	0.085** (0.004)	1.11* (0.767)	0.125** (0.025)	1.91** (0.351)
Days in committee (x10)	0.019** (0.003)	0.026** (0.006)	0.004 (0.003)	-0.249** (0.020)
Committee, Congress, Month, Fixed Effects	No	Yes	No	Yes
Number of observations	56942	56942	31372	31372

\*\* Significant at 5% level

\* Significant at 10% level

† Endogenous variable

All monetary variables are denominated in 2008 dollars.



**Table 6. Linguistic Complexity of Legislation and Legislative Success, 101<sup>st</sup>-110<sup>th</sup> Congress**

Dependent variable is equal to one if the bill passed committee, and zero otherwise. Huber-White robust standard errors are in parentheses.

Variable	House				Senate			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
-1 · FRE	-0.008** (0.001)	--	--	--	-0.002* (0.001)	--	--	--
ARI	--	-0.016** (0.004)	--	--	--	-0.019** (0.004)	--	--
FOG	--	--	-0.040** (0.003)	--	--	--	-0.032** (0.004)	--
SMOG	--	--	--	-0.079** (0.005)	--	--	--	-0.053** (0.006)
Sponsor's economic ideology score (DW <sub>1</sub> ) <sup>2</sup>	-0.201** (0.051)	-0.211** (0.050)	-0.218** (0.050)	-0.222** (0.050)	-0.226** (0.083)	-0.229** (0.083)	-0.230** (0.083)	-0.232** (0.083)
Sponsor's North-South ideology score (DW <sub>2</sub> ) <sup>2</sup>	-0.070* (0.036)	-0.072** (0.036)	-0.071** (0.036)	-0.070* (0.036)	-0.027 (0.039)	-0.027 (0.039)	-0.026 (0.039)	-0.026 (0.039)
Majority Party Dummy	0.673** (0.020)	0.680** (0.020)	0.688** (0.020)	0.693** (0.020)	0.420** (0.022)	0.420** (0.022)	0.421** (0.022)	0.422** (0.022)
Number of Cosponsors (x10)	0.020** (0.002)	0.021** (0.002)	0.021** (0.002)	0.022** (0.002)	0.192** (0.008)	0.198** (0.008)	0.198** (0.008)	0.199** (0.008)
Number of Amendments	0.056** (0.010)	0.057** (0.010)	0.057** (0.010)	0.058** (0.011)	0.026** (0.004)	0.026** (0.004)	0.026** (0.004)	0.026** (0.004)
Sponsor winning percentage in previous election	0.553** (0.062)	0.568** (0.062)	0.576** (0.062)	0.582** (0.062)	0.674** (0.100)	0.677** (0.100)	0.675** (0.100)	0.674** (0.099)
Days in committee (x10)	0.041** (0.001)	0.040** (0.001)	0.040** (0.001)	0.040** (0.001)	-0.006** (0.001)	-0.006 (0.001)	-0.006 (0.001)	-0.006** (0.001)
Committee, Congress, Month Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Number of Observations	56497	56497	56497	56496	31293	31293	31293	31292
Pseudo R <sup>2</sup>	0.29	0.29	0.29	0.29	0.19	0.19	0.19	0.19

\*\* Significant at 5% level

\* Significant at 10% level

Linguistic complexity is increasing in all metrics.

**Table 7. Campaign Contributions and Legislative Success on the Floor, 101<sup>st</sup>-110<sup>th</sup> Congress**

Dependent variable is equal to one if the bill made it off the floor, conditional on emerging from committee, and zero otherwise.

Huber-White robust standard errors are in parentheses.

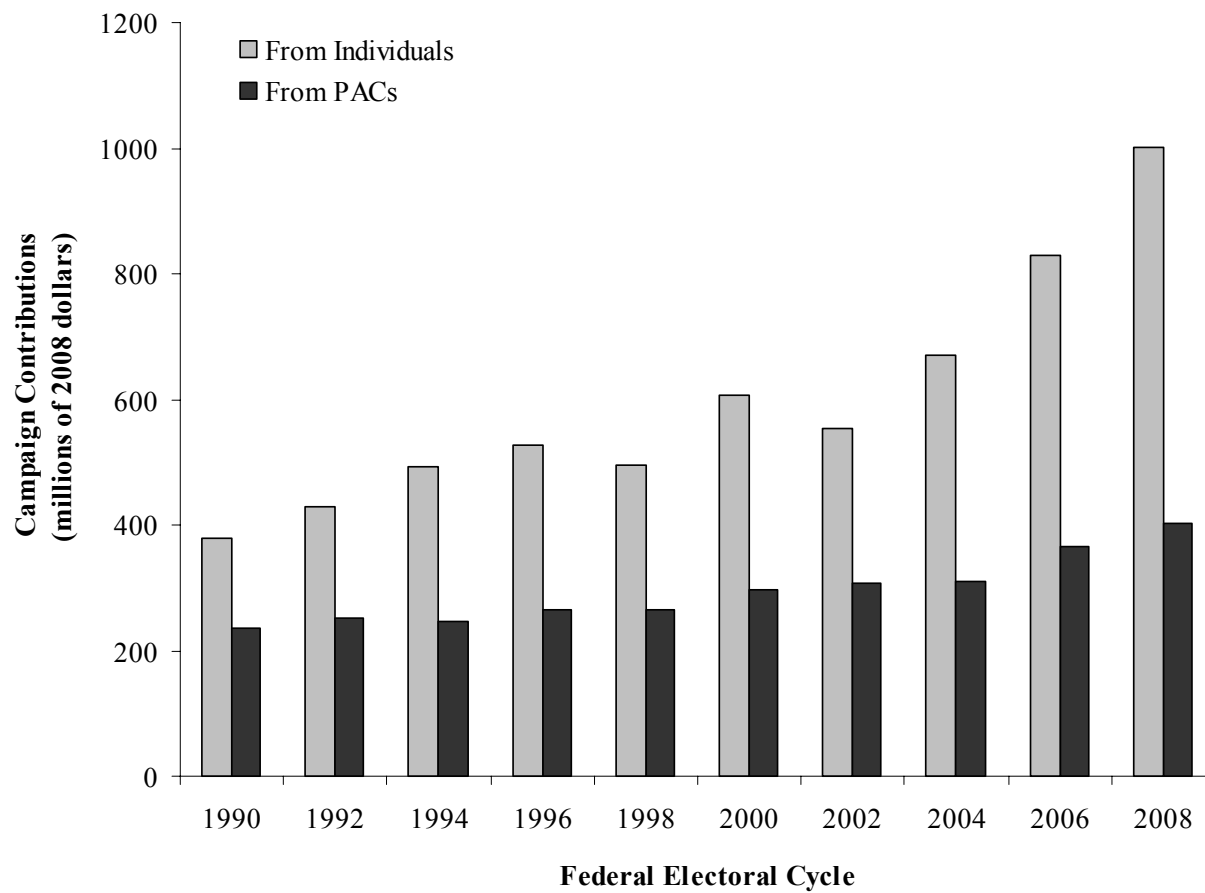
Variable	House (1)	Senate (2)
Money raised by members of sponsor's party †	0.424 (0.710)	0.237 (0.511)
Money raised by members not of sponsor's party †	0.819 (0.838)	0.489 (0.389)
Sponsor's economic ideology score (DW <sub>1</sub> ) <sup>2</sup>	-0.555** (0.289)	-0.382* (0.214)
Sponsor's North-South ideology score (DW <sub>2</sub> ) <sup>2</sup>	-0.114 (0.182)	-0.242** (0.092)
Majority Party Dummy	-0.544** (0.143)	-0.088 (0.059)
Number of Cosponsors (x10)	0.030** (0.007)	0.119** (0.017)
Number of Amendments	0.002 (0.003)	0.004** (0.002)
Sponsor winning percentage in previous election	0.175 (0.304)	0.478** (0.239)
Days on floor (x10)	0.042** (0.006)	0.022** (0.001)
Committee, Congress, Month, Fixed Effects	Yes	Yes
Number of observations	5473	3466

\*\* Significant at 5% level

\* Significant at 10% level

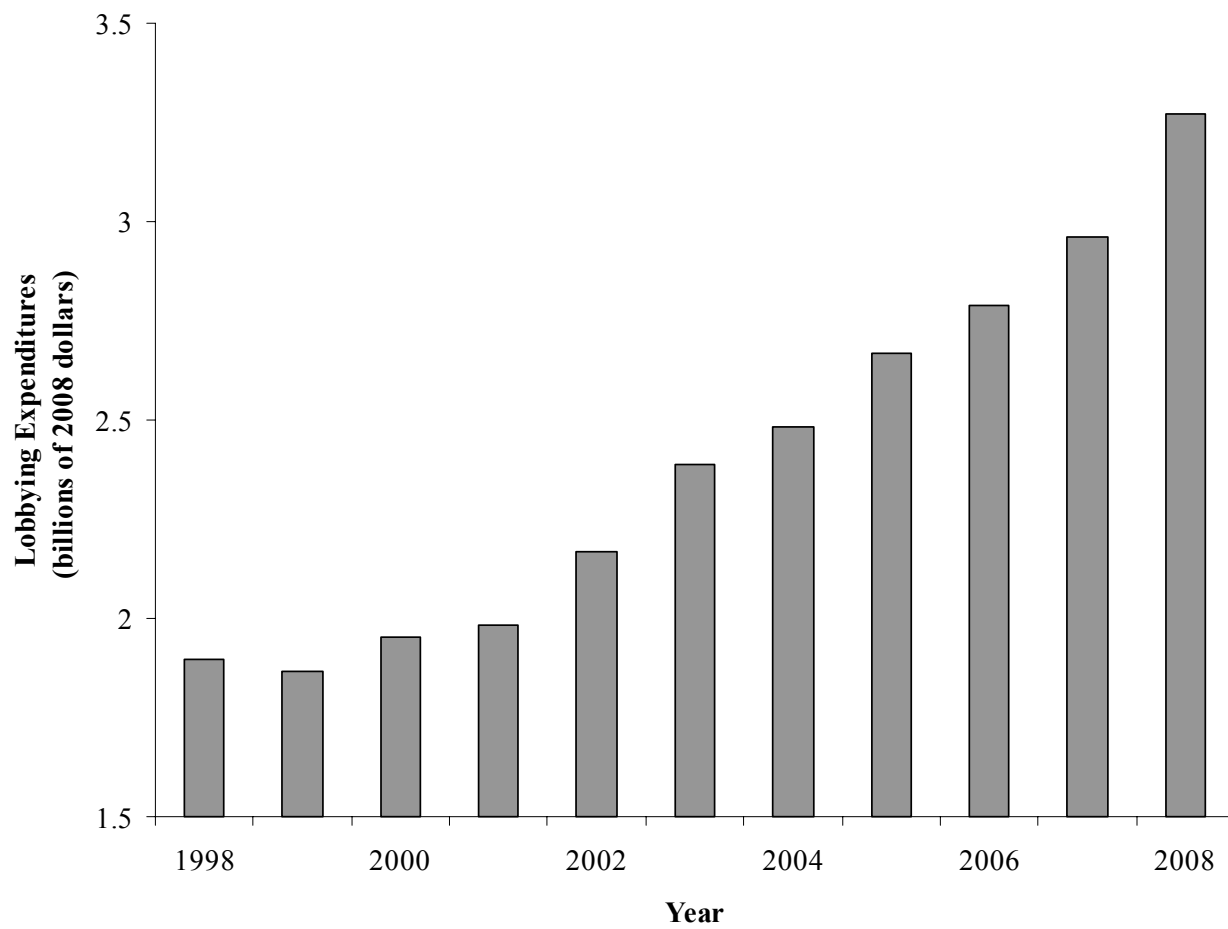
† Endogenous variable

All monetary variables are denominated in millions of 2008 dollars.

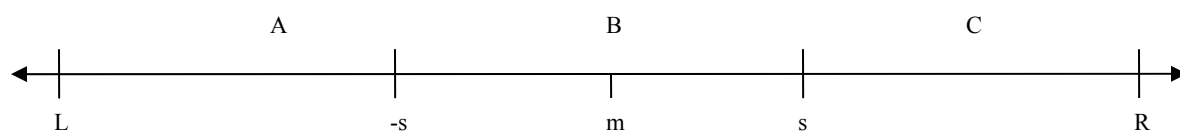
**Figure 1. Congressional Campaign Contributions, 1989-2008**

Source: Federal Election Commission



**Figure 2. Annual Lobbying Expenditures, 1998-2008**

Source: Center for Responsive Politics ([www.opensecrets.org](http://www.opensecrets.org)).

**Figure 3.**

**Figure 4. Fundraising and Legislative Activity of Senator Mel Martinez (R-FL), 110<sup>th</sup> Congress**

Arrows indicate the dates that Senator Martinez proposed legislation. Bars indicate PAC contributions.

