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ABSTRACT

Do politicians tend to follow a strategy of ambiguity in their policy positions or a strategy of reputational development to reduce uncertainty about where they stand? Ambiguity could allow a legislator to avoid alienating constituents and to play rival interests off against each other to maximize campaign contributions. Alternatively, reputational clarity could help to reduce uncertainty about a candidate and lead to high campaign contributions from favored interests. We outline a theory that considers conditions under which a politician would and would not prefer reputational development and policy-stance clarity in the context of repeat dealing with special interests. Our proxy for reputational development is the percent of repeat givers to a legislator. Using data on corporate political action committee contributions (PACs) to members of the U.S. House during the seven electoral cycles from 1983/84 to 1995/96, we find that legislators do not appear to follow a strategy of ambiguity and that high reputational development is rewarded with high PAC contributions.

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I. Introduction

A long-standing controversy in the political economy literature is whether and under what circumstances politicians prefer to follow a policy of ambiguity versus clarity in their positions (e.g., Downs 1957, Shepsle 1972, Bernhardt and Ingberman 1985, Alesina and Cukierman 1990, Snyder 1990 and 1992, Glazer 1990, McCarty and Rothenberg 1996, Kroszner and Stratmann 1998, and Aragones and Postlewaite 1998). On the one hand, a clear reputation on policy positions can help to reduce uncertainty about what actions a politician is likely to undertake while in office and thus can result in greater electoral support and/or higher campaign contributions from those favoring such policies. On the other, politicians might wish to obscure their specific policy views in order to avoid alienating those who disagree and to obtain campaign contributions from groups on both sides of an issue. Whether politicians wish to increase or decrease the amount of credible information available about their positions has important implications for how voters make decisions (as well as how well informed voters may become), the contribution and lobbying patterns of special interest groups, and the organization and structure of legislative institutions.

While the theoretical controversies continue, relatively little empirical work has been done to examine the implications of the alternative views (e.g., Snyder 1990 and 1992, McCarty and Rothenberg 1996, and Kroszner and Stratmann 1998). One of the reasons for the lack of empirical work is the difficulty of developing a convincing proxy for ambiguity versus clarity and consistency of a politician's positions and relating this proxy to some measure of "success." We will operationalize the extent of clear and consistent reputations by examining the patterns of campaign contributions from political action committees (PACs). Our proxy for the extent of reputational clarity is frequency of

repeat contributors to a legislator, and we measure the rewards in terms campaign fund-raising success. Our data will concern corporate PAC contributions to members of the U.S. House of Representatives.[1]

Section II begins with a brief review of alternative theories of ambiguity and reputation-building in politics. We then outline a model of reputation-building by legislators that emphasizes the role of the committee system of Congress in helping to clarify or to disguise a legislator's policy position. The model allows us to draw contrasting implications for the relation of repeat contributions to committee seniority, the probability of leaving office, and the level of campaign contributions under the "ambiguity pays" and "clarity and consistency pays" hypotheses. Section III describes the data, sources, and variable definitions. We then explain our research design and report the results in Section IV.

We find that, holding other factors constant, legislators with greater tenure on their committee assignments have a higher frequency of repeat PAC contributors and that the frequency of repeat PAC contributors falls as a legislator becomes more likely to leave office. These results are consistent with legislators pursuing a strategy of reputational development rather than ambiguity. In addition, we find that legislators with high reputational development are rewarded with a high level of corporate PAC contributions, so ambiguity does not appear to "pay." In the conclusion, we discuss prospects for future research and how campaign finance reforms, changes in legislative organization, and term limits can affect the incentive and ability for legislators to engage in reputation-building strategies that we

[1] Our focus is on individual legislators, so we are not directly addressing the role of ambiguity for party platforms or for the executive. Also, the part of the policy space we investigate concerns those issues relevant to business interests.

document here.[2]

II. Reputation-Building, Ambiguity, and Interest Group Competition

A. Overview of Theoretical Work on Reputation and Ambiguity in Politics

Downs (1957) launches the modern literature in this field by discussing how both reliability and ambiguity may be beneficial to politicians; however, he does not systematically analyze circumstances in which one would dominate the other. Zeckhauser (1969) and Shepsle (1972) formally consider voters as treating candidates' positions as lotteries over uncertain outcomes. Shepsle (1972), for example, argues that candidates whose sole objective is winning the election will choose ambiguity only when a majority of voters are risk-loving. If voters are not risk-loving, a vote-maximizing incumbent will prefer to develop a reputation for consistent behavior to reduce voter uncertainty and, thereby, improve his ability to defeat a challenger about whom the voters are relatively less informed (Bernhardt and Ingberman 1985).

A number of recent theoretical papers, however, have found more circumstances in which politicians might prefer ambiguity to clarity. Alesina and Cukierman (1990), for example, consider politicians with multiple objectives and analyze the trade-off that arises between maximizing the probability of reelection and achieving their ideal point in policy space, when the politicians' most preferred position does not coincide with that of their constituency. When voters are not fully informed,

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[2] We do not directly investigate how reputation building and special-interest lobbying may improve or harm the quality of decisions made by voters or collective decisions made by legislators (see Olson 1982, Gilligan and Krehbiel 1989, Krehbiel 1991, Austin-Smith and Wright 1992, and Wittman 1995) but do discuss implications for these issues in the conclusion.

incumbents may choose to be ambiguous to disguise that their ideal point is not the same as the median voter's (see also Harrington 1992). Aragones and Postlewaite (1998) argue that ambiguity can arise when competing parties cannot commit to their platforms before the election even if they are simply maximizing their chance of election. Glazer (1990) considers the case when the politicians are uncertain about the preferences of the electorate. Ambiguity may be preferred by politicians because a politician stating a precise policy position risks stating a unpopular one.

These models have been developed in the specific context of politicians or parties facing an election. Parallel arguments apply to the behavior of politicians whose goals include reelection and who, thus, engage in campaign fund raising from interest groups throughout their tenure in office. Special interests may be uncertain about the reliability of a politician on a particular issue. The politician must decide whether developing a clear policy position or being ambiguous on an issue affecting competing special interest groups is the best strategy to increase campaign contributions and the probability of reelection. Snyder (1990 and 1992) argues that special interests engage in long-term investment in politicians who favor their positions (but for an alternative view see McCarty and Rothenberg 1996). Kroszner and Stratmann (1998) argue that legislators may structure Congress in such a way as to assist themselves in building clear and credible reputations with special interest contributors.

The reason that we wish to focus on campaign contributions to individual legislators is that models of ambiguity at the level of the party are difficult to examine empirically since there is no straightforward measure for the degree of ambiguity of party platforms. We can, however, develop an empirical proxy for how clearly a legislator develops a reputation for reliability and consistency in a

policy area by examining campaign contributions patterns. The next section outlines a model which allows us to do so.

B. A Model of Interest Group Competition and the Value of Reputation

Consider a setting in which the primary objective of the legislator is to maximize chances for reelection. Assume that direct service for constituents and campaign contributions are the key inputs that affect the fulfillment of this goal (see, e.g., Grier and Munger 1991). Contributions and constituency services are substitutes for gaining recognition and support among voters and in fending off attacks by challengers. Legislators must decide how best to allocate their time and effort between direct constituency service and fund raising to maximize their probability of reelection.

Organized interest groups, which hope to influence policy outcomes, are initially uncertain about what policy a legislator will support and how much effort the legislator will expend on a particular issue.[3] Interest groups can learn about the legislator's "reliability" by observing the legislator's actions over time.[4] These actions encompass not only a legislator's voting record but also his history of introducing and amending of bills, negotiating with other legislators to gain or prevent collective legislative support, pressuring "independent" regulatory agencies through budgetary control and oversight hearings, and publicly promoting a position through media interviews and meetings with constituents (see, e.g., Hall and Wayman 1990 and Hall 1996).

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[3] See Moe (1981) and Mueller (1989), for example, on how interests become organized into lobbying groups.

[4] Similarly, the legislator can learn about the "reliability" of the PAC by observing its contribution patterns. We generally assume that the PACs have developed clear reputations in the past (e.g., through their history of contribution patterns) for reliability.

The committee system of the U.S. Congress can provide a mechanism for legislators to build credible reputations in specific policy areas, if they choose to do so (see Kroszner and Stratmann 1998). The system involves standing (permanent) committees with specialized policy jurisdictions in which incumbents effectively have a right to stay on as long as they are reelected. This structure allows for repeated interaction of the committee members and the special interest groups that are most relevant to issues under the committee's jurisdiction. Greater tenure on a particular committee assignment provides greater opportunities for a legislator to develop a clear and credible position and demonstrate the amount of effort he will put into promoting that position. Special interest groups have greater information about legislators who have been on the relevant committees longer and can better assess the reliability of senior relative to junior committee members.

This repeat-dealing structure can support a reputational equilibrium in which special interests provide high levels of contributions to their favored legislators and the legislators provide a high level of effort on behalf of the interests. The enforcement in the implicit agreements between legislators and special interests would be achieved through the threat of termination of the relationship, that is, the threat of stopping all future exchanges between the parties. The termination threat will discipline behavior to the extent that the present discounted value of the profits of continuing in the relationship exceed the profits from cheating on the current transaction.[5]

[5] In the reputational equilibrium, an interest group will not have an incentive to abandon a legislator who has invested to develop a consistent reputation of supporting that group's particular set of interests. Since the campaign contributions are compensating the legislator for the opportunity cost of his time in specialization, the legislator would reallocate his time to direct constituency service or to work on another committee without contributions from the interest group. Also, the interest group does not want to lose its own reputation for reliability. If the interest group were to stop contributing to long-time supporters, then that interest group would lose credibility and, perhaps, all future opportunities to vie for the favor of legislators.

More formally, consider a repeat-play model with initial uncertainty about player type, as in Ghosh and Ray (1996).[6] In the first period, players are randomly paired. In subsequent periods, however, players have the option of continuing to deal with the old partner or switching partners. This structure describes a setting in which interest groups might initially contribute to legislators about whom they know little and then observe which interests the legislator promotes. Based on these actions, the PACs then decide whether to support a legislator with further contributions or to terminate the relationship. Through repeated interactions with the legislator, a PAC reduces its uncertainty about each legislator's type. PACs then reward "reliable" legislators with increasing contributions and eliminate contributions to legislators who do not work in their favor. Ghosh and Ray (1996) demonstrate that gradual trust-building can emerge in this setting: "any long term relationship involves a low, initial level of cooperation (when players are uncertain about the other's type), which increases to a higher level when the initial phase is successfully passed without termination" (p.493).[7]

Such a reputational equilibrium, however, does not necessarily exist, and a legislator may instead prefer strategic ambiguity. The reputational equilibrium described above will not exist if the prospects for legislator reelection are sufficiently low[8] (with term limits being an extreme case) or if the

[6] A model with similar implications can be developed with uncertainty over effort rather than type. See Klein and Leffler (1981), Shapiro (1983), Tirole (1988), and Kroszner and Stratmann (1998).

[7] An additional assumption necessary for this result is that some subset of players are "myopic" and discount the future very heavily, so cannot be "trusted." The existence of myopic players gives the non-myopic players a scarcity value that makes their partners reluctant to deviate for short-term gain and break the long-term relationship (because the partner will have to bear the costs of finding a non-myopic player and then rebuilding a cooperative relationship). It seems plausible in the political setting to consider that some legislators may have a high discount rate and may not be "trusted" but that it is difficult to identify them ex ante.

[8] A change in the probability of reelection also can be interpreted as a change in the discount factor.

committee system of Congress does not provide sufficient opportunities for repeat dealing. A legislator thus will have difficulty building a credible reputation for reliability on a policy issue. The expected horizon may be too short for the PAC to gather much information about the legislator's reliability, and the PAC would not have the "carrot" of high future contributions to induce cooperative behavior. In these circumstances, interest groups will not find it worthwhile to attempt to develop long-term relationships with legislators. A legislator then maximizes contributions by playing one side off against the other and collecting contributions from rival groups or by selling his vote to the highest bidder on a period-by-period basis.

Whether clear and consistent reputation-building or strategic ambiguity yield higher benefits to the legislator is an empirical issue. We now turn to consider the empirical implications of the alternative approaches.

C. Implications for Campaign Contributions Patterns

The approach outlined above suggests that the frequency of PACs that continue to contribute to the same legislator over multiple electoral cycles provides a proxy for the extent of reputational development.[9] We now describe three sets of implications about how this variable evolves over a legislator's career and how it is related to the level of campaign contributions under the reputational development versus the strategic ambiguity hypotheses.

The first implication concerns the relation between legislator seniority and repeat giving. If legislators are pursuing a reputation-building strategy, then interest groups will learn over time that a

[9] The variables will be defined more precisely in the next section.

legislator will consistently uphold a position which will favor one group over another. In other words, the variance of the estimate of the location of the legislator along a relevant dimension of policy space should decline with more observations of the legislator's actions related to that dimension, that is, with time on a particular committee assignment.

Under the reputation-building hypothesis, the favored interest groups thus respond by contributing to the legislator in order to induce him to continue to spend time working in their favor or simply to try to keep a "reliable" legislator in Congress. The disfavored interest groups will find it too costly to try to get the legislator to change positions and will stop contributing to that legislator. When uncertainty about the legislator's reliability is high (low), the legislator should have a relatively low (high) proportion of contributors who are repeat contributors. The reputation-building strategy thus implies that the percentage of PAC contributors who are repeat givers should increase with a legislator's time in Congress.[10] In particular, the percent of repeat givers should rise with a legislator's tenure on a committee if the committee structure of Congress is the mechanism that allows the repeat dealing to support reputational development.[11]

In contrast, if a legislator is pursuing a "fence sitting" policy of strategic ambiguity, then there should be no tendency for an increase in the frequency of repeat contributions to a legislator over time. Legislators who primarily "play one side off against another" will continue to get contributions from the rival groups year after year. Repeat giving thus would not rise with tenure on the committee. After

[10] This increase should taper off after the initial learning takes place.

[11] We will compare the effects of overall House seniority, which may relate to a general increase in the general productivity and effectiveness of a legislator, to the effects of committee seniority.

contributing to such a legislator initially, some PACs would not find it worthwhile to continue the relationship, so repeat giving would decline over time. An "all things to all people" ambiguity strategy also would imply a decline in repeat giving through time as the legislator cast his net more widely and moves from issue to issue.[12]

The second implication concerns the effects of the probability of termination. The prospect for repeated interaction is an important element in sustaining a reputational equilibrium, and the likelihood of achieving a reputational equilibrium is directly related to the probability of continuing the relationship (see, e.g., Kroszner and Stratmann 1998). When the relationship becomes more likely to terminate, due to increased probability of death or retirement of the legislator, the reputation-building approach would imply that the frequency of repeat giving should decline. The reputation-building hypothesis thus implies that the termination probability should be inversely related to repeat giving.

In contrast, the incentives to engage in strategic ambiguity would not be related to expectations about the continuation of PAC-legislator exchanges. Under this hypothesis, the players are optimizing period-by-period so the length of the horizon of future play should not have any impact on their actions. For strategically ambiguous legislators, the probability of termination thus would not be related to the frequency of repeat contributions by the PACs to those legislators.[13]

The third set of implications focuses on the relation between measures of reputational clarity

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[12] If seniority is proxying for an ambiguous legislator's general productivity and power, rather than opportunities for reputational development, more PACs would want to contribute to the legislator over time, thereby tending to reduce repeat giving. We will control directly for institutional power by including indicators for committee chairs, as we discuss in the next section.

[13] Stratmann (1995 and 1998) suggests that PACs use the timing of contributions to prevent reneging on "money-for-votes" exchanges by legislators.

and the level of PAC contributions. If reputation-building is a contribution-maximizing strategy, then legislators who develop clear reputations should be rewarded with high levels of PAC contributions. Pay-offs to the players in the game will be relatively low during the early stages of a long term relationship but will increase as the players learn their partners' reliability and sustain a higher level of cooperation (Ghosh and Ray 1996 and Abreu 1988). When reputational clarity and consistency pays, the percent of repeat PAC contributions to a legislator will be positively related levels of PAC contributions received by that legislator. As we describe below, we will be controlling for demand and supply factors independent of reputational development that might affect the level of a legislator's PAC contributions in an electoral cycle (e.g., how closely contested a legislator's race is and whether a legislator holds a position of institutional power such as being committee chair).

Under strategic ambiguity, however, legislators who obtain funds from a variety of groups on various issues should be able to achieve higher levels of contributions. "Fence sitting" on more issues would be the path to greater contributions. When ambiguity pays, the frequency of repeat giving will be inversely related levels of PAC contributions.

III. Data

A. PAC Contributions and Repeat Giving

Special interests sponsor political action committees (PACs) which must disclose their contributions to the Federal Election Commission (FEC). Corporations, for example, cannot legally give money directly to a candidate for federal office and must give through PACs. For each two-year House election cycle, the FEC produces a file which identifies the contributing PAC, the recipient, and

the dollar amount. The FEC classifies the PACs into broad categories based on the nature of the sponsoring organizations, and our focus is on corporate PACs.[14]

Our contribution data consist of corporate PAC contributions to legislators in the U.S. House of Representatives during the seven election cycles from 1983/84 to 1995/96. The contribution data are expressed in real 1985 dollars. The measure of reputational development we use is the percent of repeat contributors to a legislator (see Snyder 1992 and McCarty and Rothenberg 1996). A repeat contributor is defined as an individual PAC that gives to a legislator in the previous (*t-1*) and current (*t*) periods. The percent of repeat contributors is the number of repeat contributors divided by the average number of PACs that give to the legislator in the previous and current periods (that is, the sum of the number of contributors in periods *t-1* and *t* divided by two), multiplied by 100.[15] This measure focuses reputational development at the individual PAC level. A legislator must be in the House for two consecutive terms to be able to calculate repeat giving.[16] We have 2,074 legislator-cycle observations of incumbents running for reelection, and 1,209 corporate PAC contributors in the sample.[17]

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[14] We also have analyzed the PACs sponsored by trade associations, most of which represent particular industries or professions. A similar reputation-building mechanism through the committees should operate for the trade association PACs as for the corporate PACs. There are 899 trade association PACs and their average contribution level per legislator is similar to that of the corporate PACs. The results for the trade association PACs are the same as the results for the corporate PACs that we report below.

[15] As an alternative measure, we have calculated the percent of repeat givers using only the number of PACs giving in the previous (*t-1*) period in the denominator. This measure is highly correlated with the other measure and gives very similar results.

[16] To calculate repeat giving for the first cycle in our sample (that is, 1983/84), we collected data on PAC giving from 1981/82 for legislators who were in the House during both 1981/82 and 1983/84.

[17] Since legislators who do not run for reelection receive virtually no PAC contributions, we include only incumbents who do run. Also, a legislator is included only if he receives at least $10,000 of total corporate contributions in an electoral cycle. We lose roughly 150 observations due to this restriction.

B. Seniority and other Characteristics of the Legislator

To control for factors that may influence the pattern of PAC giving, we include a number of legislator characteristics.[18] First, we create indicator variables for membership on each of the committees in the House. Some committees may be more productive at reputation building than others so we want to include this control for committee membership.[19] All specifications thus include a set of indicator variables that are one if the legislator is a member of a particular committee in a particular electoral cycle and zero otherwise.

Second, we include an indicator variable that is one if the legislator is the chair of the committee during a particular electoral cycle and zero otherwise. This variable provides a proxy for the power and privileges that a committee chair may exercise (e.g., agenda control) and that might affect the pattern of contributions to that legislator (e.g., Ansolabehere and Snyder 1999).

Third, we include the seniority of the legislator, since the competing interests may treat newer legislators with little reputational development differently than their more senior counterparts. Seniority is our proxy for the extent of repeat dealing, hence opportunities for reputation building, that a legislator has been able to undertake with the PACs.

We measure seniority in a number of ways. First, overall House seniority is the number of election cycles during which each legislator has been in the House. While this variable captures opportunities for showing reliability generally and may be related to a legislator's overall productivity and power in the House hierarchy, the reputation-building approach described above focuses on the

[18] The *Congressional Quarterly Almanac* (various issues) is the source for the for these variables.

[19] Also, members with different propensities to build reputations may select to be on different committees.

role of the committees. Legislators in the House typically sit on one or two standing committees during a session of Congress and the maximum we observe in our data is four.[20] Average committee seniority is sum of the number of electoral cycles during which the legislator has been a member of each of his current committee assignments divided by the total number of assignments. We also calculate the maximum (minimum) committee seniority of a legislator as the number of electoral cycles that a legislator has been on his longest (shortest) committee assignment. We take the log of each of these measures because the information gained by the PACs from repeat dealing with a legislator should diminish over time.

We also include the following legislator characteristics that may influence the pattern of PAC contributions (e.g., Poole, Romer, and Rosenthal 1987):

Winning Percent: The percent of the vote won by the legislator in the previous election is a proxy for how secure the legislator is. Security of the seat has two offsetting effects. On the one hand, PACs may be more willing to develop relationship with, hence make higher contributions to, more secure legislators. On the other, an extra dollar of contributions may be less valuable to incumbents who have little worry about fending off challengers in the next election, so they may expend less effort in working for special interests and developing reputations.

Ideology: To adjust for ideological differences among legislators, we include the Poole and Rosenthal (1997) DW-Nominate spatial mapping of legislators onto a "left-right" political spectrum

[20] The Democratic and Republican party caucuses have rules concerning how many and what type of committees a legislator may be on simultaneously. Members of "elite" committees (Appropriations, Rules, Ways and Means), for example, generally cannot also be members of other standing committees. For the details of the rules, see *CQ Guide to Congress* (1991).

ranging from -1 to 1 based on their voting records, where -1 represents "liberal" and 1 represents "conservative."[21] To the extent that different industry groups may share a broad range of business interests unrelated to a particular policy controversy (e.g., be "free market" or "low tax"), we include this variable to control for general pro- or anti- business attitudes of legislators that might affect the pattern of corporate giving. In addition, we include the square of this measure since ideology may have a non-linear effect on the pattern of PAC giving.

In most of the specifications reported below, we include fixed effects for each legislator to control for unobserved characteristics of the legislator and/or his constituency that might influence the pattern of PAC giving.[22] When we do not, however, we include two variables that are legislator-specific but do not change over our time period:

Party Affiliation: We distinguish between contributions to Republicans and Democrats since members of the different parties may display different patterns of contributions.[23] The party variable equals one if the legislator is a Republican and zero if a Democrat.

Employment of Constituents: The economic interests of the voters in a legislator's district could affect the pattern of contributions to that legislator. To develop a proxy for constituency interest, we collect data on the share of employment by district in each two-digit SIC industry. The *County*

[21] We also have used the Americans for Democratic Action (ADA) index score which is calculated on a scale of 0 (conservative) to 100 (liberal) based on the voting record of the legislator during the election. The two measures are highly correlated, and the results are not affected by the choice of ideology proxy.

[22] As an alternative to legislator fixed effects, we also tried district fixed effects. Using district effects instead of legislator effects did not have any impact on estimation results.

[23] The members of the majority party (the Democrats in all but the last electoral cycle in our sample) might, for example, have a different level and pattern of contributions than members of the minority party. Our results are unaffected if we drop the last electoral cycle.

Business Patterns survey from the Bureau of the Census provides county-level employment data which we then map into legislative districts. Redistricting occurs after the 1991/92 electoral cycle. The data are from 1986 for the cycles prior to redistricting and from 1995 for the cycles after redistricting.[24] Including the employment share variables thus is similar to including district fixed effects.

Finally, we develop a measure of the probability of termination for the legislator. To do so, we estimate a first-stage probit regression where the dependent variable is one in the last electoral cycle that a legislator running for reelection is in the House and zero in other periods. The independent variables are the legislator characteristics listed above plus the legislator's age as an instrument. The probability of retirement or death should be an increasing function of the legislator's age, but age should have no impact on the frequency of repeat givers, independent of its effect on the probability of termination. In the next section, we will describe the exact specification of the probit. Appendix 3 contains the sample statistics of variables not reported in the Tables.

IV. Methods and Results

A. Seniority and Repeat Giving

We first examine the relation between seniority and repeat giving for each legislator in the House from the 1983/84 to 1995/96 election cycles. Table 1 reports simple correlations and sample statistics for the key variables of interest. The log of maximum, minimum, and average committee seniority for each legislator have correlation coefficients with each other of at least 0.75. The log of

[24] Note that none of our results change if we confine the data to the five electoral cycles prior to redistricting.

overall House seniority also is highly correlated with each of our measures of committee seniority.

Consistent with reputation-building, as the last line of Table 1 shows, the correlations of seniority and our proxy for reputational development are positive and statistically significant. Figure 1 plots the percent of repeat contributors for levels of average committee seniority.[25] There is a positive relationship between percent repeat giving and committee seniority. The difference in the percent of repeat giving from committee seniority of 3 or fewer electoral cycles to seniority greater than 3 electoral cycles is statistically significant (t=6.05).

While these results are suggestive, we now wish to investigate whether these relationships hold when we control for a variety of other factors. To do so, we pool the cross-sectional data for each cycle over time to create a panel data set consisting of observations of legislators in the House each electoral cycle from 1982/83 to 1995/96. The dependent variable proxying for reputational development of legslator *i* in period *t* is the percent of repeat PAC givers to that legislator ($REPEAT_{it}$). We use a log-linear specification of seniority because the effect of seniority on the percent of repeat givers should diminish with seniority under the reputation-building hypothesis.

Since some members, for example, may have relatively high repeat giving and other relative low repeat giving throughout their legislative careers, we estimate a fixed-effects regression by including a separate intercept for each legislator (a_i). We also include legislator characteristics (X_{it}) to control explicitly for factors that might affect contribution patterns. All regressions include indicators variables

[25] Note that there is no seniority=1 category because a legislator must be in the House for two consecutive terms in order to calculate percent repeat givers. Also, since there are relatively few observations in each category of average committee seniority greater than or equal to 6, Figure 1 groups all of these observations in the seniority=6 category.

for the each legislator's committee membership(s) since different committees may be associated with different levels of repeat giving, but we do not report the estimates on these variables. Finally, we include time indicators (T_t) to control for differences between election cycles. For each observation of legislator *i* in election cycle *t*, we estimate an equation of the form:

$$REPEAT_{it} = a_i + b\ log(Seniority)_{it} + c\ X_{it} + d\ T_t + e_{it}.$$

Table 2 reports the coefficient estimates and robust standard errors.[26] Column (i) includes average committee seniority and the coefficient is positive and highly statistically significant. Column (ii) includes overall House seniority which also has a positive and statistically significant effect. To determine whether time on the committee (which is the mechanism we emphasize in our model of reputational development) or time in the House (which is a proxy for general legislator experience and productivity) is what leads to higher repeat giving, we include both measures of seniority simultaneously in column (iii). Although the two variables are highly correlated (see Table 1), average committee seniority drives out the effect of overall House seniority in the panel regression. The coefficient on average committee seniority is little changed from column (i) and remains highly statistically significant. The coefficient on overall House seniority falls and is no longer statistically significant.

Since committee chairs will be the longest serving members of the committee, we include the committee chair indicator to estimate the effect of seniority independent of the power and privileges enjoyed by the chair. The coefficient on the committee chair indicator is not statistically significant in

[26] Since the dependent variable is limited to the zero to 100 range, heteroskedasticity could affect the estimation of the standard errors (see Greene 1997). The White (1980) robust standard errors we use correct for heteroskedasticity. As an alternative method to address this issue, we used the logistic transformation of the dependent variable and the results were unchanged.

columns (i) to (iii). Neither this proxy for the general institutional power of a legislator nor the proxy for overall legislator experience appears to be related to the percent of repeat contributors to that legislator when committee tenure is taken into account. The results on repeat giving support the first implication of our reputation-building model: a legislator develops reputation through repeat dealing with PACs through his committee membership activities.

B. Effects of the Probability of Termination

The second implication of the reputation-building theory is that the reputational equilibrium is more likely to break down when the probability of future dealing declines. As noted above, we estimate a probit model where the dependent variable is one for the last electoral cycle that a legislator running for reelection is in the House. We then add the predicted value from the probit to the REPEAT regression to determine how the probability of termination affects repeat giving.

To identify the first stage, we use the legislator's age as an instrument. Appendix 1 reports the probability that a legislator will leave the House during our sample period based on the age of the legislator. Since the probability of retirement or death is roughly flat until age 60 and then increases, we include a piecewise linear specification age where the "knot" or break-point is at 60 years of age.[27] We thus include two age variables: The first is simply age in years and the second equals age minus 60 if age is greater than 60 and zero otherwise (see Greene 1997, p. 390).[28] Including age with the

[27] We also used age and age squared and obtained very similar results.

[28] As an additional instrument, we also tried the number of congressional districts in the state, because Representatives from small states may be more likely than those from large states to leave the House and pursue others offices or another political career (see Snyder 1992). This variable, however, is not statistically significant in the probit and does not help to improve the prediction of the probability of termination.

legislator fixed effects and time effects, however, creates a collinearity problem. In addition, a large proportion of the Representatives are in the House for the entire sample period, so the legislator fixed effect is highly correlated with no termination, causing convergence problems for the probit estimation. For these reasons, we do not include legislator fixed effects in these models. Instead, we include the shares of each legislator's district employment in each two-digit SIC industry and the party affiliation indicator (1 if Republican) and retain the time effects. Appendix 2 contains the probit estimate.

Column (iv) in Table 2 includes the predicted probability of termination derived from the predicted values from the probit.[29] The coefficient on average committee seniority remains positive and statistically significant. The coefficient on the predicted probability of termination is negative and statistically significant. An increase in the probability of termination of repeat dealing between the legislator and the PACs thus leads to a decline in the frequency repeat contributions to the legislator. Again, these results are consistent with the view that legislators try to develop clear reputations on issues relevant to corporate PACs rather than try to be ambiguous.[30]

C. The Effects of Reputation on the Level of Contributions

The third implication of the reputation versus ambiguity models concerns the best strategy to increase the level of contributions. If it is in a legislator's interest to develop a reputation for reliability

[29] The probability estimate is from the normal distribution implied by the predicted value from the probit. We also used the predicted probit index value directly, and the results are unchanged.

[30] When we drop the legislator fixed effects, the coefficient on the chair indicator switches sign and becomes negative and statistically significant. This suggests that legislators with greater institutional power (not adjusting for a legislator's "innate" ability that is unchanging over time) have lower repeat giving than other legislators.

and consistency, then legislators who have succeeded in building clear reputations should be rewarded with higher levels of contributions. Alternatively, "fence sitter" strategies in which a legislator "plays one side off against another" would tend to lead to higher levels of contributions when the legislator's position is less clear. If this strategy were success, a legislator would tend be rewarded with a high level of total contributions when the incidence of repeat giving to that legislator is relatively low. The inverse relationship between total contributions and repeat giving would be particularly true if the "ambiguous" legislator auctions off his vote to the highest bidder on a case-by-case basis in each period.

To determine whether reputation-building or ambiguity is a more effective means of garnering corporate PAC contributions, we wish to examine the relation of reputational certainty to the level of contributions. REPEAT is the proxy for the legislator's success in developing his reputation. If reputational clarity pays, then REPEAT should be positively related to the level of total corporate PAC contributions; whereas if ambiguity pays, the relation should be negative or, perhaps, zero.

We take two approaches to investigating this relationship: correlations and two-stage least squares. Figure 2 plots the level of contributions for legislators with different levels of repeat giving, and the relation is positive. The simple correlation is 0.28 with a *p*-value less than 0.01. We then calculate the conditional correlation of the percent of repeat givers and the level of contributions controlling for legislator and constituency characteristics. To do so, we regress contribution levels on legislator and constituency characteristics and examine the correlation of the residuals of this regression with the residuals from the REPEAT regressions in Table 2. Specifically, we use the seemingly unrelated regression (SUR) model to estimate a two equation system in which the dependent variables REPEAT

and total corporate PAC contributions (Zellner 1962). We can then calculate the correlation of the residuals from each equation and use the Breusch-Pagan Lagrange Multiplier statistic to test whether the equations are independent (Breusch and Pagan 1980 and Greene 1997).

We consider two specifications of the system. The first corresponds to column (i) of Table 2, so the independent variables in each equation are the log of average committee seniority, winning percent, DW-Nominate ideology measure, the square of the ideology measure, committee chair indicator, committee membership indicators, legislator fixed effects, and time effects. The second corresponds to column (iv) of Table 2, which includes constituency employment variables, party affiliation indicator, and probability of termination in place of legislator fixed effects. The estimates of the contribution equations are reported in Panel A of Table 3. Since we are using the same set of regressors in both equations in each system, the SUR procedure will not affect the estimates of the REPEAT equations in the system.[31]

The results of the cross-equation correlations and independence tests are reported in Panel B of Table 3. The residuals from the contribution equation are positively correlated with those of the REPEAT equations in both specifications. In other words, holding constant the factors included as independent variables in the regressions, corporate PAC contribution equation are high when the proxy for reputational clarity is high. The Breusch-Pagan test [$chi^2(1)$] shows that the positive correlation is statistically significant and rejects independence of the contribution and REPEAT equations. These results suggest that ambiguity does not pay and reputational clarity does.

[31] That is, the corresponding equations are columns (i) and (iv) of Table 2. Although the estimates are not affected by using the SUR structure, the SUR model is a convenient way to test for cross-equation correlations.

The benefit of the SUR approach is that it imposes little structure on the problem but at a cost of not providing a means of gauging the magnitude of the impact of the percent of repeat givers on the level of contributions to a legislator. A simple OLS regression with the contribution level as the dependent variable and REPEAT and controls as independent variables might involve simultaneous equations bias because the factors that predict the contribution level also may predict REPEAT. To account for the simultaneity, we use a two-stage least squares estimation procedure. The first stage regression estimates REPEAT based on the controls and instruments for percent of repeat givers. The second stage then includes the predicted or "fitted" value of REPEAT as an independent variable in addition to the controls in order to estimate how a legislator's level of PAC funding varies with the predicted value of REPEAT.

We include two alternative sets of instruments in the first stage regression. First, we use the percent of repeat giving to each legislator in the previous election cycle ($REPEAT_{i\,t-1}$). By using lags in the first stage, the number of observations in the second stage declines to 1,455. Second, our alternative instrument is the rank of the percent of repeat giving (see Koenker and Bassett 1978 and Evans and Kessides 1993). We order REPEAT from highest to lowest and divide the sample into thirds, assigning the lowest third a rank of one, the middle third a rank of two, and the top third a rank of three. By construction, the rank is positively correlated with the level of contributions. Also, if a change in the percent of repeat givers does not alter its rank, then rank is independent of the disturbance term in the second stage (that is, no omitted factor is causing the percent of repeat givers to be high when contributions are high). This condition will be violated only for observations near the cross-over points between the ranks, so we choose a small number of ranks to reduce likelihood of

such a correlation.[32]

The two-stage least squares results are in Table 4. The first two columns use the rank of REPEAT as the instrument and the last two columns use lagged REPEAT. Columns (i) and (iii) include legislator fixed effects, and columns (ii) and (iv) instead include the constituency employment variables, the party affiliation indicator, and the predicted probability of termination. In all specifications, a greater percent of repeat givers is associated with a higher level of corporate PAC contributions. The coefficient estimates are highly statistically significantly, except in column (iii). The magnitude of the estimates imply that a one standard deviation increase in the percent of repeat giving would result in an increase in the dollar value of contributions between roughly $4,000 and $20,000, or between roughly 6 percent and 30 percent of the mean level of contributions. Overall, the results reported in this section suggest a positive relationship between reputational development and the rewards of high levels of PAC contributions. Ambiguity does not appear to pay.

V. Conclusion

This paper addresses a long-standing theoretical controversy about whether legislators prefer to develop clear reputations concerning their policy positions or prefer to follow strategic ambiguity. We

[32] Following Evans and Kessides (1990), as an informal check of the orthogonality condition, we run the first-stage regression of percent of repeat givers on the control variables and the instrument and then rank the *predicted* values of REPEAT into the high, medium, and low groups. If the correlation between the disturbance term and the percent of repeat givers does not change the rank, then the ranks of the predicted percent of repeat givers should be almost the same as the actual ranks based on the levels of contributions. In our sample, the fraction of predicted ranks that equal actual ranks is 0.97. While we do not have a formal test statistic, the close correspondence between the actual and predicted ranks provides support for the orthogonality assumption.

develop a theory that allows us to distinguish between the reputation-building and ambiguity hypotheses by examining the pattern of interest group campaign contributions to legislators. The committee system of Congress offers the potential for repeated interactions, reputation-building, and long-term relationships between the interest groups and members of the relevant committees. As the length service on a committee grows, a legislator has more opportunities, if he so chooses, to reduce uncertainty about his policy stances. The percent of repeat givers to a legislator provides a proxy for the extent of reputational development.

We find that legislators develop reputations over time and that high reputational development is rewarded with high total contributions. The percent of repeat givers to a legislator increases with seniority on his committee assignments. These results support a model in which legislators use their committee memberships as ways to engage in repeat dealing with special interest groups and thereby develop reputations for reliability in supporting particular policy positions. The percent of repeat givers declines when the probability of termination of the legislator-PAC relationship rises. In other words, when a legislator is likely to leave office, the reputation-building appears to break down. Finally, the level of PAC contributions increases as the legislator clarifies his reputation, so reputational clarity appears to "pay." This evidence is inconsistent with the strategic ambiguity hypothesis that legislators maximize their PAC contributions by "fence sitting" in their policy stances to try to garner contributions from all sides on an issue or auction off their votes to the highest bidder on a case-by-case basis.

If the PAC-legislator exchange market does provide an incentive for clarity and consistency on the part of legislators, then risk-averse voters benefit from the reduction in uncertainty about incumbents (e.g., Shepsle 1972). Voters also may make better informed choices than under a regime where

ambiguity "pays" in terms of PAC contributions. In addition, repeat dealing and reputational development could induce the legislators to invest to become (or have their staffs become) policy experts on the issues under the jurisdiction of their committees (e.g., Gilligan and Krehbiel 1989 and Krehbiel 1991). Better informed decision makers could then result in socially better policy outcomes; however, legislative gridlock could arise because legislators become unwilling to compromise (e.g., Austin-Smith and Wright 1992 and Kroszner and Stratmann 1998).

Our results also have implications for campaign finance and legislative reforms as well as term limits. Substituting public funding for private contributions, for example, would weaken the incentives for legislators to develop consistent policy positions on issues relevant to well-organized and well-financed PACs. Term limits or weakening of the committee system of Congress (e.g., through term limits on committee assignments) would make it much less likely for a reputational equilibrium to be sustained in the PAC-legislator market (e.g., Kroszner and Stratmann 1998). Historical studies as well as cross-sectional comparisons across U.S. states and across countries can provide sufficiently rich variations in rules and institutions to investigate the impact of such reforms on lobbying and policy outcomes (e.g., Besley and Case 1995, Daniel and Lott 1997, and Kroszner and Stratmann 1997).

References

Abreu, Dilip. "Towards a Theory of Discounted Repeated Games." Econometrica 56 (1988): 383-96.

Alesina, Alberto and Alex Cukierman. "The Politics of Ambiguity." Quarterly Journal of Economics 105 (November 1990): 829-850.

Ansolabehere, Stephen and James Snyder. "Money and Institutional Power." Texas Law Review 77 (June 1999): 1673-1704.

Aragones, Enriqueta and Andrew Postlewaite. "Ambiguity in Equilibrium for Two Party Electoral Competition." Unpublished working paper, University of Pennsylvania, March 1998.

Austin-Smith, David and John Wright. "Competitive Lobbying for a Legislator's Vote." Social Choice and Welfare 9 (1992): 229-57.

Bernhardt, Daniel and Daniel Ingberman. "Candidate Reputation and the Incumbency Effect." Journal of Public Economics 26 (1985): 47-67.

Besley, Timothy and Anne Case. "Does Electoral Accountability Affect Economic Policy Choices? Evidence from Gubernatorial Term Limits," Quarterly Journal of Economics 110 (August 1995): 769-98.

Breusch, T. and A. Pagan. "The LM Test and Its Application to Model Specification in Econometrics," Review of Economic Studies, 1980, 47, 239-54.

CQ Guide to Congress, Washington, DC: Congressional Quarterly, Incorporated, 1991.

Daniel, Kermit and John R. Lott, "Term Limits and Electoral Competitiveness: Evidence from California's State Legislative Races," Public Choice 90 (1997): 165-84.

Downs, Anthony. An Economic Theory of Democracy. New York: Harper and Row, 1957.

Evans, William and Ioannis Kessides, "Localized Market Power in the U.S. Airline Industry," Working Paper No. 90-5, University of Maryland, April 1990.

Evans, William and Ioannis Kessides, "Localized Market Power in the U.S. Airline Industry," Review of Economics and Statistics 75 (February 1993): 66-73.

Fiorina, Morris. Congress: Keystone of the Washington Establishment. New Haven: Yale University Press, 1977.

Ghosh, Parikshit and Debraj Ray. "Cooperation in Community Interaction without Information Flows." Review of Economic Studies 63 (1996): 491-519.

Gilligan, Thomas and Keith Krehbiel. "Asymmetric Information and Legislative Rules with a Heterogeneous Committee." American Journal of Political Science 33 (1989): 459-90.

Glazer, Amihai. "The Strategy of Candidate Ambiguity." American Political Science Review 84 (March 1990): 237-41.

Greene, William H. Econometric Analysis, 3rd edition. Upper Saddle River, NJ: Prentice-Hall, 1997.

Grier, Kevin B. and Michael C. Munger, "Committee Assignments, Constituent Preferences, and Campaign Contributions," Economic Inquiry, January 1991, 29, 24-43.

Hall, Richard and Wayman, Frank. "Buying Time: Moneyed Interests and the Mobilization of Bias in Congressional Committees." American Political Science Review 84 (1990): 797-820.

Hall, Richard. Participation in Congress. New Haven: Yale University Press, 1996.

Harrington, Joseph. "The Revelation of Information through the Electoral Process: An Exploratory Analysis." Economics and Politics 4 (1992): 255-75.

Klein, Benjamin and Keith Leffler. "The Role of Market Forces in Assuring Contractual Performance." Journal of Political Economy 89 (August 1981): 615-41.

Koenker, Roger and Gilbert Basset, "Regression Quantiles," Econometrica 46 (January 1978): 107-12.

Krehbiel, Keith. Information and Legislative Organization. Ann Arbor: University of Michigan Press, 1991.

Kroszner, Randall S. "Is the Financial System Politically Independent? Perspectives on the Political Economy of Banking and Financial Regulation," Stigler Center Working Paper No. 151, University of Chicago, 1999.

Kroszner, Randall S. and Philip Strahan. "What Drives Deregulation? Economics and Politics of the Relaxation of Bank Branching Restrictions," Quarterly Journal of Economics, forthcoming, November 1999.

Kroszner, Randall S. and Thomas Stratmann. "Notes on the Evolution of the Congressional Committee System in the Twentieth Century." Working paper, University of Chicago, 1997.

Kroszner, Randall S. and Thomas Stratmann. "Interest Group Competition and the Organization of

Congress: Theory and Evidence from Financial Services' Political Action Committees," American Economic Review 88 (December 1998): 1163-87.

Makinson, Larry, Open Secrets: The Encyclopedia of Congressional Money and Politics, Washington, DC: Congressional Quarterly, Incorporated, 1992.

McCarty, Nolan and Lawrence Rothenberg. "Commitment and the Campaign Contribution Contract." American Journal of Political Science 40 (August 1996): 872-904.

Moe, Terry. The Organization of Interests. Chicago: University of Chicago Press, 1981.

Mueller, Dennis. Public Choice II. New York: Cambridge University Press, 1989.

Olson, Mancur. The Rise and Decline of Nations: Economic Growth, Stagflation, and Social Rigidities. New Haven: Yale University Press, 1982.

Poole, Keith, Thomas Romer, and Howard Rosenthal. "The Revealed Preferences of Political Action Committees." American Economic Review 77 (May 1987):298-302

Poole, Keith and Howard Rosenthal. Congress: A Political-Economic History of Roll-Call Voting. New York : Oxford University Press, 1997.

Roeder, Edward. PACs Americana. Washington, DC: Sunshine Services Corporation, 1983.

Romer, Thomas and James M. Snyder, Jr., "An Empirical Investigation of the Dynamics of PAC Contributions," American Journal of Political Science 38 (August 1994): 745-69.

Shapiro, Carl. "Premiums for High Quality Products as Rents to Reputation." Quarterly Journal of Economics 98 (1983): 659-80.

Shepsle, Kenneth. "The Strategy of Ambiguity: Uncertainty and Electoral Competition." American Political Science Review 66 (June 1972): 555-68.

Shepsle, Kenneth. The Giant Jigsaw Puzzle: Democratic Committee Assignments in the Modern House. Chicago: University of Chicago Press, 1978.

Shepsle, Kenneth and Barry Weingast, eds. Positive Theories of Congressional Institutions. Ann Arbor: University of Michigan Press, 1995.

Snyder, James M., Jr. "Campaign Contributions as Investments: The U.S. House of Representatives, 1980-1986." Journal of Political Economy 98 (December 1990): 1195-1227.

Snyder, James M., Jr. "Long-term Investing in Politicians: or, Give Early, Give Often." Journal of Law

and Economics 35 (April 1992): 15-43.

Stratmann, Thomas, "Campaign Contributions and Congressional Voting: Does the Timing of Contributions Matter?" Review of Economics and Statistics, February 1995, 72 (1).

Stratmann, Thomas, "The Market for Congressional Votes: Is the Timing of Contributions Everything?" Journal of Law and Economics, April 1998, 41, 85-114.

Tirole, Jean, The Theory of Industrial Organization. Cambridge: MIT Press, 1988.

Tirole, Jean, "The Internal Organization of Government," Oxford Economic Papers, 46 (1994): 1-29.

Weinberger, Marvin and David Greevy. PAC Directory: A Complete Guide to Political Action Committees. Cambridge, MA: Ballinger, 1982.

Weingast, Barry R. and William J. Marshall, "The Industrial Organization of Congress; or, Why Legislatures, like Firms, Are Not Organized as Markets," Journal of Political Economy, February 1988, 96 (1), 132-63.

White, Halbert, "A Heteroskedasticity-Consistent Covariance Matrix Estimator and a Direct Test for Heteroskedasticity," Econometrica 48 (May 1980): 817-38.

Wittman, Donald N. The Myth of Democratic Failure. Chicago: University of Chicago Press, 1995.

Zeckhauser, Richard. "Majority Rule with Lotteries on Alternatives." Quarterly Journal of Economics 83 (1969): 696-703.

Zellner, Arnold. "An Efficient Method for Fitting Seemingly Unrelated Regressions and Tests for Aggregation Bias," Journal of the American Statistical Association, 1962, 57, 500-509.

TABLE 1: Correlation and Sample Statistics for Alternative Measures of Seniority and the Percent of Repeat PAC Contributors between 1983 and 1996. (p-values below the Pearson correlation coefficient.) N = 2,074.

	Correlation Analysis					*Sample Statistics*
	Log Average Committee Seniority	Log Maximum Committee Seniority	Log Minimum Committee Seniority	Log Overall House Seniority	Percent of Repeat Contributors	Mean [Std Dev]
Log Average Committee Seniority, measured as the sum of the number of terms on each of a legislator's assignments divided by the number of assignments	1.00 (0.0)	-	-	-	-	1.50 [0.49]
Log Maximum Committee Seniority, measured as the number of terms on the committee on which the legislator is most senior	0.96 (<0.01)	1.00 (0.0)	-	-	-	1.61 [0.50]
Log Minimum Committee Seniority, measured as the number of terms on the committee on which the legislator is least senior	0.90 (<0.01)	0.75 (<0.01)	1.00 (0.0)	-	-	1.33 [0.55]
Log Overall House Seniority, measured as number of terms in the House	0.79 (<0.01)	0.83 (<0.01)	0.62 (<0.01)	1.00 (0.0)	-	1.59 [0.60]
Percent of Repeat Corporate PAC Contributors to a Legislator	0.11 (<0.01)	0.10 (<0.01)	0.10 (<0.01)	0.07 (<0.01)	1.00 (0.0)	61.44 [9.98]

TABLE 2: Panel Estimation relating the Percent of Repeat PAC Contributors[a] to Members of the House to the Log of their House Seniority, Average Committee Seniority, and Probability of Termination for the Seven Electoral Cycles 1983/84 to 1995/96.

N = 2,074 member-years. Robust standard errors are in parentheses below coefficient estimates.

	(i)	(ii)	(iii)	(iv)
Log of Average Committee Seniority[b]	5.549 (1.458)	-	4.520 (1.624)	4.381 (0.652)
Log of House Seniority[c]	-	4.606 (1.648)	2.375 (1.826)	-
Percent of the Vote in the Previous Election	-0.042 (0.017)	-0.046 (0.017)	-0.045 (0.017)	-0.089 (0.017)
Ideology Measure (Poole-Rosenthal DW-Nominate)	1.993 (8.687)	2.647 (8.682)	2.124 (8.700)	8.829 (2.271)
Ideology Measure Squared	-14.465 (14.225)	-15.510 (14.171)	-15.276 (14.243)	-17.972 (3.797)
Committee Chair Indicator (1 if yes)	1.979 (1.601)	2.074 (1.577)	2.151 (1.605)	-2.347 (1.169)
Party Affiliation (1 if Republican)	-	-	-	-1.545 (1.310)
Probability of Termination (predicted value from probit)[d]	-	-	-	-15.993 (4.498)
Includes Indicators for Committee Memberships	Yes	Yes	Yes	Yes
Includes Legislator Fixed Effects	Yes	Yes	Yes	No
Includes Time Effects	Yes	Yes	Yes	Yes
Includes District Employment in Two-Digit SIC Industries	No	No	No	Yes
R^2	0.64	0.63	0.64	0.26

Notes to Table 2: [a] Percent of Repeat Contributors is the number of corporate PACs which give to a legislator in periods t-1 and t divided by the average number of PACs that give to the legislator in periods t-1 and/or t, multiplied by 100.

[b] Average Committee Seniority is the sum of the number of terms on each of a legislator's committee assignments divided by the total number of committee assignments for that legislator.

[c] House Seniority is the number of terms that the legislator has been in the House.

[d] This variable is the predicted value from a probit in which the dependent variable is one in the last electoral cycle that a Representative is in the House and zero otherwise. See Appendix 2 for the probit specification.

TABLE 3: Seemingly Unrelated Regression (SUR) System Estimation of Total Corporate PAC Contributions with Percent of Repeat PAC Contributors[a] for Members of the House, for the Seven Electoral Cycles 1983/84 to 1995/96. The estimates for the REPEAT equations are not reproduced here but correspond to columns (i) and (iv) of Table 2. N = 2,074 member-years. Mean (Std Dev) of Total Corporate PAC Contributions, the dependent variable, is $67,615 ($49,934) in 1985 dollars. Robust standard errors are in parentheses.

Panel A: SUR Regressions

	(i)	(ii)
Log of Average Committee Seniority[b]	-9,503 (5,001)	15,185 (2,705)
Percent of the Vote in Previous Election	-46.39 (66.09)	-430.94 (79.36)
Ideology Measure (Poole-Rosenthal DW-Nominate)	-77,334 (29,893)	45,059 (7,830)
Ideology Measure Squared	27,245 (45,851)	-77,170 (12,450)
Committee Chair Indicator (1 if yes)	23,221 (4,774)	22,903 (4,539)
Party Affiliation (1 if Republican)	-	-9,354 (4,939)
Probability of Termination (predicted value from probit)[c]	-	-73,245 (18,055)
Includes Indicators for Committee Memberships	Yes	Yes
Includes Legislator Fixed Effects	Yes	No
Includes Time Effects	Yes	Yes
Includes District Employment in Two-Digit SIC Industries	No	Yes
R^2	0.79	0.39

Panel B: Independence Tests

Correlation of Residuals with the Residuals from the REPEAT Equation	0.10	0.25
Breusch-Pagan Test Statstic [$chi^2(1)$] for Independence from the REPEAT Equation	1,244	124.63

p-value for Independence from the REPEAT Equation	<0.01	<0.01

Notes to Table 3: [a] Percent of Repeat Contributors is the number of corporate PACs which give to a legislator in periods t-1 and t divided by the average number of PACs that give to the legislator in periods t-1 and/or t, multiplied by 100.

[b] Average Committee Seniority is the sum of the number of terms on each of a legislator's committee assignments divided by the total number of committee assignments for that legislator.

[c] This variable is the predicted value from a probit in which the dependent variable is one in the last electoral cycle that a Representative is in the House and zero otherwise. See Appendix 2 for the probit specification.

TABLE 4: Two-Stage Least Squares Panel Estimation relating the Level of Total Corporate PAC Contributions to the Percent of Repeat Contributors for Members of the House for the Seven Electoral Cycles 1983/84 to 1995/96. N = 2,074 in columns (i) and (ii), and N = 1,455 in columns (iii) and (iv). Robust standard errors are in parentheses.

	(i)	(ii)	(iii)	(iv)
Predicted Value of Percent of Repeat Contributors (using the rank of REPEAT as the instrument)[a]	374.53 (144.30)	1,317 (133.52)	-	-
Predicted Value of Percent of Repeat Contributors (using the lagged value of REPEAT as the instrument)[b]	-	-	2,853 (6,158)	1,956 (484.44)
Log of Average Committee Seniority[c]	-11,580 (7,697)	9,415 (3,308)	-27,583 (26,910)	5,029 (4,501)
Percent of the Vote in the Previous Election	-30.78 (76.67)	-315.07 (78.09)	101.30 (282.55)	-171.28 (110.67)
Ideology Measure (Poole-Rosenthal DW-Nominate)	-78,081 (34,760)	33,429 (7,071)	-94,265 (54,080)	21,826 (10,177)
Ideology Measure Squared	32,663 (55,615)	-53,499 (11,900)	117,866 (83,452)	-51,187 (18,042)
Committee Chair Indicator (1 if yes)	22,480 (6,972)	25,407 (6,061)	28,594 (7,933)	29,639 (6,871)
Party Affiliation (1 if Republican)	-	-7,3191 (4,103)	-	-5,642 (5,584)
Probability of Termination (predicted value from probit)[d]	-	-52,181 (19,079)	-	-33,897 (17,464)
Includes Indicators for Committee Memberships	Yes	Yes	Yes	Yes
Includes Legislator Fixed Effects	Yes	No	Yes	No
Includes Time Effects	Yes	Yes	Yes	Yes
Includes District Employment in Two-Digit SIC Industries	No	Yes	No	Yes

R^2	0.79	0.43	0.81	0.41

Notes to Table 4: [a] This variable is the predicted value of the percent of repeat contributors when the rank of REPEAT (high, medium, and low) is used as an instrument in the first stage.

[b] This variable is the predicted value of the percent of repeat contributors when the one period lagged value of REPEAT is used as an instrument in the first stage.

[c] Average Committee Seniority is the sum of the number of terms on each of a legislator's committee assignments divided by the total number of committee assignments for that legislator.

[d] This variable is the predicted value from a probit in which the dependent variable is one in the last electoral cycle that a Representative is in the House and zero otherwise. See Appendix 2 for the probit specification.

APPENDIX TABLE 1 : Probability of Leaving Office by Age of Legislators in the House, for the Seven Electoral Cycles 1983/84 to 1995/96.

Age Category	Percent of Legislators in their Last Term in Office	Number of Observations
Under 40	0.11	140
40 to 49	0.17	680
50 to 59	0.16	708
60 to 69	0.21	443
70 to 79	0.31	97
Over 79	0.33	6

APPENDIX TABLE 2 : Marginal Effect Estimates from a Probit Panel Estimation of Probability of Last Term in Office[a] for Representatives in the House for the Seven Electoral Cycles 1983/84 to 1995/96. N = 2,074 member-years. Standard errors are in parentheses.

	(i)
Log of Average Committee Seniority[b]	6.296 (2.072)
Percent of the Vote in the Previous Election	-0.216 (0.066)
Ideology Measure (Poole-Rosenthal DW-Nominate)	11.506 (7.216)
Ideology Measure Squared	-24.542 (11.236)
Committee Chair Indicator (1 if yes)	-6.996 (2.693)
Party Affiliation (1 if Republican)	-7.213 (4.101)
Age of Legislator, in years	-0.011 (0.142)
Age greater than 60[c]	0.960 (0.347)
Includes Indicators for Committee Memberships	Yes
Includes Legislator Fixed Effects	No
Includes Time Effects	Yes
Includes District Employment in Two-Digit SIC Industries	Yes
Pseudo-R^2	0.12
Percent Correctly Classified	83%

Notes to Appendix 2: [a] The dependent variable is one if the Representative is not in the House in the

next electoral cycle and zero otherwise. The mean (standard deviation) is 0.18 (0.38). Note that all coefficients in this Table are multiplied by 100.

[b] Average Committee Seniority is the sum of the number of terms on each of a legislator's committee assignments divided by the total number of committee assignments for that legislator.

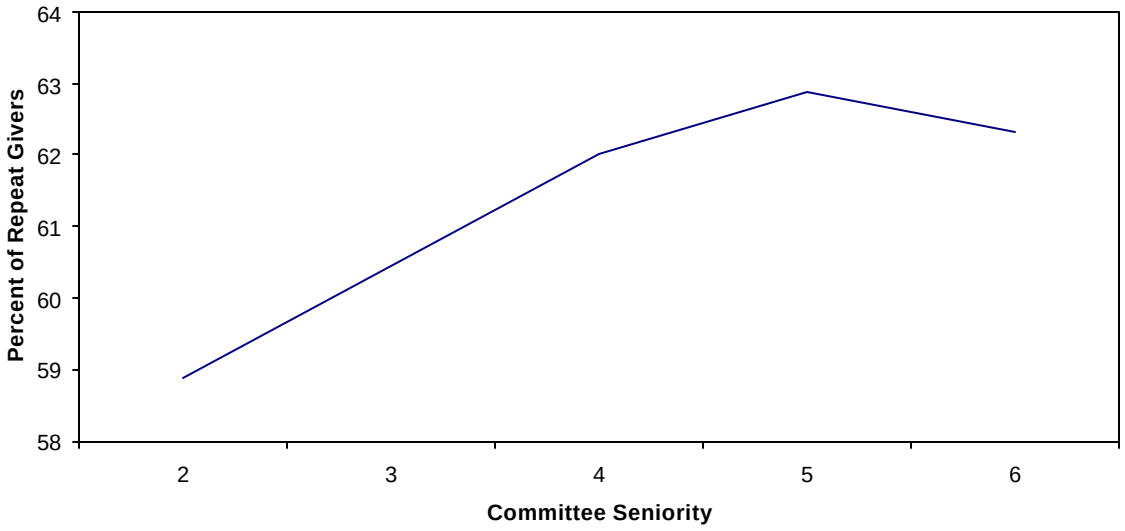
[c] Piecewise linear specification in which this "piece" measures the effect of age above 60. The variable is zero when age is less than 60 and is the age of the legislator minus 60 when age is greater than 60.

APPENDIX TABLE 3 : Sample Statistics for Variables Used in the Regressions (but not reported in the Tables).

	Mean (Std Dev)
Percent of the Vote in the Previous Election	70.45 (13.98)
Party Affiliation (1 if Republican)	0.41 (0.49)
Ideology Measure (Poole-Rosenthal DW-Nominate)	-0.028 (0.328)
Committee Chair Indicator (1 if yes)	0.057 (0.233)
Indicator is One in Legislator's Last Term	0.18 (0.38)
Age of Legislator, in years	53.05 (9.62)
Years of Age Greater than 60	1.46 (3.46)
Predicted Probability of Legislator's Last Term from Probit in Appendix 2	0.18 (0.13)

.

FIGURE 1: Committee Seniority and Percent of Repeat Givers



Notes to Figure 1: Percent of Repeat Givers is the number of corporate PACs which give to a legislator in periods t-1 and t divided by the average number of PACs that give to the legislator in periods t-1 and/or t, multiplied by 100. Committee Seniority is the sum of the number of terms on each legislator's committee assignments divided by the total number of committee assignments for that legislator. Seniority=6 includes all observations of legislators with committee seniority greater than or equal to 6 terms. (There is no seniority=1 category because a legislator must be in the House for two consecutive terms in order to calculate the percent of repeat givers.) N=2,074.

FIGURE 2: Percent of Repeat Givers and Corporate PAC Contributions

Notes to Figure 2: Categories of the Percent of Repeat Givers: 1 = less than 40 percent; 2 = 40 percent to 50 percent; 3 = 50 percent to 60 percent; 4 = 60 to 70 percent; and 5 = greater than 70 percent. Average Corporate PAC Contributions are expressed in 1985 dollars. N = 2,074.