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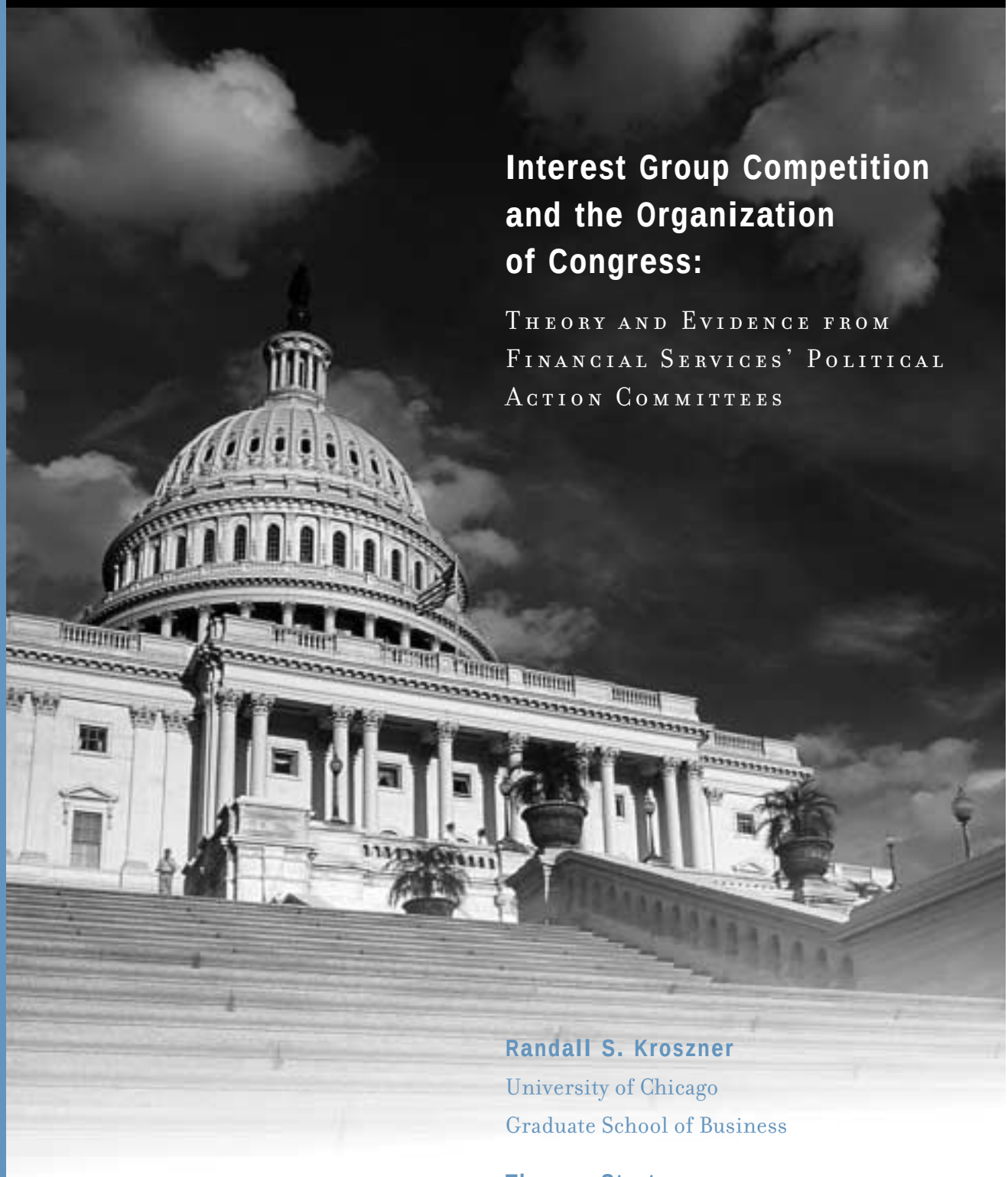

Interest Group Competition and the Organization of Congress:

Theory and Evidence from Financial Services' Political Action Committees

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Abstract

We develop a positive theory of how interest group competition shapes the organization of Congress and use it to explain campaign contribution patterns in financial services. Since interest groups cannot enforce fee-for-service contracts with legislators, legislators have an incentive to create specialized, standing committees which foster repeated dealing between interests and committee members. The resulting reputational equilibrium supports high contributions and high legislative effort for the interests. Contribution patterns by competing interests in the congressional battle over whether banks can enter new businesses support the theory, which also has implications for term limits and campaign reform.

Introduction

How does competition among organized interest groups operate and how do their activities shape the organization of Congress? Positive theories of legislative organization, which apply a rational choice framework to explain the structure of Congress, have been receiving increasing attention in both the economics and political science literatures (see Kenneth Shepsle and Barry Weingast 1995). Existing positive theories, however, have not included a role for interest group competition to affect the structure of Congress. Another strand of the theoretical literature has broadly explored the consequences of interest group competition (for example, Gary Becker 1983 and Arthur Denzau and Michael Munger 1986) but again has not related this competition to legislative organization.[1] In addition, little systematic empirical work has been done to analyze how interest group competition operates.[2]

This paper addresses the questions posed above by examining the contribution patterns of competing political action committees (PACs) and developing a theory to explain these patterns. We argue that the modern committee system may provide a solution to a principal-agent dilemma, not among legislators or their parties, but between legislators and special interest lobbies. We assume that legislators' primary goal is reelection and that campaign contributions from interest groups are an important element in achieving that goal. If legislators could write any contracts with the PACs, the first-best way for legislators to maximize PAC contributions would be to auction their legislative service time for a fee to the highest bidders. Such contracts, however, are considered bribery and are not legally enforceable. As a second-best way to maximize contributions, legislators find it in their interests to create a system of specialized, standing committees which facilitate repeated interactions, reputational development, and long-term relationships between the PACs and the members of the relevant committees. This structure supports a reputational equilibrium involving high contributions and high legislative effort. Section I elaborates our theory of congressional organization, applies it to explain key features of the modern committee system, and draws empirical implications for the patterns of PAC contributions by competing interest groups.

Our empirical work focuses on financial services legislation and the House Banking Committee since the early 1980s. We choose this focus for three reasons. First, the battles of commercial banks versus investment banks and insurance companies over whether commercial banks should be permitted to expand their powers to compete in these other fields have been and continue to be at the heart of a lively, contentious, and significant congressional debate (see Randall Kroszner 1996 and 1997). Second, the winners and losers of the actual and proposed legislation among each of the three competing interests can be clearly identified. Third, the competing financial services interests are well organized and well funded.

[1] As we describe below, our focus is on the features of the committee system of Congress and not, for example, the formal rules and procedures for shepherding a bill through the legislature (see Thomas Gilligan and Keith Krehbiel 1989).

[2] W. M. Crain, William Shugart, and Robert Tollison (1988), for example, have explored the enforcement of implicit agreements between interest groups and state legislators through legislative majorities. David Austen-Smith and John Wright (1994) have investigated the strategic lobbying activity of interest groups.

According to Larry Makinson (1992, 42–45), financial services political action committees constitute the single largest group of contributors to legislators, providing nearly 20 percent of total giving. In section II, we describe the ongoing congressional controversy surrounding reform of the 1933 Glass-Steagall Act, which limits commercial banks' ability to expand into new businesses.

We analyze both the cross-sectional and time-series patterns of PAC contributions by the three rival financial services groups—commercial banks, securities firms/investment banks, and insurance companies—and find that the PAC-legislator market appears to operate in a manner consistent with our positive theory. Section III describes the data, methods, and results. We then conclude with a brief summary and prospects for future research concerning further implications for how legislative organization may respond to such changes as term limits, campaign finance reform, and anti-corruption measures.[3]

I. A Theory of Congressional Organization Based on Interest Group Competition and Its Empirical Implications

A. Positive Theory of Committee Structure

While Becker (1983), Denzau and Munger (1986), and Gene Grossman and Elhanan Helpman (1994), for example, have broadly considered theoretical implications of interest group competition, none have used interest group competition as the basis for a theory of the committee structure of Congress. The recent work on positive theories of legislative organization have tried to explain how committees and parties may emerge endogenously to achieve a variety of goals (see Shepsle and Weingast 1995 for an overview): to facilitate log-rolling distributive bargains among legislators through repeated dealing in the legislature (e.g., Shepsle and Weingast 1987 and Weingast and John Marshall 1988); to gather information and expertise to improve legislative decisions (e.g., Gilligan and Krehbiel 1989 and Krehbiel 1991); to attenuate free-rider problems that legislators face in reaching legislative outcomes and being reelected (e.g., David Rohde 1991 and Gary Cox and Matthew McCubbins 1993); to delegate legislative tasks to achieve the majority party's objectives most efficiently (e.g., Roderick Kiewiet and McCubbins 1991).[4] Our model provides a theory of the endogenous formation of congressional institutions in which legislators attempt to maximize special interest contributions to aid in their reelection.

As is traditional in the literature on economic approaches to legislative organization (e.g., Morris Fiorina 1977 and David Mayhew 1974), we assume that the primary objective of the legislators is reelection. We also assume that direct service for constituents and campaign contributions are the key factors that affect the achievement of this goal (see, e.g., Kevin Grier and Munger 1991). Direct

[3] Since the focus of this paper is to develop and test a positive theory of congressional organization, we do not evaluate whether the committee system or the PAC-legislator exchange market helps or harms the quality of congressional decision making or social welfare. On the one hand, Mancur Olson (1982) argues that the institutionalization of relationships between the government and special interests in a stable political environment may foster rent-seeking that retards innovation and harms overall economic growth. On the other hand, Donald Wittman (1995) argues that the democratic institutions that have evolved are socially (not just privately) optimal. Austen-Smith and Wright (1992) find that lobbying by special interest groups helps legislators to make better-informed collective decisions than without such lobbying. The reputations fostered by the committee system that we emphasize here improve the ability of the competing interests to know where to allocate their funds most effectively, so this system might be an efficient way for different voices to be heard on Capitol Hill. Legislators, thus, might be promoting the public interest while pursuing their private reelection interests.

[4] David Coker and Crain (1994), for example, present a theory of committees based on loyalty to party leaders through repeat dealing.

service for constituents includes Richard Fenno's (1978) "home style" activities ranging from shaking hands at barbecues to bringing pork barrel projects into the district. Such activity can be very effective in generating electoral support but is very costly in terms of the legislator's time. Contributions can be used as a substitute for direct service in gaining recognition and support among voters and in fending off attacks by challengers. Legislators must then determine how best to allocate their time between direct constituency service and fund raising to achieve their reelection goals. We argue that legislators will try to organize Congress to attain these goals in the most efficient manner.

Organized interest groups wish to influence legislators' activities and compete to achieve outcomes favorable to their own groups (see Austen-Smith and Wright 1992 and 1994 and Austen-Smith 1995).[5] Such activities are not limited simply to voting in their favor. Legislators expend a great deal of effort to draft and amend bills, to negotiate with other legislators to win collective legislative support, and to rally popular support through media interviews and meetings with constituents. Additional legislative activities involve implicit or explicit pressure that legislators can apply to "independent" regulatory agencies through budgetary control, oversight hearings, and, in the Senate, the confirmation process (Weingast 1984 and Kroszner and Strahan 1996). We assume that the overall political system is stable (that is, no insurrections or revolutions) and that during the term of office the legislators have monopoly rights over making legislation. Legislators thus have uniquely valuable services to offer the interest groups and provide these services both individually and through the collective choice of the legislature.

If prohibitions on bribery could not be enforced, the legislators could maximize payments from the PACs by writing contracts with the PACs on a fee-for-service basis, much as individuals and corporations hire lawyers to argue their cases in court. PACs must compensate legislators for devoting time and effort to their causes when the interest groups may represent only a small fraction of the legislator's reelection constituency. Competing interest groups would bid for the services of the legislators, and legislators then would contract with the highest bidders. In this way, legislators could maximize the amount they capture of the surplus generated by their legislative activity.

Such fee-for-service contracts between legislators and interest groups, however, are considered bribery and generally are not enforceable.[6] Either party to such an agreement could renege on its promise, and the other party would have no legal recourse. In the extreme, the uncertainty about what services that a PAC could expect in return for a contribution may be so great that the market could break down in classic lemons market fashion. Even if the market does not collapse completely, uncertainty about what PACs receive in return for contributions would reduce the PACs' willingness to pay for such services, hence the level of PAC

[5] We do not inquire how these interests became organized lobbying groups. For such an account, see Terry Moe (1981) and Dennis Mueller (1989).

[6] While here we assume that bribery is not a feasible contract, in the conclusion we consider the consequences of relaxing this assumption.

contributions, relative to a world in which the fee-for-service contract were feasible. In this one period equilibrium, the legislators would expend little effort in promoting special interests and more time on direct constituency service.

Since the legislators and organized interest groups cannot rely on the courts to enforce their contracts, they have an incentive to develop an alternative mechanism to avoid the breakdown of the PAC-legislator exchange market. If the PACs and legislators interact over multiple periods, a reputational equilibrium involving high contributions may be obtained.[7] Compliance in agreements between legislators and PACs would be achieved not through the courts but 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. In repeat-dealing situations, the legislators will have an incentive to reduce uncertainty about their policy positions by developing clear and consistent reputations on particular issues. Committee members thus may act as informed policy specialists who communicate with other legislators prior to collective choices and, in doing so, reduce uncertainty concerning policy outcomes as well (see Gilligan and Krehbiel 1989). PACs will have an incentive to reward legislators who have developed clear reputations with high contributions, sufficiently high so as to make it worthwhile for the legislators to develop reputations and reduce uncertainty.[8]

In addition, in the reputational equilibrium, an interest group will not have an incentive to abandon a legislator who has invested to develop a solid reputation of supporting that group's particular set of interests. First, the PAC contributions are compensating the legislator for the opportunity cost of his time in specialization. Without the contributions, the legislator would reallocate his time to direct constituency service or to work on another committee and thereby devote less or no time working in favor of that PAC's interest (see, e.g., Grier and Munger 1991). Second, the PAC does not want to lose its own reputation for reliability. If the PAC were to stop contributing to long-time supporters, then that PAC would lose credibility and, perhaps, all future opportunities to vie for the favor of legislators when the "fee-for-service" contract is not enforceable.

The high-effort, high-contribution repeated-play equilibrium described above does not necessarily exist. It will exist when the reputational rent (a) is sufficiently high that the legislator does not want to deviate from developing a reputation and providing high effort in support of special interests but (b) is not so high that PACs would not find it in their interest to pay the premium. Both the legislators and the special interests prefer this equilibrium to the one-period equilibrium in which the PAC-legislator exchange market breaks down. Unlike traditional models of repeat dealing, which take the characteristics of the market as exogenous,

[7] See Michael Darby and Edi Karni (1973), Lester Telser (1980), Benjamin Klein and Keith Leffler (1981), Carl Shapiro (1983), Franklin Allen (1984), Drew Fudenberg and Eric Maskin (1986), and Douglas Diamond (1989). Thomas Romer and James Snyder (1994, 768) argue: "Formal models of congressional committees have so far paid little attention to the dynamic aspects of representatives' careers. Theoretical work that incorporates time more explicitly would be useful in developing richer hypotheses about the links between interest groups and representatives."

[8] This model is analogous to reputation building in debt markets where lenders use past performance to learn about the reliability of borrowers (see Diamond 1989).

we argue that these are endogenous in the legislative market. Given the constraints on bribery, legislators have an incentive to organize the legislature to increase the likelihood that conditions of the high contribution equilibrium are satisfied. In the limit with the prospect for endless repeated interactions, a reputational equilibrium could achieve the same outcome as with fully enforceable contracts (see "Folk Theorem" literature, e.g., Fudenberg and Maskin 1986). A basic test of the plausibility of our approach is that it can explain important features of the modern committee system.

B. Explaining the Main Features of the Modern Committee Structure of Congress

The three distinctive features of the modern committee system of the U.S. Congress are that the committees are standing, not temporary; that legislators effectively have the right to retain their committee membership for as long as they are reelected; that the committees have specialized jurisdictions and legislators may join a limited number of committees.[9]

(i) *Standing Committees*: A standing committee system promotes repeated interactions and long-term relationships between the PACs and the members of the relevant committees. The legislators on the committee will undertake actions relevant to the interested groups much more frequently than if there were no specialization by committee (and than for legislators who are not committee members). This structure provides the legislators more opportunities to reduce uncertainty about where they stand by producing more observations of their actions for the PACs.[10] Similarly, the PACs can more easily develop their reputations for reliability by having frequent interactions with a subset of legislators. The committee system thus increases opportunities for repeated interaction and credible reputation-building relative to a situation without standing committees, so the high contribution reputational equilibrium thus is more likely to obtain.[11]

(ii) *Stability of Committee Assignments*: Arbitrary committee reassignments and high turnover of legislators would undermine the reputational equilibrium.[12] A significant feature of the modern committee system is that legislators effectively have the ability to stay on the same committee for as long as they are reelected (Shepsle 1978). In our framework, this privilege is valuable only to the extent that incumbent legislators have a high propensity to be reelected. This feature of the committee system is adopted at the beginning of this century, just after the average tenure of U.S. legislators began to rise rapidly in the late nineteenth century (Polsby 1968).

(iii) *Specialization of Committees*: Each committee and sub-committee has specialized jurisdiction over a particular set of issues so members of the Banking Committee, for example, exercise market power over the introduction of banking legislation.[13] In addition, legislators are limited in the number of committees on

[9] Nelson Polsby (1968), Joseph Cooper (1970), and Shepsle (1978) describe the institutionalization of Congress and the emergence of the modern committee system. Consistent with our approach, the modern structure emerged in the early twentieth century roughly simultaneously with an increase in average legislator tenure and more vigorous enforcement of anti-bribery measures during the Progressive era (see Kroszner and Thomas Stratmann 1997).

[10] Since the legislator is likely to be making some nonsalvageable position-specific investments (Klein and Leffler 1981) and legislative service involves a set of relationships and activities much more complex than simply an observable vote, it will not be feasible for a legislator to develop a reputation for reliably supporting whatever side gives him the most money at any particular time.

[11] More formally, the minimum contribution flow necessary to induce the legislator to provide high effort for the special interests increases with the rate of interest and, hence, with the length of the period. The longer it takes for the PAC to observe whether the legislator has shirked or not, ceteris paribus, the more incentive the legislator has to shirk. By shortening the length of the period through more frequent interactions,

which they may sit. The restrictions prevent legislators from opportunistically joining committees that are dealing with hotly contested issues and, thereby, competing with existing members for special interest contributions. The organization of the modern committee system of the Congress does appear to be consistent with the predictions of our positive theory.

C. Implications of the Theory for PAC Contributions Patterns

Congress has chosen to develop the committee structure, we argue, because it fosters repeated interaction, reputation building, and long-term relationships which benefit both sides and move them closer to the equilibrium in which fee-for-service contracts would be enforceable.[14] From this theory we can derive four sets of empirical predictions concerning contribution patterns of competing PACs to legislators. The first two are cross-sectional, predicting different contribution behavior to committee members and nonmembers. The third examines an implication for the dynamics of reputational development in the time-series pattern of contributions. The fourth explores the sensitivity of the contribution patterns to the probability of termination of the relationship.

First, the level of PAC contributions to members of the committee most relevant to the interest groups' concerns should be higher than to legislators who are not on the committee. The PACs are willing to spend more on committee members because there is less uncertainty about what they are purchasing on the committee, and the committee members must be compensated for the opportunity cost of their time being devoted to this specialized set of issues. That committee members receive greater contributions, however, also follows from various productivity and information theories in addition to our interest group theory. The next three implications about the cross-sectional and time-series patterns of contributions, we believe, are novel implications of our theory.

Second, the distribution of competing PACs' contributions should be systematically different among members of the relevant committee, who can develop reputations for reliability, and among the rest of the legislators, for whom there is much greater uncertainty about what the PACs are purchasing. Since the nonmembers do not have sufficient opportunity to establish a reputation, the legislative services that any particular nonmember can provide are of similar (low) expected value to the competing PACs. Rival PACs will then have roughly the same willingness to purchase such services, and we will observe that the PACs will simply match each others' contributions.[15] For committee members, however, the competing PACs value the reputations and will tend to purchase services primarily from legislators who support their positions. If the committee fulfills the conditions for the existence of the high contribution, high effort equilibrium, the competing PACs

committees make it more likely that there exists a contribution to sustain the high effort equilibrium that the PACs are willing to pay.

[12] That is, as the expected horizon of repeat plays diminishes so does the legislator's profit from maintaining a reputation relative to cheating, since there will be fewer future rents foregone.

[13] Crain and John Sullivan (forthcoming) examine the variation in the degree of jurisdictional monopolies across different committees. Shepsle and Weingast (1994) emphasize jurisdictional specialization as important for the enforcement of log-rolling agreements through repeat dealing in the collective choice of the legislators.

[14] Snyder (1990) argues that contributors try to develop long-term "investing" relationships with legislators. Stratmann (1991, 1995 and 1998) suggests that PACs use the timing of contributions to prevent reneging on "money-for-votes" exchanges by legislators.

[15] This implication is consistent with "counteractive lobbying" models of strategic information transmission between the PACs and the legislators (Austen-Smith and Wright 1992 and 1994): Lobbying by one group may be motivated solely by trying to offset the lobbying by an opposing group.

thus will tend to focus their contributions on different members of the committee but on the same nonmembers.

In making these comparisons, it will be important to hold constant the ideological or pro-business attitudes of the legislators in order to distinguish the reputation-building theory from alternatives. The financial services groups that have competing interests on the specific issues under the jurisdiction of the House Banking Committee, for example, may share many pro-business interests on issues addressed by the rest of the House. On the committee, the rival interests may outweigh the common interests, thereby leading PACs to contribute to different committee members. For matters not under the jurisdiction of the House Banking Committee, however, the common interests may outweigh any rivalry, thereby inducing a positive correlation of contributions to noncommittee members. Controlling for each legislator's ideology, thus, will be necessary to differentiate our theory from the shared pro-business interest theory.

Third, as the committee member develops his reputation through repeated actions, the sources of PAC contributions for that member should become more concentrated. After having developed a credible reputation for supporting one group, the legislator's service will be valued primarily by that PAC. The rival groups would find it too costly to try to get the legislator to change positions and will contribute relatively less to that legislator. The dynamic implication of our theory is that uncertainty about an individual committee member will decline with time so the PACs whose interests he tends to support will contribute relatively more to him and the competing PACs will contribute relatively less (see Diamond 1989). For noncommittee members, however, there should be no tendency for an increase in concentration of the sources of PAC giving over time since they do not have committee membership as a mechanism for reputational development.

Fourth, increases in the probability of termination of the relationship should lead to a break down of the high effort, high contribution equilibrium.[16] Specifically, as the horizon of repeated interactions shortens, the concentration of the sources of contributions should decline. In addition, members who leave one committee for another should experience a drop in the level and concentration of their contributions from the competing groups since they no longer have committee membership as a device to maintain their reputations. Finally, our theory also predicts which committee members should be most like to switch committee assignments, namely, those who have been unwilling or unable to develop clear reputations for their positions on issues relevant to the committee and so for whom membership on the particular committee is not valuable.

[16] In Diamond's (1989) model, as the end of the game approaches, the value of the reputation—which is measured by the present discounted value of future access to low interest loans ("contributions")—begins to decline. Reputation thus will be less effective at resolving the conflict between the borrower and lender ("the legislator and the PAC") in the final periods. Robert Gibbons and Kevin Murphy (1992) develop this dynamic reputation model to analyze the break down of "career concerns" as a manager nears retirement.

II. Competing Interests and Congressional Debates on Financial Services Legislation

As noted in the introduction, financial services interests are among the largest contributors on Capitol Hill. The industry, however, very rarely speaks with one voice. The different financial services sectors have been competing in the political marketplace for more limitations on their rivals' activities and fewer restrictions on their own activities in order to enhance their relative competitive position in the financial marketplace. Given the nature of the debate and that the opposing interests are well organized, it is straightforward to identify the winners and losers in the legislative struggles. We now provide a very brief sketch outlining the relevant congressional debates and lobbying efforts by commercial banks to increase their powers in investment banking and insurance (see *Congress and the Nation* 1985, 1989, 1993).

The 1933 Glass-Steagall Act defines the main battle lines between commercial banks and investment banks (see Kroszner 1996 and Kroszner and Raghuram Rajan 1994 and 1997). Passed in the first one hundred days of the Roosevelt administration, the Glass-Steagall Act forced the commercial banks to leave the investment banking business, particularly the underwriting of corporate securities. The commercial banks have been trying to reenter the business ever since by arguing for Glass-Steagall repeal, and the investment banks have been lobbying to retain the barriers.

The dispute between commercial banks and insurance companies concerning the banks' insurance powers has an even longer history. The National Banking Act of 1864 and subsequent related legislation appeared to limit strictly bank involvement in insurance but the extent of the restriction is ambiguous. The interpretation of these laws has been the source of longstanding litigation between the insurance and banking sectors. Due to the uncertainty of whether they would prevail in the courts, the insurance industry has lobbied against legislation that would repeal Glass-Steagall unless the new law would resolve the uncertainty by explicitly restricting banks' insurance powers.[17] The banks generally have been unwilling to support legislation that would increase their securities powers only at the expense of insurance powers.

Since the early 1980s, a succession of bills have been introduced to expand commercial bank powers. The two most important and sustained initiatives were in 1987–88, when the influential chairman of the Senate Banking Committee William Proxmire put Glass-Steagall repeal on the top of the agenda, and in 1991, when the Bush administration blueprint for banking reform dominated much of the entire congressional agenda. Strenuous opposition from securities and insurance lobbies have helped to doom each of the broad reform bills (e.g., *Congress and the Nation*,

[17] Insurance companies and their agents also traditionally had opposed the removal of barriers to interstate banking because they were concerned that, if the courts do grant banks broad insurance powers, a nation-wide branch network might give banks a competitive advantage in insurance distribution. On the political economy of bank branching powers, see Kroszner (1997) and Kroszner and Philip Strahan (1999).

Table 1: Financial Services PAC Contributions to the Members of the U.S. House of Representatives and for Sub-Samples of the Members of the House Banking Committee and the Nonmembers between 1983–1992

	Mean per Legislator	Standard Deviation	Minimum	Maximum	Total Value of Contributions
A. Full House					
Commercial Banks	8,877	12,978	0	120,484	14,832,671
Securities Firms and Investment Banks	2,842	5,771	0	4,019	4,749,437
Insurance Companies	8,814	11,477	0	88,698	14,728,611
B. Banking Committee Members					
Commercial Banks	32,935	24,257	0	120,484	5,631,834
Securities Firms and Investment Banks	6,890	10,738	0	84,019	1,178,237
Insurance Companies	13,480	11,697	0	55,843	2,305,164
C. Nonmembers of Banking Committee					
Commercial Banks	6,134	6,881	0	58,261	9,200,837
Securities Firms and Investment Banks	2,381	4,687	0	41,135	3,571,200
Insurance Companies	8,282	11,335	0	88,698	12,423,447

Notes: All figures are in real 1992 dollars. N = *1,671, with 171 observations of committee members and 1,500 observations of nonmembers.*

1989, 109–120).[18] In 1995, even though the chairmen of both the House and Senate Banking Committees, the President, the Chairmen of the Federal Reserve Board, and the Comptroller of the Currency supported expanded bank powers, a broad banking reform bill was again killed by interest group wrangling.[19] As Representative Bill McCollum summarized: "We [the members of the Banking Committee] need to see industry groups lined up in some kind of accommodation before we can go anywhere [on financial deregulation]...If there's no agreement [among the interest groups] then there may be no proposal..." (*New York Times*, 4 May 1995, C6).

III. Data, Methods, and Results

To investigate the strategies used by competing PACs, we will examine the relationship among the contributions by the PACs to members of the House of Representatives during the five election cycles from 1983–84 to 1991–92. All of our contribution data is expressed in real 1992 dollars. We examine the first implication of our theory by comparing the levels of contributions for House Banking Committee members and for the nonmembers. We then investigate the unconditional and conditional correlation of the contributions by the rival PACs. Using a

[18] Following the expiration in 1989 of a congressionally mandated moratorium on the granting of new bank powers (passed in the wake of the failure of the Proxmire initiative), the Federal Reserve has permitted a handful of large bank holding companies to engage in limited amounts of corporate securities activities on a case by case basis (Kroszner 1996 and Kroszner and Rajan 1997).

[19] An article on "Why G.O.P. Falters on Pro-Business Laws" reported: "it was Wall Street securities firms and insurance companies that helped kill a bill to repeal the Glass-Steagall Act and allow banks to enter their markets." (*New York Times*, 23 December 1995, 19).

two-stage least square technique, we investigate the second implication of how contributions by one of the groups affects the contributions of rival groups, after controlling for other factors, such as constituency and legislator characteristics. We study the third implication of the theory by examining concentration of the sources of contributions over time. Fourth, we show how the probability of termination of the relationship affects concentration and contributions patterns and how legislators who do not or cannot develop reputations are more likely to terminate the relationship by switching committee assignments.

A. Contribution Levels and Characteristics of the Constituency and Legislator

1. *Contributions*

PACs are required to report their contribution activities to the Federal Election Commission (FEC). For each two-year House election cycle, the FEC produces a file which identifies the contributing PAC, the recipient, the dollar amount, and the date of each contribution. We classify PACs by financial services industry using the PAC industrial directory in Edward Roeder (1983) and Makinson (1992) and construct three groups: commercial banks, securities and investment banking firms, and insurance companies.[20]

Table 1 presents descriptive statistics for contributions by the three financial services PAC groups over the five election cycles 1983–84 to 1991–92. The commercial banking PACs are the largest contributors, giving almost $15 million during the period, and insurance PACs contributions are a close second (see Panel A). Total securities and investment bank PAC contributions are smaller (almost $5 million).[21]

Consistent with first implication of our theory, the financial services PAC contributions go disproportionately to members of the House Banking Committee (see Panels B and C of Table 1).[22] The differences between the mean amounts given to committee members versus nonmembers for all three groups are statistically significant at the one percent confidence level.[23] On average, Banking Committee members receive more than five times more from the commercial banks and three times more from the investment banks than do legislators who are not on the Banking Committee. The largest individual recipients of PAC contributions from these groups sit on the Banking Committee. Insurance interests, however, are not as focused on the Banking Committee. Insurance PACs give an average of 80 percent more to members of the Banking Committee than to nonmembers, and the legislator to whom they give the most is not a member of the Banking Committee. Insurance interests also are very concerned with tax issues and focus much of their giving on the House Ways and Means Committee (Makinson 1992).[24]

[20] Although an individual PAC may give no more than $10,000 to any one candidate during a single two-year election cycle, there are many PACs organized by trade groups and individual firms within a sector. In our sample, we have 133 banking PACs, 27 securities PACs, and 68 insurance PACs.

[21] Gordon Tullock (1989) tackles the vexing question of whether the overall level of special interest contributions is large or small relative to their expected benefits.

[22] Christine Loucks (1996) has found similar results for the Senate.

[23] The members of the House Banking Committee who received no contributions from the financial services PACs also received no contributions from other PACs.

Table 2: Mean and Standard Deviation for the Financial Services Constituencies and the Characteristics for Members and Nonmembers of the House Banking Committee between 1983–1992

	Mean (Std. Dev.) for Members of House Banking Committee	Mean (Std. Dev.) for Nonmembers of House Banking Committee
A. Financial Services Constituencies		
Percent of Total District Employment Commercial Banking	1.26 (0.87)	1.33 (1.58)
Percent of Total District Employment in Securities Firms and Investment Banks	0.24 (0.29)	0.46 (2.01)
Percent of Total District Employment in Insurance	1.98 (1.24)	2.07 (1.83)
B. Representatives' Characteristics		
Membership on House Banking Committee	1	0
Seniority, measured as number of electoral cycles in the House	3.49 (2.71)	5.01 (3.86)
Percent of the Vote in the Previous Election	71.30 (14.53)	72.94 (14.12)
Party Affiliation (Republican = 1)	0.42 (0.49)	0.38 (0.49)
Americans for Democratic Action Index Rating (Liberal = 100)	48.92 (35.84)	49.54 (34.26)

Notes: N = *1,671, with 171 observations of committee members and 1,500 observations of nonmembers.*

2. *Constituency Characteristics*

PACs may take into account the natural voting constituency of each member's district when deciding how to allocate their contributions. A legislator from Hartford, CT, where insurance firms are concentrated, for example, may tend to vote in favor of insurance interests over banking interests (see Sam Peltzman 1984). The constituency thus may affect the "supply price" of a vote or bureaucratic effort by a particular legislator (e.g., Denzau and Munger 1986; Stratmann 1992 and 1996).

In order to control for this factor, we measure each legislator's constituency interest as the share of total employment in the district which is in each of the three types of financial services firms. Employment data at the three-digit SIC industry level is available by county from the Bureau of the Census, County Business Patterns. We use data from the 1990 survey.[25] The county data is then mapped into congressional districts to obtain district-level employment in the three types of

[24] The lower emphasis on the Banking Committee may indicate that the insurance interests may be less engaged in the banking powers debate than are the commercial banks and the investment banks.

[25] The government promises that the individual firm data will be kept confidential. In order to do so, if there is effectively only one employer in an industry in a particular county, then the government reports zero employment for that industry.

firms. Although this variable is not a perfect proxy for the voting constituency (since people may commute across district lines), it is likely to be correlated with the economic interests of the legislator's voting constituency.

Panel A of Table 2 compares the means and standard deviations for the constituency variables for the sub-samples of Banking Committee members and nonmembers. On average, employment in financial services does not constitute a large part of legislator's constituencies; however, the size of the standard deviations indicates a large amount of variation across districts. The importance of financial services employment in the district is similar on average for members of the Banking Committee and nonmembers, and none of these differences are statistically significant at the ten percent level.[26]

3. *Legislator Characteristics*[27]

We include a variety of factors associated with the legislator that may influence the pattern of giving by the PACs (Poole, Romer, and Rosenthal 1987). First, and most importantly, we distinguish between legislators who are members of the House Banking Committee and those who are not members. Second, we control for the seniority of the legislator, since the competing interests may treat newer legislators—who might be up for grabs—differently than their more senior counterparts. Our seniority measure is simply the number of election cycles during which each legislator has been a member of the House Banking Committee.[28]

Third, we include the percent of the vote won by the legislator in the previous election as 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 hand, 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.[29]

Fourth, we distinguish between contributions to Republicans and Democrats since members of the majority party in the House (the Democrats during our sample period) may receive a different level of contributions. The party variable equals one if the legislator is a Republican and zero if a Democrat. Finally, to adjust for ideological differences among legislators, we include 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 cycle. As noted above, to the extent that the rival groups may share a broad range of business interests unrelated to banking, we must control for the pro-business attitudes of legislators to identify effects of reputation-building.

Table 2, Panel B, provides descriptive statistics on the characteristics of the legislators. As with the constituency variables, there do not appear to be

[26] Thus, we do not find evidence that legislators with large financial services constituencies select to be on the House Banking Committee (see Shepsle 1978).

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

[28] With very few exceptions, the seniority for the Banking Committee members is the same as their seniority in the House.

[29] Henry Gonzalez (D-TX), chairman of the House Banking Committee during the latter part of our sample, for example, ran unopposed and received virtually no PAC contributions. He is known as a quixotic, "shoot from the hip" populist. Since he does not need campaign contributions in order to achieve his reelection goal, by our theory, he would receive few benefits from developing a consistent reputation as supporting one of the financial services interests.

Table 3: Correlation of Competing Financial Services PAC Contributions and Constituency Characteristics for Each Representative's District between 1983–1992

	Securities Firms' PAC Contributions	Insurance Companies' PAC Contributions
House Banking Committee Members		
Banking PAC Contributions	-0.009 (0.90)	-0.042 (0.59)
Securities PAC Contributions	1.000 (0.0)	**0.549** (<0.01)
Insurance PAC Contributions	—	1.000 (0.0)
Nonmembers of House Banking Committee		
Banking PAC Contributions	**0.547** (<0.01)	**0.505** (<0.01)
Securities PAC Contributions	1.000 (0.0)	**0.632** (<0.01)
Insurance PAC Contributions	—	1.000 (0.0)

Notes: Below each Pearson correlation coefficient in parentheses is the p*-value. Coefficients with* p*-values less than ten percent are in bold.* N= *1,671, with 171 observations of committee members and 1,500 observations of nonmembers.*

important differences in these characteristics between the members of the House Banking Committee and the nonmembers, and the differences are not statistically significant.[30]

A. Contribution Levels and Characteristics of the Constituency and Legislator

1. *Contributions*

Before describing the regression analysis, we compare the unconditional correlations of rival PAC contributions across members and nonmembers of the House Banking Committee in Table 3. As our positive theory would suggest, the rival PACs appear to follow different strategies for members and nonmembers of the House Banking Committee. For legislators not on the Banking Committee, contributions by the financial services PACs are highly correlated, in terms of both magnitude and statistical significance. For Banking Committee members, however, rival interests do not match each others' contributions. The commercial bank PAC contributions are negatively, but not statistically significantly, correlated with contributions by securities and insurance PACs. The correlation of contributions by

[30] Only the difference in seniority is marginally statistically significant. At least along the dimensions in Table 2, the members of the House Banking Committee do not appear to be "outliers" (see Krehbiel 1991).

securities and insurance PACs, which have interests generally allied against the banks, is statistically significant and of similar magnitude to the correlation of their giving to the nonmembers.

The simple correlation patterns are suggestive but a more sophisticated technique must be employed to determine how the contribution strategy of one PAC affects the strategy of the others. The simple correlations do not control for the characteristics, described above, that might affect the level of contributions to a legislator. To address this issue, we calculate conditional correlations among the contribution variables. For each of the three PAC groups, we regress contributions to legislators on a vector of constituency and legislator characteristics and examine the correlation of the residuals across the equations.

Specifically, we use the Seemingly Unrelated Regression (SUR) model to estimate the three equation system and then use the Breusch-Pagan Lagrange Multiplier test for the independence of the equations (Arnold Zellner 1962, Trevor Breusch and Adrian Pagan 1980, and William Greene 1997). In each of the three equations, the dependent variable is the real dollar value of contributions by one of the three rival PACs to each legislator i in each of the t electoral cycles ($PAC\$_{it}$). The independent variables ($\mathbf{X}_{it}$) in each equation are legislative and constituency characteristics described above: seniority, percent of vote in the previous election, party affiliation, ADA rating, and percent of total district employment in banking, securities, and insurance. We also include a vector of time indicators ($\mathbf{T}_t$) to control for differences between electoral cycles. We run separate SUR models for the House Banking Committee members and for the nonmembers.[31]

The pattern of conditional correlations is very similar to that of the simple correlations. For the sample of House Banking Committee members, the residuals from the bank contribution equation have a -0.06 correlation with the residuals from the securities contribution equation and a -0.16 correlation with the residuals from the insurance contribution equation. The Breusch-Pagan test rejects independence of these equations (chi^2 [3] =53.06; p-value < 0.001). For the legislators who are not committee members, the residuals from the bank contribution equation have a 0.55 correlation with the residuals from the securities contribution equation and a 0.49 correlation with the residuals from the insurance contribution equation. Again, the Breusch-Pagan test rejects independence of these equations (chi^2 [3] =1,444; p-value < 0.001). Each PAC group's contribution patterns thus are affected by the rival groups' contribution choices in the ways suggested by our theory.

2. *Two-Stage Least Squares Estimates*

While the correlation results are consistent with the predictions of our theory, we would like a more efficient and direct method to measure the contrasting PAC

[31] Although we are using the same set of regressors in each equation, the SUR model is a convenient way to test for cross-equation correlations. We also tried varying the regressors across the equations by including employment only in the same industry as the dependent variable PAC, that is, only banking employment when bank PAC contributions is the dependent variable, and the results are almost identical.

responses to rival contributions for committee members and nonmembers. An Ordinary Least Squares (OLS) regression with, for example, bank PAC contributions to each legislator as the dependent variable and securities contributions and the controls as independent variables would involve simultaneous equations bias because the factors that predict the amount of bank PAC contributions also predict the amount of securities PAC contributions. Instead, we use a two-stage estimation technique to account for the simultaneity (see Greene 1997). In the first stage, we estimate the contributions to the legislators from each PAC based on the predetermined variables, that is, the characteristics of the legislator and of the constituency, and instruments for contributions from the rival PACs. The instruments are the financial services PACs contributions to each legislator from the previous election cycle.[32] We then use the predicted or "fitted" value of contributions from the first stage as an independent variable along with the control variables to estimate the second stage equation predicting how one PAC group's contribution to a legislator responds to the rival group's giving to that legislator. We adjust the standard errors accordingly (see George Judge et al. 1985, 595ff). Since we have 1,671 legislator-cycle observations over the five election cycles from 1983–84 to 1991–92 in the pooled time-series cross section, we include time indicators for each election cycle to control for differences across cycles. For simplicity, we will report the results of only the second-stage estimation.[33]

Rather than estimate separate equations for House Banking Committee members and for nonmembers, we include both in a single regression and interact the Banking Committee membership indicator with the (fitted) PAC contributions and each of the control variables. When the interaction is included, the coefficient estimate for the (fitted) contribution variable is thus the marginal effect that securities PAC contributions, for example, have on banking PAC contributions for legislators who are not members of the Banking Committee. The marginal impact for members of the Banking Committee is the sum of the coefficient on the (fitted) contribution variable and on the interaction term. The equations estimated in Table 4 thus are of the form:

$$(1) \qquad PAC\$_{it} = \alpha + \beta\, \widehat{RivalPAC\$}_{it} + \delta\, (\widehat{RivalPAC\$}_{it} \times HBC_{it}) + \gamma\, \mathbf{X}_{it} + \lambda\, (\mathbf{X}_{it} \times HBC_{it}) + \eta\, \mathbf{T}_{t} + \varepsilon_{it},$$

where for the ith legislator in election cycle t, $PAC\$_{it}$ are PAC contributions by one of the three financial services groups, $\widehat{RivalPAC\$}_{it}$ are the fitted values of rival PAC contributions, HBC_{it} is one if the legislator is a member of the House Banking

[32] Our regressions thus will have fewer than 435 observations for each election cycle because the instruments are available only for incumbents and we examine incumbents running for reelection. Our regression results do not change if we include incumbents who do not run.

[33] Since some legislators receive zero contributions from one of the PAC groups, as a robustness check, we estimated the equations using Tobit, rather than OLS, and the results are not affected.

Committee and zero otherwise, $\mathbf{X}_{it}$ is a vector of control variables, and $\mathbf{T}_t$ is a vector of time indicators for each election cycle. The appendix contains the sample statistics for the variables used in the regressions.

In column (i) of Table 4, for example, we estimate how banking PAC contributions respond to the actions of the securities PACs. For each dollar of securities PAC contributions given to a nonmember of the House Banking Committee, banking PACs match with a contribution of $0.80 to that legislator, and the coefficient is statistically significant. The interaction term between Banking Committee membership and securities PAC contributions, however, is negative and statistically significant. The sum of the (fitted) securities contribution variable and the interaction term is a statistically significantly -$0.15. For committee members, banking PACs thus do not match contributions given by securities PACs and go even further to give less on the margin to members who receive more from the rival PAC.

Columns (ii) and (iii) present a similar pattern of responses by banking PACs to insurance contributions and to both securities and insurance contributions considered simultaneously: The coefficients on interaction variables are of opposite signs and the same or greater absolute magnitudes as the coefficients on the (fitted) rival contribution variables.[34] Again, these coefficients are statistically significant. Banking PACs match the contributions of their rivals to nonmembers but do not do so for committee members.

In columns (iv) and (v), the securities contributions are the dependent variables, and the insurance contributions are the dependent variables in columns (vi) and (vii). These specifications measure how the securities PACs and insurance PACs respond to the actions of the banking PACs. In each of these specifications, the coefficients on banking PAC contributions are positive and statistically significant. In contrast, the coefficients on the interaction terms are negative, statistically significant, and of the same or greater absolute value as the banking PAC contribution coefficients.

Both securities PACs and insurance PACs match the contributions of the rival banking PACs to noncommittee members but do not match banking PAC contributions to the committee members. The contribution patterns for each of the rival PACs revealed in Table 4 thus are those implied by our positive theory.[35]

A potential concern about interpreting our two-stage procedure is that, if the same factors are driving both current and lagged contributions, our first-stage lagged-contribution instruments may be positively correlated with the disturbance term in the second stage. Common omitted factors, for example, may cause both lagged contributions from securities PACs and current contributions from banking PACs to a legislator to move in the same direction. Since the coefficient on interaction term between rival contributions and House Banking Committee membership

[34] Our results are unchanged when we examine the two key subcommittees of the House Committee on Banking, Finance, and Urban Affairs which focus on financial regulation issues: 1) Subcommittee on Financial Institutions Supervision, Regulation, and Insurance and 2) the Subcommittee on Housing and Community Development. Since virtually all of the full committee members also are members of these subcommittees, it is difficult to distinguish committee from subcommittee effects. Our results also did not change when we included indicator variables for membership on the Energy and Commerce Committee, which has disputed the Banking Committee's sole jurisdiction over expanding bank powers into securities.

[35] Note that each of the regressions controls for the ideology of each legislator. Table 4 shows that banking PACs contribute less to legislators with high ADA ratings (liberals), but securities PACs give more to legislators with liberal views. Since the banks generally want to remove regulatory barriers, it is natural that the banks on the margin would give more conservative, free marketers and the securities firms would give more to liberal, interventionists. The matching behavior for the noncommittee members, thus, does not appear to be due to the rival groups giving to generally pro-business legislators.

Table 4: Two Stage Least Squares Panel Estimation Relating Financial Services PAC Contributions to the Contributions of Competing PACS, Representative Characteristics, and Constituency Characteristics for the U.S. House of Representatives, Pooling Five Election Cycles, 1983–84 to 1991–92

	Dependent Variable (in Contributions)						
	Banking PAC	Banking PAC	Banking PAC	Securities PAC	Securities PAC	Insurance PAC	Insurance PAC
	(i)	(ii)	(iii)	(iv)	(v)	(vi)	(vii)
Banking PAC Contributions (Fitted value from first stage)	—	—	—	0.38 (20.69)	0.21 (11.46)	0.80 (20.14)	0.33 (8.27)
Banking Contributions × Banking Committee Membership	—	—	—	-0.39 (-14.97)	-0.21 (-8.65)	-0.84 (-15.38)	-0.38 (-7.28)
Securities PAC Contributions (Fitted value from first stage)	0.80 (15.85)	—	0.61 (9.41)	—	—	—	1.31 (22.29)
Securities Contributions × Banking Committee Membership	0.95 (10.76)	—	-0.61 (-5.56)	—	—	—	-0.64 (-6.77)
Insurance PAC Contributions (Fitted value from first stage)	—	0.30 (13.46)	0.13 (4.95)	—	0.21 (18.93)	—	—
Insurance Contributions × Banking Committee Membership	—	-0.46 (-6.95)	-0.26 (-3.42)	—	0.25 (8.43)	—	—
Banking Committee Membership (1 if on the committee)	46,211 (9.59)	62,085 (12.43)	46,976 (9.69)	2,030 (0.73)	-1,133 (-0.47)	10,258 (1.70)	5,706 (1.10)
Seniority, measured as number of electoral cycles in House	-96.50 (-1.69)	-32.99 (-0.55)	-84.68 (-1.50)	107.78 (3.51)	96.43 (3.66)	39.24 (0.59)	-93.41 (-1.63)
Seniority × Banking Committee Membership	2,750 (9.51)	2,186 (7.91)	2,573 (8.92)	1,897 (13.29)	1,294 (10.07)	1,368 (4.54)	190.74 (0.63)
Percent of the Vote in the Previous Election	-17.32 (-1.10)	-6.37 (-0.38)	-13.68 (-0.88)	9.62 (1.13)	12.71 (1.74)	-12.63 (-0.69)	-27.02 (-1.71)
Percent of Vote × Banking Committee Membership	-154.44 (-3.20)	-217.25 (-4.26)	-166.93 (-3.49)	-37.00 (-1.41)	-13.94 (-0.62)	-47.60 (-0.84)	-17.80 (-0.36)
Party Affiliation (1 if Republican)	-1,920 (-2.60)	-1,861 (-2.37)	-1,909 (-2.60)	715.62 (1.79)	426.92 (1.23)	971.01 (1.11)	132.19 (0.18)
Party Affiliation × Banking Committee Membership	-16,434 (-6.41)	-20,586 (-7.67)	-15,913 (-6.25)	1,940 (1.36)	-224.06 (-0.18)	3,412 (1.11)	2,521 (0.95)
Americans for Democratic Action Index (Liberal = 100)	-49.09 (-4.67)	-33.04 (-2.97)	-44.11 (-4.20)	26.33 (4.61)	24.27 (4.92)	5.44 (0.44)	-28.34 (-2.64)
Amer. for Democratic Action Index × Banking Committee Membership	-267.71 (-7.36)	-386.13 (-10.51)	-271.62 (-7.49)	69.98 (3.46)	52.74 (3.02)	12.87 (0.29)	-14.00 (-0.37)
Percent of Total District Employment in Commercial Banking	38.37 (0.10)	506.91 (2.35)	206.62 (0.46)	-125.64 (-0.63)	139.29 (0.66)	-1,063 (-4.46)	-2,085 (-4.63)

Table 4 Continued

	Dependent Variable (in Contributions)						
	Banking PAC	Banking PAC	Banking PAC	Securities PAC	Securities PAC	Insurance PAC	Insurance PAC
	(i)	(ii)	(iii)	(iv)	(v)	(vi)	(vii)
Percent Commercial Banking Employment × Banking Committee Membership	9,622 (9.93)	4,634 (4.94)	8,854 (8.66)	-1,799 (-3.27)	-870.00 (-1.73)	-1,065 (-1.01)	1,462 (1.35)
Percent of Total District Employment in Securities	8.14 (0.03)	—	-36.78 (-0.12)	406.98 (2.59)	253.32 (1.80)	—	518.29 (1.70)
Percent Securities Employment × Banking Committee Membership	-31,005 (-11.37)	—	-33,479 (-11.60)	-2,534 (-1.60)	671.23 (0.46)	—	-2,550 (-0.81)
Percent of Total District Employment in Insurance	—	-221.72 (-1.16)	-98.30 (-0.53)	—	-132.32 (-1.51)	1,437 (6.92)	1,349 (7.27)
Percent Insurance Employment × Banking Committee Membership	—	-635.41 (-0.97)	1,847 (2.79)	—	-1,026 (-3.33)	-442.79 (-0.62)	288.13 (0.43)
Adjusted R^2	0.58	0.54	0.59	0.38	0.55	0.26	0.4

Notes: Time indicators for each electoral cycle and an intercept are included in all specifications but their coefficient estimates are not reported. t*-statistics are in parentheses.* N = *1,671. All dollar amounts in 1992 dollars.*

is negative in Table 4, however, a positive correlation of our instruments with the disturbance term is unlikely to be driving our results.[36]

C. The Evolution of PAC Contribution Concentration and Reputation

A time-series implication of our theory is that the sources of a committee member's PAC contributions should become more concentrated as the committee member develops his reputation. Since we argue that reputation is developed through repeated interactions on the committee over time, our proxy for the extent of a legislator's reputation is the length of time that the legislator has been a member of the relevant committee. In particular, our measure will be the number of election cycles that a legislator has been a member of the House Banking Committee, and we call this measure seniority.[37]

Our measure of the concentration of PAC funds received by a legislator are based on the Herfindahl-Hirschman Index (HHI), which is a standard concentration measure in the industrial organization and antitrust literature. Consider the money given to each legislator as his "contributions market" and percentage of total contributions in this market as the "market share" of each interest group. The HHI is calculated as the sum of the squared market shares for each interest group that is in the contributions market for each legislator.[38] We use two measures that

[36] In addition, we investigated the robustness of our estimates in Table 4 by using an alternative instrument, namely, the rank of the levels of contributions (see Roger Koenker and Gilbert Bassett 1978 and William Evans and Ioannis Kessides 1993) and found similar results.

[37] Since the total number of election cycles in the House and the number on the committee are identical for most of our sample, we cannot distinguish between general seniority in the House and seniority specific to the committee.

[38] The market share figures are treated as whole numbers, not fractions. The Herfindahl-Hirschman Index thus ranges from zero, when there are an infinite number of PAC contributors, to 10,000, when a legislator receives all contributions from a single PAC group.

define the contributions market narrowly and broadly. The financial services PACs HHI considers the contributions market to include the three groups of financial services PACs we have been working with above, namely, commercial banks, securities firms/investment banks, and insurance. The all-PACs HHI considers all PAC contributions, including those outside of financial services, as the relevant contributions market.[39]

We investigate the relationship between contribution concentration and seniority for each legislator who was a member of the House Banking Committee from the 1983–84 to 1991–92 election cycles. We pool the cross-sectional data for each cycle over time to create a panel with 207 member-cycle observations. Since some members, for example, may have high levels of PAC-source concentration from the start, whereas others may always have relatively low concentration levels, we estimate a fixed-effects regression of the concentration measures on seniority. We have chosen a log-linear specification because the effect of seniority on PAC-source concentration should diminish with seniority, that is, the function may be concave.[40] We also include time indicators ($\mathbf{T}_t$) to control for differences between election cycles. For each observation of legislator i in election cycle t, we estimate an equation of the form:

$$(2) \qquad HHI_{it} = \alpha_i + \beta \log (Seniority)_{it} + \eta \mathbf{T}_t + \varepsilon_{it}.$$

Our regressions with fixed legislator and time effects, reported in columns (i) and (iii) of Table 5, reveal a positive and statistically significant effect of a committee member's seniority on the concentration of his PAC contribution sources.[41] We also inquired whether seniority was related to the concentration of contributions for nonmembers of the House Banking Committee. Our theory would predict no such relationship because, without the repeat dealings that committee members can engage in, the nonmembers cannot credibly develop reputations on these issues. Consistent with the theory, the coefficient on the seniority variable for nonmembers is small in absolute value and not statistically significant. These results thus are consistent with the theory's prediction that the concentration of a committee member's PAC sources will increase with the certainty of the member's reputation.

D. Probability of Termination and Legislators who Leave the House Banking Committee

Another factor that our theory predicts would affect the existence of the reputational equilibrium is the probability of termination of the legislator-PAC relationship. The age of the legislator provides a rough proxy for the likelihood that the relationship will end, since the probability of retirement or death increases with age. Holding seniority constant, we thus should expect that older legislators'

[39] The calculation of the all-PACs HHI assumes that nonfinancial services PACs have small market shares, so the average concentration level is lower when the market definition is broader than narrower.

[40] A plot of the (unconditional) means of the PAC-source concentration measures for each level of seniority has this shape.

[41] The increase in the concentration comes about through increasing relative contributions from one of the rival groups, not through one group contributing a large proportion one year and a competing group giving a large proportion the next.

Table 5: OLS Panel Estimation Relating the Concentration of Financial Services PAC Contributions (HHI)[a] for Members of the House Banking Committee to the Log of Their Seniority, Age and Other Characteristics, for the Five Electoral Cycles 1983–84 to 1991–92

	Dependent Variable			
	HHI of Financial Services PAC Contributions to Each Member considering only Financial Services PAC Contributions (Mean = 5,448)		HHI of PAC Contributions to Each Member considering All PAC Contributions (Mean = 340.62)	
	(i)	(ii)	(iii)	(iv)
Log of Seniority, measured as number of election cycles on Banking Committee	724.61 (2.14)	383.16 (2.62)	145.25 (2.13)	164.71 (5.79)
Percent of the Vote in the Previous Election	—	-7.89 (-1.20)	—	0.44 (0.35)
Americans for Democratic Action Index (Liberal = 100)	—	-19.97 (-4.13)	—	-3.99 (-4.26)
Age of the Legislator	—	-33.34 (-2.79)	—	-5.97 (-2.58)
Party Affiliation (1 if Republican)	—	-1,509 (-4.43)	—	-182.69 (-2.77)
Percent of Total District Employment in Banking	—	547.53 (4.45)	—	64.99 (2.73)
Percent of Total District Employment in Securities	—	-1,703 (-4.45)	—	-324.26 (-4.37)
Percent of Total District Employment in Insurance	—	84.55 (0.98)	—	4.31 (0.26)
Includes Legislator Fixed Effects?	Yes	No	Yes	No
R^2	0.83	0.30	0.83	0.34

Notes: All regressions include time indicators for each electoral cycle, but their coefficient estimates are not reported. N = *207 member-years.* t-*statistics are in parentheses.*

[a] *HHI is the Herfindahl-Hirschman Index of contribution source concentration as defined in the text.*

PAC sources should be less concentrated than those of younger legislators. Due to collinearity when age is included with fixed legislator and time effects, we must drop the fixed effects when estimating the impact of age on PAC-source concentration. Columns (ii) and (iv) of Table 5 instead include a series of control variables and the time effects. Consistent with our theory, older legislators have a statistically significantly lower HHIs, holding seniority constant, and seniority continues to have a positive and statistically significant effect on the HHIs, holding age constant.

A further implication of our theory is that we should observe evidence of a breakdown of the PAC-legislator relationship for legislators who leave the House

Banking Committee. Consider first legislators who do not stand for reelection. PAC contributions almost completely stop upon announcement of retirement.[42] Although these legislators would not use contributions for a reelection campaign, until 1990, retiring legislators effectively could keep any unused money that they had accumulated in their campaign funds. The cessation of contributions upon the announcement of retirement is consistent with the collapse of the reputational equilibrium.

Consider next the legislators who stay in the House but switch committee membership. In a study of a number of House committees, Romer and Snyder (1994) found that legislators who switch committees initially tend to lose more in total PAC contributions than they gain. Between 1983–84 and 1991–92, a total of 30 legislators switch from membership on the House Banking Committee to other committees. Consistent with our theory, we find that not only do contributions from financial services PACs to these legislators fall but also that their PAC-source concentrations drop from their last election cycle on the Banking Committee to the election cycle immediately after the switch.[43]

In addition, our theory predicts that Banking Committee members who are unable or unwilling to develop clear reputations on financial services issues are the ones who are most likely to switch committee assignments. Table 6 contains a probit regression with the dependent variable equal to one if the member switches off of the Banking Committee and zero if the legislator does not switch during our sample period of 1983–84 to 1991–92. Our proxies for the legislator's success in reputational development are the PAC-source concentration measures. Since a legislator's PAC-source concentration and his probability of switching may be simultaneously determined, we use the fitted value of the HHIs from fixed-effects regressions in columns (i) and (iii) of Table 5, $(\widehat{HHI})_{it}$. We also include the log of seniority, a vector of other control variables, $\mathbf{X}_{it}$, and a vector of time indicators for each election cycle, $\mathbf{T}_i$, so we estimate an equation of the form:

$$(3) \qquad SWITCH_{it} = \alpha + \beta\,(\widehat{HHI})_{it} + \delta \log (Seniority)_{it} + \gamma\, \mathbf{X}_{it} + \eta \mathbf{T}_i + \varepsilon_{it}.$$

Columns (i) and (iii) of Table 6 include only the (fitted) HHIs and the time indicators, and columns (ii) and (iv) also include seniority and the control variables. The results show that members of the House Banking Committee who have relatively low financial services PAC-source concentrations are more likely to switch to another committee than members who have higher concentrations. Seniority also is inversely related to the probability of committee switching—that is, legislators

[42] The 20 House Banking Committee members who did not stand for reelection between 1983–84 and 1991–92, for example, saw their average levels of financial services PAC contributions drop by more than half—from $35,054 to $16,363—between the election cycle prior to their last and their last election cycle in the House, and the *t*-statistic on the difference of means is 2.09. Legislators typically do not announce their retirement until primary season (in the spring of the second year of their term).

[43] For the 30 switchers, the average all-PACs HHI falls from 264.51 to 131.00 and the difference is statistically significant at the one percent level. The financial services PACs HHI declines from 5,179 to 4,965 but the difference is not statistically significant. Total financial services contributions drops from $46,765 to $37,503 and the difference is statistically significant at the eleven percent level.

who have not put much time into committee-specific investment are more likely to switch. The evidence on the effects of the probability of termination of the relationship and on the legislators who leave the committee support the theory.

IV. Conclusion

This paper introduces a positive theory of congressional organization that includes a significant role for competition among interest groups and then provides a systematic empirical investigation of how this competition affects the distribution of contributions to legislators. According to our theory, legislators desire the formation of specialized standing committees, with the ability to stay on committees as long as they wish, in order to help alleviate agency problems due to the inability to write direct fee-for-service contracts. Committees foster repeated interactions, reputation-building, and long-term relationships between the interest groups and members of the relevant committee, thereby increasing the likelihood that a high contribution, high legislative effort equilibrium will exist. The structure of the modern committee system of Congress is consistent with supporting this type of equilibrium.

Our positive theory provides novel implications about the contribution patterns of rival interest group PACs, and our empirical work provides new insights into how competition among interest groups operates in practice. Empirically, we focus on the controversies about whether commercial banks can expand into investment banking and insurance because this debate has been the focus of much congressional activity, the winners and losers in the legislative battles can be identified, and the competing interests are well organized and well funded.

We find that both the cross-sectional and time-series contribution patterns are consistent with the theory. On the House Banking Committee, where relationships are high and uncertainty is low, the competing groups specialize their contributions by giving large amounts to different committee members. In contrast, for legislators who are not members of the Banking Committee, where relationships are low and uncertainty is high, the competing PACs simply match each others' low level of contributions. As each member of the House Banking committee develops his reputation through time (hence reduces uncertainty), the sources of PAC contributions for that member become more concentrated in one of the competing groups. When the probability of termination of the ongoing relationship rises, as with older committee member and those who announce retirement or a change in committee affiliation, the concentration and level of financial services PAC contributions decline. Finally, legislators who cannot or do not develop clear reputations, as measured by the extent of the concentration of their sources of PAC contributions, find Banking Committee membership less valuable and are therefore more likely to switch to another committee.

Our theory has broad implications for interpreting the evolution of the committee system in the twentieth century and for analyzing proposed changes in the structure of Congress (see Kroszner and Stratmann 1997). Term limits, for example, would undermine the value of committees as reputation-building devices. Increased legislative turnover is likely to lead to a greater centralization of power in the Speaker and the party and away from the committees. In contrast, good government and anti-corruption movements which make direct fee-for-service contracts less feasible would tend increase the importance of the committees as reputation-building devices. Future work can explore the implications of the theory for how and why legislative organizations change, the relationship between parliamentary institutions and campaign finance outside of the U.S., and how legislative institutions and procedures may alter the effectiveness of different interest groups in influencing legislative outcomes (Douglas Irwin and Kroszner 1999 and Kroszner and Strahan 1999).

Bibliography

Allen, F. 1984. Reputation and Product Quality. *Rand Journal of Economics* 15 (3): 311–27.

Austen-Smith, D. 1995. Campaign Contributions and Access. *American Journal of Political Science* 89 (3): 566–81.

Austen-Smith, D. and J. Wright. 1992. Competitive Lobbying for a Legislator's Vote. *Social Choice and Welfare* 9 (July): 229–57.

_____. 1994. Counteractive Lobbying. *American Journal of Political Science* 88 (February): 25–44.

Becker, G. S. 1983. A Theory of Competition among Pressure Groups for Political Influence. *Quarterly Journal of Economics* 98 (August): 371–400.

_____. 1985. Public Policies, Pressure Groups, and Deadweight Costs. *Journal of Public Economics* 28 (December): 329–47.

Breusch, T. and A. Pagan. 1980. The LM Test and Its Application to Model Specification in Econometrics. *Review of Economic Studies* 47 (January): 239–54.

Coker, D. and W. M. Crain. 1994. Legislative Committees as Loyalty-Generating Institutions. *Public Choice* 81 (December): 195–221.

Congress and the Nation. Vols. VI (1985), VII (1989), and VIII (1993). Washington, D.C.: Congressional Quarterly, Inc.

Congressional Quarterly Almanac. Various issues. Washington, D.C.: Congressional Quarterly, Inc.

Cooper, J. 1970. *The Origins of the Standing Committees and the Development of the Modern House*. Houston: Rice University Studies.

Cox, G. W. and Matthew D. McCubbins. 1993. *Legislative Leviathan: Party Government in the House*. Berkeley: University of California Press.

Crain, W. M., W. F. Shugart II, and R. D. Tollison. 1988. Legislative Majorities as Nonsalvageable Assets. *Southern Economic Journal* 55 (October): 303–14.

Crain, W. M. and J. T. Sullivan. Committee Characteristics and Reelection Margins: An Empirical Investigation of the U.S. House. *Public Choice* (forthcoming).

Darby, M. and E. Karni. 1973. Free Competition and the Optimal Amount of Fraud. *Journal of Law and Economics* 16 (April): 67–88.

Denzau, A. T. and M. C. Munger. 1986. Legislators and Interest Groups: How Unorganized Interests Get Represented. *American Political Science Review* 80 (March): 89–106.

Diamond, D. 1989. Reputation Acquisition in Debt Markets. *Journal of Political Economy* 97 (August): 628–62.

Evans, W. and I. Kessides. 1990. Localized Market Power in the U.S. Airline Industry. Working Paper 90–5 (April). University of Maryland, Department of Economics.

_____. 1993. Localized Market Power in the U.S. Airline Industry. *Review of Economics and Statistics* 75 (February): 66–73.

Fenno, R. 1978. *Home Style: Representatives in Their Districts*. Boston: Little Brown.

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

Fudenberg, D. and E. Maskin. 1986. The Folk Theorem in Repeated Games with Discounting or with Incomplete Information. *Econometrica* 54 (May): 533–54.

Gibbons, R. and K. J. Murphy. 1992. Optimal Incentive Contracts in the Presence of Career Concerns: Theory and Evidence. *Journal of Political Economy* 100 (June): 468–505.

Gilligan, T. and K. Krehbiel. 1989. Asymmetric Information and Legislative Rules with a Heterogeneous Committee. *American Journal of Political Science* 33 (June): 459–90.

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

Grier, K. B. and M. C. Munger. 1991. Committee Assignments, Constituent Preferences, and Campaign Contributions. *Economic Inquiry* 29 (January): 24–43.

Grossman, G. M. and E. Helpman. 1994. Protection for Sale. *American Economic Review* 84 (September): 833–50.

Irwin, D. and R. Kroszner. 1999. Interests, Institutions, and Ideology in Securing Policy Change: The Republican Conversion to Trade Liberalization, after Smoot-Hawley. *Journal of Law and Economics* 42 (October): 643-73.

Judge, G. G., W.E. Griffiths, R. C. Hill, H. Luetkepohl, and T. Lee. 1985. *Theory and Practice of Econometrics*. New York: John Wiley and Sons.

Kiewiet, R. and M. D. McCubbins. 1991. *The Logic of Delegation: Congressional Parties and the Appropriations Process*. Chicago: University of Chicago Press.

Klein, B. and K. Leffler. 1981. The Role of Market Forces in Assuring Contractual Performance. *Journal of Political Economy* 89 (August): 615–41.

Koenker, R. and G. Bassett. 1978. Regression Quantiles. *Econometrica* 46 (January): 107–12.

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

Kroszner, R. S. 1996. The Evolution of Universal Banking and Its Regulation in Twentieth Century America, in *Universal Banking: Financial System Design Reconsidered*, Anthony Saunders and Ingo Walter, eds. New York: Irwin Professional Publishers, 70–99.

———. 1997. The Political Economy of Banking and Financial Regulation in the U.S., in *The Banking and Financial Structure in the NAFTA Countries and Chile*, George M. von Furstenberg, ed. Boston: Kluwer Academic Publishers, 200–13.

Kroszner, R. S. and R.G. Rajan. 1994. Is the Glass-Steagall Act Justified? A Study of the U.S. Experience with Universal Banking before 1933. *American Economic Review* 84 (September): 810–32.

———. 1997. Organization Structure and Credibility: Evidence from Commercial Bank Securities Activities before the Glass-Steagall Act. *Journal of Monetary Economics* 39 (August): 475–516.

Kroszner, R. S. and P. Strahan. 1996. Regulatory Incentives and the Thrift Crisis: Dividends, Mutual-to-Stock Conversions, and Financial Distress. *Journal of Finance* 51 (September): 1285–1320.

———. 1999. What Drives Deregulation? Economics and Politics of the Relaxation of Bank Branching Restrictions. *Quarterly Journal of Economics* (November).

Kroszner, R. S. and T. Stratmann. 1997. Notes on Evolution of the Congressional Committee System in the Twentieth Century. Mimeo (September). University of Chicago.

Loucks, C. 1996. Finance Industry PAC Contributions to U.S. Senators, 1983–88. *Public Choice* 89 (December): 219–29.

Makinson, L. 1992. *Open secrets: The Encyclopedia of Congressional Money and Politics*. Washington, D.C.: Congressional Quarterly, Inc.

Mayhew, D. 1974. *Congress: The Electoral Connection*. New Haven: Yale University Press.

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

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

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

Peltzman, S. 1984. Constituent Interest and Congressional Voting. *Journal of Law and Economics* 27 (April): 181–200.

Polsby, N. 1968. The Institutionalization of the U.S. House of Representatives. *American Political Science Review* 62 (January): 148–68.

Poole, K., T. Romer, and H. Rosenthal. 1987. The Revealed Preferences of Political Action Committees. *American Economic Review* 77 (May): 298–302.

Roeder, E. 1983. *PACs Americana*. Washington, D.C.: Sunshine Services Corporation.

Rohde, D. 1991. *Parties and Leaders in the Postreform House*. Chicago: University of Chicago Press.

Romer, T. and J. M. Snyder, Jr. 1994. An Empirical Investigation of the Dynamics of PAC Contributions. *American Journal of Political Science* 38 (August): 745–69.

Shapiro, C. 1983. Premiums for High Quality Products as Rents to Reputation. *Quarterly Journal of Economics* 98 (November): 659–80.

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

Shepsle, K. and B. Weingast. 1987. Institutional Foundations of Committee Power. *American Political Science Review* 81 (March): 85–104.

———. 1994. Positive Theories of Congressional Institutions. *Legislative Studies Quarterly* 19 (May): 149–79.

———, eds. 1995. *Positive Theories of Congressional Institutions*. Ann Arbor: University of Michigan Press.

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

Stratmann, T. 1991. What Do Campaign Contributions Buy? Deciphering Causal Effects of Money and Votes. *Southern Economic Journal* 57 (January): 606–20.

———. 1992. Are Contributors Rational? Disentangling Strategies of Political Action Committees. *Journal of Political Economy* 100 (June): 647–64.

———. 1995. Campaign Contributions and Congressional Voting: Does the Timing of Contributions Matter? *Review of Economics and Statistics* 72 (February): 127–36.

———. 1996. How Reelection Constituencies Matter: Evidence from Political Action Committees' Contributions and Congressional Voting. *Journal of Law and Economics* 39 (October): 603–36.

———. 1998. The Market for Congressional Votes: Is the Timing of Contributions Everything? *Journal of Law and Economics* 41 (April): 85–114.

Telser, L. 1980. A Theory of Self-Enforcing Agreements. *Journal of Business* 53 (January): 27–44.

Tullock, G. 1989. *The Economics of Special Privilege and Rent Seeking*. Boston: Kluwer Academic Publishers.

U.S. Bureau of the Census. *County Business Patterns*. Various issues. Washington, D.C.: Government Printing Office.

Weingast, B. R. 1984. The Congressional-Bureaucratic System: A Principal-Agent Perspective (with Applications to the SEC). *Public Choice* 44 (June): 147–91.

Weingast, B. R. and W. J. Marshall. 1988. The Industrial Organization of Congress; or, Why Legislatures, like Firms, Are Not Organized as Markets. *Journal of Political Economy* 96 (February): 132–63.

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

Zellner, A. 1962. An Efficient Method for Fitting Seemingly Unrelated Regressions and Tests for Aggregation Bias. *Journal of the American Statistical Association* 57 (June): 500–9.

Appendix: Sample Statistics for Variables Used in the Regressions

	Mean (Standard Deviation)
A. Variables in Table 4 (N = 1,671)	
Banking PAC Contributions	8,876 (12,977)
Securities PAC Contributions	2,842 (5,771)
Insurance PAC Contributions	8,814 (11,477)
Banking Committee Membership (1 if on the committee)	0.10 (0.30)
Seniority, measured as number of electoral cycles in House	4.85 (3.79)
Percent of the Vote in the Previous Election	71.87 (14.16)
Party Affiliation (1 if Republican)	0.39 (0.49)
Americans for Democratic Action Index (Liberal = 100)	49.48 (34.41)
Percent of Total District Employment in Commercial Banking	1.33 (1.53)
Percent of Total District Employment in Securities	0.43 (1.91)
Percent of Total District Employment in Insurance	2.06 (1.78)
B. Variables in Tables 5 and 6 (N = 207)	
HHI for Financial Services PAC Contributions Alone	5,448 (1,457)
HHI for Financial Services PAC Contributions in Total Contributions	340.63 (292.99)
Log of Seniority, measured by number of election cycles on House Banking Committee	1.01 (0.75)
Age of the Legislator	47.91 (8.89)
Switch Committee Assignments (1 if member switches)	0.28 (0.45)

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