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# SOCIAL CAPITAL AT THE CAPITOL: A SOCIAL NETWORK ANALYSIS OF INTEREST GROUP INFLUENCE IN THE 111th CONGRESS

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DISSERTATION

A dissertation submitted in partial fulfillment of the requirements for the degree of Doctor of Philosophy in the Department of Political Science at the University of Kentucky.

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**ABSTRACT OF DISSERTATION**

# SOCIAL CAPITAL AT THE CAPITOL: A SOCIAL NETWORK ANALYSIS OF INTEREST GROUP INFLUENCE IN THE 111th CONGRESS

This dissertation builds on existing scholarship in political science and political sociology to explore the influence of interest groups in legislative action networks. The primary theoretical insight is that as the number of interest group affiliations between two members of Congress increases, so does the frequency with which they forge other sorts of social ties necessary to advance the interests of their interest group constituencies. In particular, the analysis looks at interest group donation strategies, legislative co-sponsorships, and roll-call votes during the 111th Congress (2009-2010). The analysis uses social network analysis methods to create network models of 19 different policy domains, as well as an aggregate model, for both the House and Senate. Legislator ideology, state, committee assignments, and experience have a generally significant impact on the number of interest group affiliations shared by each pair of legislators, whereas gender, race/ethnicity, office location and occupational history do not. The results show that interest groups do have consistent impact over co-sponsorships in the House, but somewhat more mixed influence in the Senate. In some instances, groups in the policy domain encourage policy change, and in other instances, status quo protection. The theory did not anticipate the latter effect, though it does make sense in context of other research findings. For roll-call votes, interest groups have a significant influence over some House policy domains but not many Senate policy domains. The increased polarization of the Senate, necessity of minority party discipline to maximize their leverage through use of the filibuster, and staggered nature of Senate elections makes interest group influence tougher to muster in the upper chamber of Congress.

**Key words**: social networks, Congress, interest groups, co-sponsorships, roll-call votes

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# Chapter 1. Social Capital at the Capitol

## 1.1 Introduction

Public confidence in Congress hovers at or near all-time lows. A June 2014 Gallup poll found that only  percent of respondents have "a great deal" or "quite a lot" of confidence in Congress — the lowest measure of confidence recorded since Gallup began asking the question in 1973 (Riffkin 2014). Other polls of congressional job approval ratings show a similar trend. A month later, a Washington Post-ABC poll found that, for the first time in the history of their poll, a slim majority of Americans (51 percent) disapproved of their own representative (Craighill and Clement 2014). Whether these attitudes portend a wave election or radical change in the electorate remains to be seen, but the public is clearly despondent over the institution's performance.

There are several potential explanations as to why one of the world's premier legislative bodies is currently held in such low regard. One is that party polarization in Congress has gridlocked most legislative initiatives, preventing it from responding to the needs of the electorate. The 112th and 113th Congress enacted historically low numbers of legislation, with the 113th Congress projected to pass fewer new laws than any Congress since 1973 (Bump 2014). Congress is still open for business — but just barely. Related to that is the polarization theory, which is that homogenous legislative districts and stark regional variation in political ideology has injected the policymaking arm of the U.S. government with ideologues, who, not fearing electoral reprisals, are keen to scuttle bipartisan initiatives and hold out for more concessions from the opposing political party. Some commentators believe the problem stems from the Great Recession of 2009 and the sluggish recovery of the U.S. economy in its wake. Outrage over the financial crisis and subsequent bailouts of banks, insurance companies, and car manufacturers fueled populist movements across the ideological spectrum, from the liberal Occupy Wall Street to the conservative Tea Party. Another possible explanation is quite possibly the most damning — the public's dawning realization that Congress simply does not care about or respond to the preferences of the average voters on most

questions of public policy. Instead, it is the policies of elites and well-connected interests that garner the most attention on Capitol Hill.

While all of these explanations for Congress' lousy reputation receive considerable attention from journalists, pundits, and academic scholars, none is as controversial as the claim that special interests systematically distort political institutions within the U.S. government. Proponents of this viewpoint argue that the United States is not best characterized as a pluralist democracy with competing factions (as envisioned by James Madison in *Federalist No. 10*), but as a nominally democratic system biased toward if not dominated by elite interests. Many of these proponents are reformers who contend a significant source of the problem rests largely with the country's reliance on privately funded elections. They allege the end result is not merely venal corruption — members of Congress taking bribes in exchange for favors — but a systematic rot that perverts public policy and undermines the integrity of public institutions.

Defenders of current campaign finance laws assert there is little evidence that these interest groups enjoy such overwhelming power, as such groups frequently have conflicting interests, must compete with a multitude of other social forces (e.g. public opinion), and must often make substantive compromises to achieve political goals. While defenders admit there are occasional instances of corruption and that public opinion is generally aligned with the reformers, they believe the flaws of electoral and legislative processes as they concern special interests are overstated. They contend the rights of interest groups to raise money, recruit candidates, make contributions, sponsor political advertisements and lobby is clearly protected by the First Amendment. So far, the U.S. Supreme Court has generally agreed with them, and has consistently ruled in favor of plaintiffs and respondents wishing to deregulate campaign finance practices and rescind limits on contributions, most notably in *Citizens United v. Federal Election Commission* (2010). Even if such reforms are desirable, the status quo argument goes, the persistent failure of past reforms to slow the influx of money into elections means improving the system would be difficult if not impossible.

Beyond this extremely broad and contentious public policy issue, there is little agreement among academics about the capability of interest groups in terms of influencing members of Congress to sponsor or co-sponsor legislation they favor, vote in accordance with group wishes or otherwise act on behalf of the group's interests. Those who do find evidence of systematic influence are still trying to figure out the mechanisms of action, how best to measure them and analyze behaviors empirically. These knowledge gaps make it difficult for the academic community to clearly explain how contributions and lobbying leverage policy outcomes favoring interest groups, let alone devise policies that effectively safeguard the integrity of legislative institutions. To address these knowledge gaps, it is imperative that scholars develop new theoretical and analytical approaches to interest groups in the legislative arena.

One promising avenue of inquiry is social network analysis, frequently referred to as SNA. Social network analysis has been used in several fields, including business management, public health, and sociology, but it was not utilized much by political scientists until the mid-2000s.[1] In essence, SNA is analytically focused on relational variables and network theories of social kinship. Such an approach allows researchers to ascertain whether the structure of the social environment or specific commonalities between members in the network can help explain behavioral outcomes. Until recently, the political science literature generally referred to lobbying networks and policy networks conceptually without measuring these phenomena using methods commensurate with the theories. Newer studies of interest groups and Congress are adopting these methods and refining theories of interest group action and legislative decision-making.

As political scientists familiarize themselves with SNA, they also discover scholarship in other discipline that helps us rethink factors that might explain political phenomena and revisit conceptualization and measurement related to those factors. Political sociologists have been using

[1] A glossary of social network analysis terms and concepts is located in Appendix D.

SNA for a few decades, emphasizing the importance of social connections in business and political networks, and adducing network structure as explaining elite influence in those networks. These studies also tend to conceptualize a broader array of social characteristics, some of which come directly from sociology, and others developed and formalized by statisticians who have done important work in the field of graph theory. Most of these studies have been ignored by political scientists until recently.

Traditional political science research has also made progress toward addressing knowledge gaps and clarifying existing theories of pluralism and elitism in ways that are easier to empirically verify. As more quantitative data concerning campaign contribution, lobbying, and congressional legislation becomes widely available, institutional theories have been refined to account for various constraints and facilitative factors. Issue salience, legislative context and interest group coalitions have been reimagined to demonstrate why interest groups behave the way they do and, in essence, why they experience legislative victories and defeats (Baumgartner et al. 2009; Victor 2007; Witko 2006).

The recent spate of political networks studies has demonstrated the virtue of both institutional theory and SNA methods. The composition of interest group coalitions, the importance of various legislator attributes and network roles, and the role of interest group ties in legislative networks have been a point of emphasis (McClurg and Philips 2011; Rogowski, Sinclair and Beck 2012; Grossman and Dominguez 2009; Koger, Masket and Noel 2010; Koger and Victor 2009(a); Koger and Victor 2009(b)). Concepts have been re-conceptualized and measured using SNA, and the results typically reveal greater complexity in social relationships than previously observed. Not only do these studies observe a certain social logic of politics, but they allow researchers to consider how various network structures and relational variables impact legislative outcomes. Specifically, political network analysts have looked at the degree to which specific economic sectors have influence over various types of public policies, and they examine how common legislator attributes

attract similar interest group donations and facilitate legislative cooperation. In spite of these advancements, there is still much work to be done in this part of the literature.

This study attempts to synthesize various components of recent scholarship and build upon their findings to create a new theory of interest group influence in the legislative arena. The primary objective is to understand how interest groups impact the structure and activities of legislative networks, and when systematic interest group influence manifests itself Congress. The study includes several features that distinguish it from previous work in the area:

- It will connect interest group strategies to legislative behavior by examining contributions and their effects on both co-sponsorships and roll-call votes. There are several studies that examine interest group strategies or institutional theories of legislative behavior, but they are rarely combined into a single study of the same interest groups and legislators, and in particular rarely examine both co-sponsorships and roll-call votes to ascertain differences in how interest group influence may show up in different empirical models of legislative action.

- The most similar study of interest groups and legislative social networks only examines the U.S. House. There are several reasons to expect that the U.S. Senate may not respond to interest group influence in quite the same manner, as there are several institutional differences that provide the Senate with greater insulation from interest group pressure. Given these differences, it behooves scholars to examine both chambers of Congress to assess similarities and differences.

- The study also provides a more differentiated look at interest groups in various policy areas, particularly business groups, are too often viewed as monolithic bloc with the same policy interests. This study disaggregates contribution, co-

sponsorship and voting behavior by interest group sector and issue area to uncover interesting variation that would otherwise go undetected in aggregate models of interest group behavior and legislative behavior. For added context, the aggregate models are also included.

- The study utilizes both traditional and SNA methods to compare their respective advantages and disadvantages in context of the phenomena studied. Showcasing the advantages of SNA may help those skeptical of their merits become more receptive to adapting future research such that these methods can be deployed. Comparing the methods may also help researchers avoid overlooking certain weaknesses.

- This study focuses on a single session of Congress instead of long-term analysis. There is of course a longstanding debate about the relative merits of short-term and long-term studies, whether depth or breadth is more valuable. Most political science appears to be inclined toward long-term studies because of their generalizability. However, this study aims for depth because a countervailing approach is needed to compensate for some of the weaknesses in the current literature.

To achieve the goals of this dissertation, it is necessary to carefully examine the literature on the linkage between campaign contributions and influence in both political science and sociology. As such, the remainder of this chapter will progress as follows: Section 1.2 (Two Disciplines Two Approaches) discusses the rival approaches to the question of interest group influence on legislative institutions and social networks in political science and political

sociology, and how the two might be bridged to create a better mechanism for testing the competing claims of elite theorists and pluralists. Section 1.3 provides a history of campaign finance in U.S. elections going back to the earliest stages of the republic, but primarily tracing its development from the 19th Century to present day. Section 1.4 provides a literature overview of political science assessments of interest group strategies and goals. Section 1.5 provides a social network analysis approach that analyzes how interest group influence manifests itself in political networks. Traditional institutional studies of interest groups and their impact on legislative behavior are reviewed in Section 1.6. The newly emerging political network studies of interest group influence on legislative or constituent behavior are discussed in Section 1.7. Finally, Section 1.8 synthesizes the best elements of these studies and provides a general overview of the dissertation project that follows.

### 1.2 Two Disciplines, Two Approaches

Scholarly studies of interest group influence on legislative behavior constitute a voluminous literature in the political science and political sociology disciplines. Until recently, there was very little cross-disciplinary pollination of theoretical frameworks or empirical methods. Academic researchers have only recently begun to see the advantage of combining elements of these two approaches to enhance our understanding of how legislators respond to interest group strategies and tactics. Before developing a strategy for analyzing these phenomena, it is imperative to describe the existing research in both disciplines, contrast them with one another, evaluate the strengths and weaknesses of each approach and identify opportunities for synthesizing theoretical and empirical approach. As a result, members of both disciplines will be able to further clarify and better understand the effects of interest group activity on legislative behavior and public policy.

Political science and political sociology research diverge theoretically in large party because of how their respective theoretical assumptions characterize the U.S. political system. To take a high-level view of this fissure, political scientists have customarily asserted the U.S. republic to be

a pluralist system characterized by a decentralized power center, whereas the political sociologists tend to argue the system power dynamic is biased toward, if not altogether dominated by, elite interests. Although these disciplines have tended to ignore the work of one another until recently, the debate over whether pluralism or elite theory best explains the U.S. political dynamic has received significant attention.

Pluralist scholars contend that economic and political resources are widely distributed, that interests groups, however powerful, can only attempt to persuade and convince legislators to adopt certain policies, and that the policies of these group are quite diverse and often in conflict (Dahl 1961; Dahl 1982). As a result, it is very difficult for one set of interests to control the agenda and policy outcomes for a protracted length of time without encountering resistance from other interests. While pluralists acknowledge the interests of wealthy interest groups tend to receive disproportionate attention from elected officials, mass preferences and citizen-based interest groups (e.g. the NRA or AARP) serve as crucial checks on that influence. Pluralists also emphasize the complexity of the policymaking process and the difficulty of changing the status quo. Interest groups must build coalitions, bargain with other interests, negotiate compromises, and even enlist their own members in grassroots participation in some instances (Ainsworth 2002; Wright 1995). Interest groups must also make decisions about how they balance electoral objectives and policy goals, which frequently require different donation strategies. Put differently, the group may have to decide whether to support a challenger with similar, or an incumbent with dissimilar views who is more likely to win and to whom the group wishes to maintain access. Additionally, ever-changing public opinion, recent changes in election laws and regulations, and the unpredictable success of party fundraising and mobilization strategies create considerable uncertainty about electoral and legislative outcomes (Godwin, Godwin and Ainesworth 2007). When all of these factors are taken into account, pluralists contend it is difficult to envision or empirically prove that one interest group or identifiable, cohesive sector of interest groups dominate U.S. elections or legislative policy.

The contrasting argument is that of elite democracy, which contends the legislative agenda and policy outcomes are primarily shaped by elites, and not the masses. Corporations, government bureaucracies and non-profits affiliated with powerful interest groups dominate contemporary political institutions in the United States (Domhoff 2010; Dye and Zeigler 2003). [2] Pluralists tend to conceptualize these capitalist, or business interest networks as highly differentiated, and having little overlap between factions. Scholars in this tradition, frequently referred to as power structure research, empirically fixate on the high degree of overlap, the power of interpersonal relationships, and the preponderance of public policy outcomes that appear to favor elite interests. In his class dominance theory, Domhoff contends corporations are the predominate force in American politics. He contends elites are a cohesive group because they tend to enjoy privileged socioeconomic backgrounds, and are generally socialized in the same prestigious educational institutions (mostly private schools), social clubs, retreats and other elite gatherings. These individuals are subsequently recruited for executive leadership positions in large corporations, as candidates for state and federal political offices, and to sit on a number of highly interconnected and influential corporate boards. Elites from such backgrounds enjoy a vastly disproportionate share of these positions and shape the social culture of these economic and political institutions. They have sufficiently overlapping cultural and economic values to be accurately conceptualized as a community. Elite networks are characterized by a desire to regulate competition and insulate themselves from reformers wishing to curb corporate power and influence. Their goals are achieved through the manipulation of special interest groups, policy think tanks, mass media and candidate recruitment and selection (Domhoff 2010). The U.S. interest group system is not characterized by competition but by collusion.

[2] There have been political scientists who are indeed proponents of elite theories of democracy. Perhaps the best known work is that of Thomas R. Dye, who has written several editions of his unconventional American Politics textbook, *The Irony of Democracy*. The cited version was for the 12th edition, coauthored with Harmon Ziegler.

There are of course variations on both pluralist and elite theories of the democratic process, but these brief descriptions underscore the competing paradigms set forth by these two frameworks. The different assumptions underlying these two literatures have unsurprisingly led to some distinct theoretical orientations. While both strands tend to analyze the role of interest groups in the electoral process, political science studies of interest group influence tend to emphasize the political process more than elite theorists. Legislative activity — including the role of legislative committees, party influence, lobbyists, grassroots mobilization, and the behavior of individual legislators — is crucial to explaining policy outcomes and how interest groups influence those outcomes (Fleisher 1993; Schroedel 1986; White 2005; Wilcox and Kim 2005; Witko 2006; Wright 1995; Brunell 2005).

Political sociologists tend to focus more on the power structure of institutions outside of government, particularly on the networks of political activity in PACs, the transmission of vital economic information needed for collusion via corporate boards, the role of media, and the impact of policy information generated by corporate-funded think tanks (Bunting 1983; Burris 1987; Burris 1991; Burris 1992; Ciglar 2007; Currinder 2007; Domhoff 2010). Perhaps the most significant theoretical difference between the political science and political sociology approach is that the former focuses on the personal characteristics or attributes of individuals whereas the latter tends to theorize about relational characteristics. To be sure, political science does enter this territory, but it tends to focus on narrowly defined social characteristics (party, race, gender) of individuals, whereas political sociology looks at a broader array of social characteristics including socialization/background, spatial proximity and interpersonal relationships of groups (Domhoff 2010; Huckfeldt, Johnson and Sprague 2005; Rogowski, Sinclair and Beck 2012). To the extent these expansive sociological concepts show up in political science research, they are typically found in qualitative, descriptive studies of legislatures and interest group influence (Kingdon 1989). The tendency of one discipline to emphasize individual actors, the legislative process, and a variety

of interest groups while the other emphasizes political networks and the power structure of political and corporate organizations is the natural outgrowth of the pluralist and elitist assumptions underpinning both disciplines as they investigate interest groups and public policy.

The differences in theoretical emphasis spill into methodological approaches as well. Zuckerman (2005) contends that early studies by sociologists at Columbia University were quite instrumental to the development of early theories of political behavior established during the behavioral revolution in political science.[3] These studies established the importance of understanding the relationship of the individual to his or her peer group(s) and how the social environment portrays a reality in which individuals must operate. However, political scientists turned away from studying the social context of politics. Limitations on early data collection methods and survey techniques were partially responsible for this shift. Collecting accurate information about political networks was much more time-consuming and labor-intensive. Sophisticated methods for analyzing social networks had not yet been devised. As a result, theories and empirical methods began to focus more on the individual instead of the group. Consequently, rational choice theory rose to prominence. There was an increasing fixation on empirical analyses where the unit of analysis was an individual agent. Most political science studies of from the 1960s until the turn of the century focused on individuals or groups in an independent context (rational choice theory), political institutions and formal modeling. There are substantial merits to this approach, as political scientists have developed models very good at predicting individual and institutional political behavior in a variety of contexts, including (but not limited to) voting preferences, legislative, executive and judicial decision-making, international relations, democratization, elections, interest groups, lobbying, mass media, and international political economy. Predicting the occurrence of political phenomena was one of primary aims of political

[3] Specifically, Zuckerman was referring to *The People's Choice: How the Voter Makes Up His Mind in a Presidential Campaign* and *Voting: A Study of Opinion Formulation in a Presidential Campaign*.

science in the wake of the Behavioral Revolution. But models predicting outcomes are not always very effective in explaining *why* or *how* these outcomes occur.

While political science pursued its own course, political sociologists and scholars in other fields continued to develop SNA methods. As Wasserman and Faust (1994) wrote, "[a] social network consists of a finite set or sets of actors and the relation or relations defined on them. The presence of relational information is a critical and defining feature of a social network" (Wasserman and Faust, 20). According to Scott (2000), SNA developed from three distinct scholarly traditions: "the sociometric analysts, who worked on small groups and produced many technical advances with the methods of graph theory; the Harvard researchers of the 1930s, who explored patterns of interpersonal relations and the formation of 'cliques'; and the Manchester anthropologists, who built on both of these strands to investigate the structure of community relations in tribal and village societies. These traditions were eventually brought together in the 1960s and 1970s, again at Harvard, when contemporary social network analysis was forged" (Scott 2000, 7). Political sociologists developed their own social network methods largely through studies that analyze the power structure of corporate networks and in some instances, political action committees, or PACs (Barnes and Ritter 2001; Bunting 1983; Burris 1991; Burris 1992; Clawson and Neustadtl 1989).

Three key differences in how political science and political sociology approach to empirical methods are the type of data collected, the unit of analysis and the underlying assumption of independence for cases in their samples. Network data is different from attribute data because the collected data, whether through surveys or data gleaned from database research, consists of a data matrix that is actor *x* actor as opposed to actor *x* attribute. The second is a corollary to the different theoretical approaches used by political science and political sociologists. Most quantitative political science uses attribute data, which relates to attitudes, opinions and behaviors of individual agents, whether those qualities or characteristics are describing individuals or groups. Sociologists employing SNA collect and analyze relational data, which tends to consist of social connections,

contacts or ties that cannot be reduced to the properties of an individual actor (Scott 2000). Therefore, the unit of analysis becomes the network itself, subgroups in the network or ties between actors in the network, as opposed to individual attributes. These methods allow social science researchers to assess the influence of social factors on the behavior observed in these networks — influences that are often ignored or improperly measured in political science studies. A common feature of most quantitative analyses is linear regression, or ordinary least squares (OLS) regression. Independence of cases is a standard assumption for these models. If one is analyzing a large sample of voters who do not know one another, perhaps this assumption makes some sense.[4] However, many studies of Congress often make this implicit assumption when analyzing roll-call votes, legislative co-sponsorships or fundraising, even though these individuals all know each other and do not act independent of the social environment created in the House and Senate. Network studies of Congress do not make this assumption because it is not theoretically or methodologically valid. Rather than theorize, measure and analyze political phenomena as though they occur in a vacuum, SNA gives researchers the ability to analyze the social dynamic, which in many cases offers a superior explanation to the one offered by traditional political science research methods.

As subsequent review of existing political science and political sociology literature will demonstrate, there are advantages and disadvantages to the theoretical and methodological orientations of these two disciplines. In order to improve theories pertaining to interest group influence, or the manner in which they impact the social dynamic of legislative decision-making, the best elements of both should be synthesized to improve explanations about how and why interest groups have influence over public policy. The research orientation just provided should help readers from either discipline understand the differences in approach, and why those

[4] Having said that, Zuckerman (2005) would likely contend that the individual attitudes measured by the survey instruments are in reality picking up some attitudes, opinions and behaviors that are responses to respondents' social environment.

differences matter. Before moving on to those studies, however, it is necessary to provide the historical context of ever-changing campaign finance laws, and how they have contributed to the research agenda of both disciplines.

### 1.3 History of Campaign Finance in U.S. Elections

Campaign contributions in U.S. elections were largely unregulated in the early days of the republic. At the time, only white male landowners could vote, so there was little need to run expensive campaigns or create complex electoral machinery. The franchise expanded as states gradually dropped property requirements for eligibility, with the requirement being completely eliminated by 1850. This created a larger electorate, which meant campaigns needed to be increasingly sophisticated.[5] Simultaneously, the federal government grew substantially over this period, which meant the creation of a large executive branch bureaucracy. Lack of regulation allowed political party leaders to create a patronage system whereby most of these government posts were awarded to those who spent time and energy making sure their party's candidates were elected (Carpenter 2001). Not only were these individuals expected to work toward the party agenda, they were also expected to pay assessments on their salaries, which sometimes required government workers to contribute a large percentages of their incomes to the party in order to retain their posts (Carpenter 2001, 41-42). The first campaign finance legislation was introduced in 1867, and prohibited Navy Yard workers from being forced to contribute money to federal officers (Wides et al. 1995). However, the tension created by the system would reach its peak in 1881 when President James Garfield was assassinated by Charles J. Guiteau, a lawyer who sought an appointment from the administration but was rebuffed. In response to the assassination, and to other problems with the spoils system, Congress enacted the Pendleton Civil Service Act of 1883. This

[5] The electorate was of course still quite limited. Former male slaves were not granted the right to vote until the passage of the 15th Amendment in 1870. Even so, the creation Jim Crow policies (including poll taxes and literacy tests) made voting difficult for African-Americans until the passage of the Civil Rights Act and Voting Rights Act in 1964. Women were unable to vote until the passage of the 19th Amendment in 1920.

legislation created a merit-based civil service system, and prohibited dismissal of federal employees for political reasons (Carpenter 2001, 45-46).

Patronage and federal employees were not the only concerns fueling early efforts to reform campaign finance laws. Newspaper reports about corporations and members of Congress swapping campaign funds for policy favors in the 1896 election led the Roosevelt administration to lobby for more regulation. Congress enacted the Tillman Act (1907), which banned direct corporate contributions to political campaigns. Congress enacted several other campaign finance laws during the first half of the 20th Century. The Federal Corrupt Practices Act (1925) strengthened disclosure requirements and increased expenditure limits set forth by the Tillman Act and its subsequent amendments. The Hatch Act (1939) and its later amendments allowed regulation of primary elections, contribution limits and expenditure limits in congressional elections. Expanding on the earlier regulations in the Tillman Act and the temporary ban on corporate and union contributions in the Smith-Connolly Act (1943), the Taft-Hartley Act (1947) permanently banned direct contributions of both corporations and unions (Wides et al. 1995). These advances made it seem like the ethical practices advocated by reformers were making some headway, even though in reality many of the bans merely shifted direct campaign contributions from corporations and unions to indirect contributions from the individuals in those organizations.

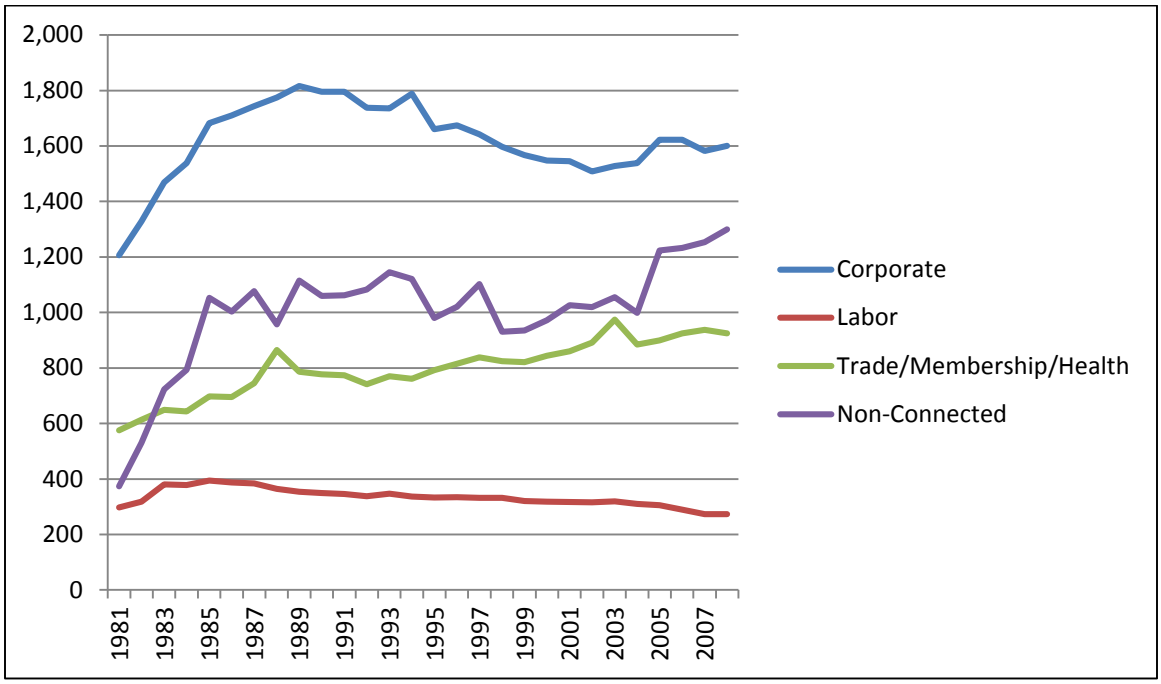
Nevertheless, corporations and unions both clamored for the government to recognize any legal approach that would allow them to contribute campaign funds to candidates in federal and state elections. By this time union giving had become a key form of financing for the Democratic Party, so its operatives searched for a way to work around the Taft-Hartley ban. The CIO (Congress of Industrial Organizations) formed a PAC shortly after the passage of the Smith-Connolly and in 1955 merged with the American Federation of Labor to form the AFl-CIO. Before and after this merger the union managed to operate an operationally distinct organization — a political action committee — to raise funds for federal candidates. Other unions followed suit. Meanwhile,

corporations channeled money to candidates through donations made by individual managers, executives and officers. Both unions and corporations were allowed to pay employees who worked on behalf of federal candidates for any labor, or expenses incurred. Several legal challenges were mounted to these practices, but the Supreme Court declined to rule on them. However, in 1968 members of the St. Louis Plumbers and Pipefitters Union were found guilty of making illegal political contributions to candidates in 1964 and 1966 in violation of the Taft-Hartley Act. The union members were subsequently fined and jailed. In *Pipefitters Local Union No. 562 v. United States (1972)*, a federal appeals court upheld the conviction of the plumbers and ruled union PACs and members were not exempt from Taft-Hartley restrictions on campaign activities. Following the ruling, the Supreme Court agreed to hear the case. Naturally, union workers were anxious about a ruling that could have potentially rendered PACs illegal (Wright 1995, 116-119).

Meanwhile, other developments were taking place forever changed the landscape of campaign finance. Anticipating an unfavorable decision in *Pipefitters*, union members and their supporters decided to act before the Supreme Court could make a ruling. In 1971, Congress passed the Federal Election Campaign Act (FERA), which established new reporting requirements for candidates regarding contributions and expenditures. It set a number of limits on contributions and spending, many of which have been struck down or scaled back after further adjudication in federal courts. Rep. Orval Hansen (R-ID) offered an amendment to FERA which allowed 'the establishment, administration, and solicitation of contributions to a separate fund to be used for political purposes" (Wright, 120). The amendment was included in the FECA legislation and became law before the Supreme Court decision. However, the Supreme Court did uphold the constitutionality of union PACs as long as the donations were voluntary member contributions and provided that PAC funds were collected separate of union dues. A later amendment to the law also created the Federal Election Commission (FEC) in 1975 to regulate campaign finance laws. Although unions got the legislative and judicial outcomes they desired, there was a twist: corporations were also allowed to

take advantage PAC allowances in FECA legislation provided they were organizationally and legally separate entities. This was clearly established in an FEC advisory opinion where the Sun Oil company asked the FEC to clarify its regulations concerning corporate PAC organizations like its own SUN PAC, which was established by company treasury in order to solicit voluntary campaign contributions from its employees.[6] Unions had once enjoyed a huge fundraising advantage as the sole beneficiaries of PAC organizations prior to FECA. But in the aftermath of the law and its subsequent amendments, the playing field changed in favor of corporate interest groups and trade associations. Figure 1.1 shows the number of corporate, labor, trade and non-connected PACs registered with the FEC from 1981 to 2008 (Biersack, Smaragdis and Ryan 2008).[7]

**Figure 1.1 PACs Registered with the FEC, by type (1981-2008)**




[6] For more information, see: Federal Election Commission, Advisory Opinion 1975-23 (SUN PAC), "Establishment of Political Action Committee and Employee Political Giving Program by Corporation."

[7] The FEC also recognizes two other types of PACs: cooperatives and corporations without stock.

Although the complete time period is not shown here (due to inconsistent reporting dates), the number of corporate PACs ballooned from 89 in 1974 to more than 1,200 by 1981. Corporate PACs peaked at just over 1,800 in 1989 before falling slightly and stabilizing at approximately 1,500 to 1,600 groups per election cycle from 2002 through 2008. Trade PACs, consisting chiefly of business associations and trade associations, have steadily risen from just under 600 in 1981 to their peak of 975 in 2003. As of 2008 there were 925 groups. Non-connected PACs are those organizations that have no associated enterprise, industry or labor union. Most of these groups are ideological or single-issue groups such as the National Rifle Association (NRA) and the National Abortion Rights Action League (NARAL). These agencies proliferated quickly throughout the 1980s before declining somewhat in the 1990s. Another period of growth started after the 2004 elections, with the number of non-connected PACs rising to a record-high 1,300 groups in 2008.

As if to continue the irony of union victories respecting FECA legislation and subsequent court rulings related to the law's provisions, union PACs suffered a long, steady decline from 1985 to 2008, in which their numbers decreased from 394 to 275, respectively. Most scholars contend the explosion of PAC organizations was a direct, if unintended, consequence of FERA, its subsequent amendments and the FEC's opinion on the SUN PAC case (Herrnson 2005). PACs became important mechanisms for financing Congressional races, particularly House races. In 2008, PAC donations comprised 46 percent ($271.3 million) of all money contributed to winning House candidates, and 30 percent ($81.5 million) of all money contributed to winning Senate candidates (Open Secrets 2009).

In the PAC-centric era of campaign finance, there have been several high-profile scandals associated with inappropriate use of campaign funds, or inappropriate actions taken by members of Congress on behalf of contributors. One of the best known is the Keating Five scandal, which was related to the Savings and Loan scandal during the 1980s and early 1990s that cost taxpayers an estimated $132.1 billion, not counting the value of money lost by investors (Bowsher 1996).

Five senators who received campaign contributions from Charles Keating, then legal counsel for the Lincoln Savings and Loan Association, attempted to intervene in a federal investigation into the company's business practices and whether Keating was inappropriately embezzling assets from the company. All five, including Sen. John McCain (R-Ariz.), were cited by the Senate Ethics Committee for inappropriately attempting to interfere with the investigation, and Keating eventually went to prison after a legal battle that ensued for several years (McFadden 2014).

Embarrassed and politically damaged by his involvement in the scandal, McCain decided to become a reformer and worked with Sen. Russ Feingold (D-Wisc.) to author the Bipartisan Campaign Reform Act (2002), hereafter referred to as BCRA. The bill's primary goals were to ban political parties and candidates from using unregulated or "soft" money, and to prohibit campaign ads not directly sponsored by a candidate from airing within 30 days of a primary or 60 days of a general election (FEC, 2002).[8] While the intentions of BCRA were noble, there were several unanticipated consequences. In reaction to the ruling, several PAC organizations began channeling their funds into non-profit organizations organized under Section 527 of the Internal Revenue Code (26 U.S.C. § 527). Colloquially known as "527 groups", these new organizations were not subject to FEC regulation. Because of the requirement that 527 groups be nominally dependent organizations, they are technically not allowed to coordinate with candidate and party campaign groups. This arrangement further complicated matters because political parties and candidates quickly lost control over campaign messaging that aired on radio and TV. Unwittingly, Congress had taken a large chunk of issue ads out of party control and given it more ideologically extreme advocacy groups (Burris 2009). The legislation also invited several legal challenges from interest groups and elected officials opposed to portions of BCRA and other campaign laws and regulations.

[8] Although the BCRA legislation is often referred to as McCain-Feingold, the actual version of the bill that passed was H.R. 2356 authored by Rep. Chris Shays (R-Conn.) and cosponsored by Rep. Marty Meehan (D-Mass.).

The first major Supreme Court case post-BCRA was *McConnell v. FEC (2003)*, in which several interest groups (represented by both major parties) and Sen. Mitch McConnell (R-Ky.) filed suit against the FEC, arguing the BCRA was an unconstitutional abridgement of First Amendment freedoms. McConnell contended campaign contributions were forms of speech and were effectively expressions of support for particular candidates or points of view. The Court issued a 5-4 opinion in which it upheld much of the BCRA's regulatory provisions. In the majority opinion, the Court stated that the government had a legitimate interest in regulating campaign finance because large contributions lead to actual corruption and the threat of corruption. Additionally, because the expenditures in question mostly dealt with voter registration and mobilization efforts, the court did not think there was a strong First Amendment argument to be made (Oyez 2014).

The BCRA largely survived its first major legal challenge, but interest group advocates would not be satisfied with this ruling alone. After the death of Chief Justice William Rehnquist and the retirement of Justice Sandra Day O'Conner, interest group advocates decided to try their luck with the slightly more conservative Roberts Court. In 2010, opponents of campaign contribution limits won their biggest victory of all in *Citizens United v. Federal Election Commission (2010)*. In this case, the FEC had attempted to apply the provisions of the BCRA to Citizen United's production *Hillary: The Movie* and its corollary advertisements. The film was a critical examination of presidential candidate and U.S. Senator Hillary Clinton, who was seeking the Democratic nomination for president. The Court agreed with advocates' contention that Section 203 of BCRA regulating electioneering communications was an unconstitutional infringement on the organization's First Amendment rights. Corporations, like individuals, would now be able to spend an unlimited amount of money promoting or opposing a candidate, provided it was an independent expenditure and not a direct contribution. In the majority opinion, Justice Kennedy developed a narrow construction of corruption and suggested that only speech related to venal corruption (i.e. *quid pro quo* offers or suggestions) should be subject to regulation and therefore not subject to First

Amendment protections. Critics contend this is too narrow a test of corruption, and that systematic forms of corruption created by campaign finance policies must also be considered (Lessig 2011, 238-245). The Court overruled two of its previous decisions, including parts of *McConnell vs. FEC* and *Austin v. Michigan Chamber of Commerce (1990)*. It did uphold campaign contribution limits, disclosure requirements for advertising sponsors, and upheld the direct bans on contributions from corporations and unions that had been in place since passage of the Taft-Hartley Act (Oyez 2014(b)). The Court's decision made it possible to create PACs that could raise unlimited amounts of cash from contributors. Known as Super PACs, these organizations have been criticized by opponents of the *Citizens United* decision for unfairly tilting the playing field in favor of corporate interests while further marginalizing the preferences of ordinary voters.[9] There is also skepticism that these organizations are subjected to adequate scrutiny concerning the origin of the funds they appropriate. Taking the long view of campaign finance regulation in the United States, policy has rarely if ever been kinder to those who seek to influence U.S. elections and policy.

It is in context of this history that scholars have investigated the impact of campaign finance on interest group activity and legislative behavior. The history of U.S. elections and policymaking is fraught with examples of individuals or organizations engaging in ethically dubious if not criminal acts. Anecdotal examples of such occurrences abound, but whether this corruption is systematic or not has been hotly contested. Nevertheless, even the occasional scandal puts a damper on the integrity of the system. The vast majority of Americans view current campaign finance practices unfavorably. A 2013 Gallup poll found 79 percent of Americans favor contribution and expenditure limits for U.S. House and Senate campaigns, although only half favor public financing

[9] The Court made another step in this direction with their recent decision in *McCutcheon vs. Federal Election Commission* (2013). In this case, the court struck down the aggregate campaign contribution limit set in BCRA. The aggregate limit provided a maximum that any individual could give to party or candidate campaigns during an election cycle. The candidate limits are still in place; the decision gives the individual the ability to give to as many candidates as he or she likes (Oyez 2014(c).

of elections (Saad 2013). Scholars have likewise been concerned about private contributions subverting democratic institutions, distorting Congress' policy agenda and yielding legislation that merely protects the interests of wealthy donors. The growth in PAC spending that began in the mid-1970s generated this initial wave of interest. Several academic journals began publishing these analyses in the early 1980s. The changes brought about by FERA and the creation of the FEC meant that contributions were finally going to be disclosed and reported on a regular basis by all candidates. Comprehensive quantitative analysis of all group and individual donations was now possible. Political science and sociology research based on this data had two broad themes: interest group contribution strategies and their impact on political institutions and behavior. These two strands of research are explored in the next section.

### 1.4 Interest Group Strategies and Goals in Traditional Political Science

The statutory and regulatory system of campaign finance described in the previous section, along with the statutory and regulatory system of lobbying, provide the opportunity structure in which interest groups operate. Broadly speaking, there are two strategies available to interest groups entrenched in the democratic process: the electoral approach and the influence approach (Rozell, Wilcox and Madland 2006). The electoral approach comprises several strategies, including:[10] direct contributions during primaries and general elections; indirect advocacy for/against a particular candidate/issue; candidate recruitment; candidate endorsements; grassroots mobilization efforts; providing candidate services, polls, and information; sponsoring or hosting rallies, organizing events, forums or town halls; and funding ballot initiatives in states where they are permitted (Ainsworth 2002; Burris and Salt 1990; Lessig 2011; Rozell, Wilcox and Madland 2006). Access strategies are contributions that primarily go to incumbents whose re-election is never in any serious doubt. The purpose of these contributions is not to influence electoral

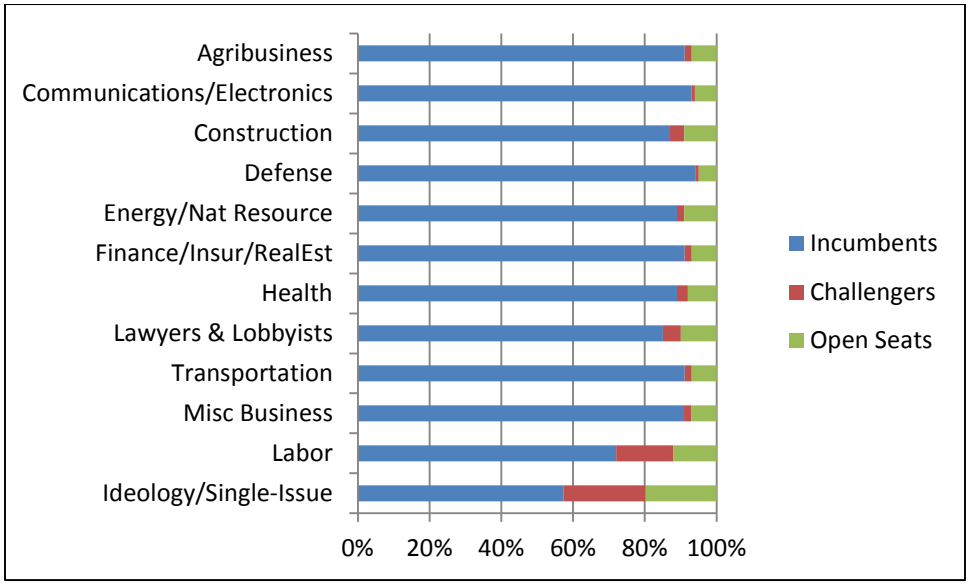
[10] These strategies are described in detail in Rozell, Wilcox and Madland (2006), Ainesworth (2002), Lessig (2011) and Burris and Salt (1990).

outcomes, but to establish, maintain or strengthen relationships with key members of Congress who propose, debate and vote on important legislation (Burris and Salt 1990; Clawson and Neustadtl 1989). Tactically, groups employing access strategies direct money to congressional leadership, members of key committees, candidates representing districts where corporate headquarters are located, and other incumbents (Bennett and Loucks 1994; Gopoian, Smith and Smith 1984; Grenzke 1989; Hersch and McDougall 2000; Magee 2002; Romer and Snyder 1994).

To explain how interest groups might decide between electoral and access strategies, political scientists and sociologists developed the concepts of strategic groups and ideological groups. Ideological interest groups are strictly or largely concerned with supporting candidates whose preferences (or voting record) coincide with those of the group. PACs run by these organizations will not typically contribute to a member of Congress with divergent preferences from the parent organization. Brunell (2005) looks at how parties determine where to direct ideological contributions and strategic contributions. The implication of his study is that most sincere money is directed at influencing election outcomes, and strategic money is directed at maintaining access.

Interest groups may pursue a mixture of electoral strategies depending on their preferences and resources available to them. Rozell, Wilcox and Madland (2006) found that labor unions, citizen groups and social movement organizations were more likely to employ electoral strategies, whereas corporations, trade organizations and professional associations tend to emphasize access strategies. The latter rarely get involved in primaries or voter mobilization efforts. However, another study found that corporations were more likely to employ ideological giving strategies when races are competitive or there is an open seat. While Democratic incumbents got large donations from corporate interest groups, the vast majority of money going to challengers and candidates running for open seats went to Republicans (Burris and Salt 1990).

**Figure 1.2 PAC Donations, by Recipient Type (2007-2008)**




A simple check of recent election data should be able to corroborate the accuracy of these earlier studies. Figure 1.2 shows the percentage of PAC contributions that go to incumbents, challengers and candidates competing for open seat races during the 2007-2008 congressional election cycle. The data are organized by economic sector. The data here clearly show that PACs in general give heavily to incumbent candidates. Even labor unions, who are more likely to back challengers and candidates for open seats than PACs representing business interests, give 72 percent of their money to incumbents. Only ideological groups and single-issue groups are comfortable taking a chance on new candidates. This data provides some evidence these earlier studies are generally accurate, and that these trends appear to have largely held over time. Of course, it is possible that interest groups could simply give to incumbent campaigns and national party campaigns on a partisan basis, which would essentially mean they are strategic but in a more narrowly defined manner than these studies suggest.

**Figure 1.3 PAC Contributions, by Sector (2007-2008)**

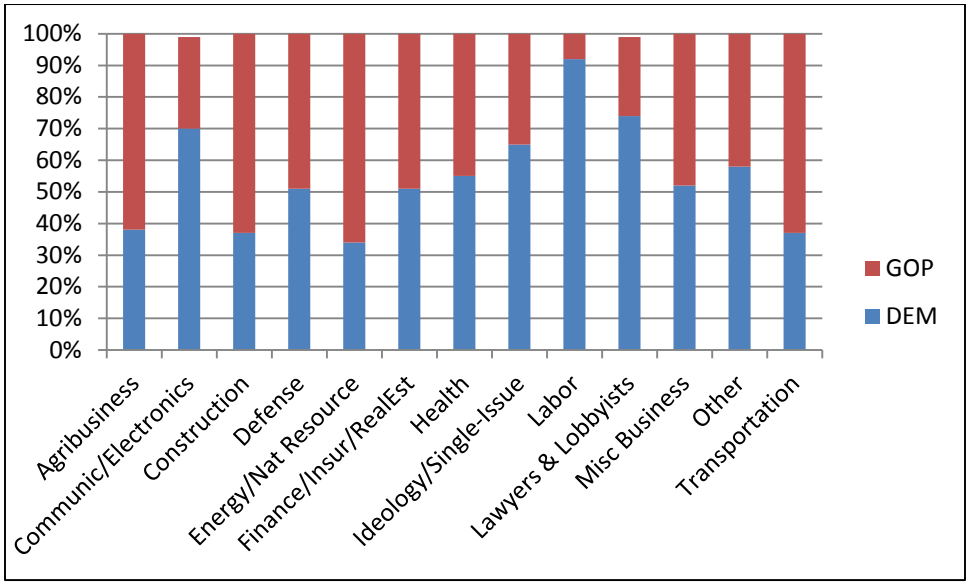



Figure 1.3 shows the partisan breakdown of each sector's PAC contributions during the same election cycle. Some economic sectors are more partisan than others. Finance, insurance and real estate, along with health, defense, and miscellaneous business, gave nearly the same amounts to both parties. Lawyers and lobbyists, labor, communications and other PACs (largely educational institutions and non-profits), gave more to Democrats, whereas agribusiness, transportation, energy and construction PACs gave more to Republicans. Nevertheless, with the exception of labor, each sector gave at least a quarter of its contributions to both parties. Taken in tandem, these two charts provide evidence of both ideological and strategic giving strategies, and that existing studies have perhaps oversimplified the distinction. Instead of thinking about these strategies as mutually exclusive, they should be conceptualized along a continuum where electoral and access strategies are emphasized to varying degrees.

Electoral strategies can potentially have the most direct impact over the directions of political institutions, particularly in the executive and legislative branches. If a group's preferred candidate wins, they are likely to have more opportunities to improve policy or better defend the

status quo. However, electoral strategies have a significant weakness. Incumbency re-election rates that generally hover around 90 percent in both chambers of Congress (Open Secrets 2014). Districts are increasingly safe for one party or another due to redistricting and sorting of constituents, so contributions to challengers running against an incumbent are unlikely to sway an election in most districts or states (Theriault 2008). Additionally, there is greater uncertainty surrounding the outcome of elections where there are open seats. Corporate groups lack the ability to mobilize voters as effectively as labor unions and citizen groups. Electoral strategies are more risky than access strategies in most districts, particularly for business interests. Developing good relationships with at least some members on both sides of the aisle leaves interest groups less vulnerable in the event their preferred partisan allies lose control of Congress or the presidency. As a result, interest groups should expect to be more effective pursuing access strategies than electoral strategies because they are more efficient (Wright 1995). In order to better understand the strategic nature of interest group contribution strategies, this study will attempt to understand how interest groups help to organize congressional coalitions largely through their use of access strategies.

To gain a better understanding of how these strategies are operationalized, some scholars have conducted intricate qualitative studies where they interview lobbyists, PAC officers, and members of Congress about the activities of lobbyists and how access strategies work in practice. These studies find that interest groups contribute to congressional campaigns primarily to obtain access to elected officials in Congress, as the access is typically cheaper and less risky than attempting to influence an election (Wright 1995). Donations do not come with concrete demands, and members of Congress do not accept overt bribes. However, there is an unspoken expectation that interest groups who assist members of Congress expect that assistance to be reciprocated at some later point. Scholars have conceptualized this process as creating a gift economy or establishing "networks of obligation"(Clawson, Neustadtl and Scott 1992; Lessig 2011). The distinction allows interest groups and members of Congress to get around the legal and ethical

dilemmas associated with *quid pro quo* deals, but provides a relatively workable system for signaling expectations to one another. Also important is the network construction provided in these qualitative studies because interest group operatives, lobbyists, congressional staffers and elected members all directly interact in a social context that is frequently described in theory but infrequently modeled in quantitative studies.

Influence is a byproduct of access, and in the opinion of many lobbyists and PAC officials, money is incidental. What these groups are really building is a relationship. The primary purpose of establishing or reinforcing these relationships during the election cycle is to build trust and lay groundwork for future opportunities to strategically influence legislators concerning key issues of importance to the group. One recent survey of lobbyists found they spend more time building relationships, along with and providing and seeking information, than any other task. They also research and analyze policy information, testify at congressional hearings, mobilize clients, work with congressional staff, build legislative coalitions, and attempt to manipulate public opinion (Kersh 2007). According to the survey, they spent little time directly influencing legislators, but all of the other activities could easily influence legislator behavior without having to directly convince them in a face-to-face meeting. The survey also excluded time spend at fundraisers, which members of Congress spent a significant portion of their time, the estimates of which run between 20 and 40 percent (Lessig 2011).

A common theme of studies analyzing interest group strategies is the importance of proprietary information. Lobbyists gather lots of information, including policy data and analysis, drafts of pending legislation, and in some cases even information about which way key legislators are leaning on a particular bill. Oftentimes, the information is cobbled together by their association with other lawmakers, lobbying organizations or interest groups. Within these lobbying networks, interest group operatives have a strategic interest in obtaining information that has the most potential value to members with whom they have established relationships. The information will

be deployed differently depending on whether the group is being proactive or reactive to developments in the policy process, the specific policy goals of the group, the partisan composition of Congress and the White House, and other obstacles such as the opposition of other interest groups (Wright, 110-113).

Constraints on the legislative process are another focus of qualitative studies of interest groups in the policymaking process. Interest groups face various sources of constraint, including competition from other interest groups, partisan gridlock, the difficulty of amending status quo policies, issue salience, constituent opposition or unfavorable public opinion, as well as the political uncertainty of the effects of policy change (Ainsworth 2002; Baumgartner et al. 2009; Wright 1995; Witko 2006). Baumgartner et al forcefully make the case that interest group resources at the aggregate level are often approximate an equal distribution on both sides, and there are typically multiple sides to any policy issue. In many cases, there are often several sides to an issue. There are almost always forces to defend the status quo policy. They do suggest an interesting contrast in interest group tactics, which is that status quo defenders are more likely to draw attention to proposed policy changes, whereas those seeking to change the status quo are less likely to make their position public. Raising awareness and creating uncertainty about the impact of new policy makes it more difficult to change the status quo policy. Baumgartner et al also note the tendency of policy arguments to become more simplistic as the salience of an issue rises (Baumgartner et al. 2009, 128).

Witko (2006) finds that PAC contributions influence non-ideological issues with low visibility, and not ideological issues with high visibility. The takeaway from these two studies is that higher salience and interest group conflict often coincide, and that conflict is generally rooted by ideological issue framing. This makes it harder for interest groups to forge bipartisan coalitions often necessary to change status quo policies. Other interviews with lobbyists and members of Congress suggest that it is difficult for lobbyists to get the attention of members during floor votes

on amendments or motions related to specific legislation, and that they have far less influence over members than some journalistic and academic accounts suggest (Clawson, Neustadtl and Scott 1992; Kingdon 1989).

One way to further the debate about the degree of influence enjoyed by interest groups is to analyze the types of strategies different organizations pursue and examine their effectiveness. Victor (2007) conducted an in-depth analysis of direct and indirect lobbying by surveying interest groups about what types of practices they pursue. Depending on the legislative context and characteristics of the interest groups, strategic action may call for the pursuit of varying techniques. The models show interest groups are more likely to engage in direct lobbying on new issues and bills referred to multiple committees, whereas indirect lobbying is more likely when rules are suspended such that no amendments can be made to pending legislation. Interestingly, she finds evidence that coalitions, associations, and educational groups are more likely to engage in direct lobbying, whereas citizen groups, corporations and unions were not significantly predisposed one way or the other. Groups with large membership, coalitions of groups and groups that have also pursued direct lobbying practices are more likely to pursue indirect lobbying (Victor 2007, 839). She concludes that more study is needed about how groups make decisions based on available resources, and the tradeoffs of pursuing various strategies.

Unfortunately, the study does not attempt to connect usage of these strategies with their relative success or failures. What it does do is provide some useful scenarios for further theorizing. If there are significant differences in the way corporations, unions, citizen groups, educational groups and associations lobby, it makes sense to disaggregate contribution data and legislative data by industrial sector and issue area to see how those differences play out during the policymaking process. Her survey of legislative context and its impact on tactics shows that institutional constraints also have an effect. These constraints may be unique to each potential interest group, or at least to each identifiable cohort of interests within a given policy area. This study provides useful

background upon which to build a more integrated theory of interest group strategies that accounts for both constraints on and facilitation of their influence on the policy process.

These studies of interest groups provide a useful theoretical framework for thinking about the strategies interest groups employ during elections and sessions of Congress. They do have some weaknesses. Aside from Victor (2007), the strategies outlined by these studies do not make important distinctions between the resources and strategies of citizen groups, union groups, and business/trade/professional groups. In political science studies, business groups are treated as largely monolithic entities with similar policy objectives aimed at curbing regulations and cutting taxes. Given the variation in the contribution patterns of various interest group sectors, it stands to reason the policy variations and strategies of various interest groups are more varied than these theories suggest. Ironically, the power structure research provides more ideas about how business groups might be differentiated, even though the empirical evidence for them is lacking. More theories about how different interest groups operate in different policy domains are needed. What are the differences between how, for example, agribusiness groups and healthcare groups adapt different strategies based on constraints and contingencies introduced to the legislative process? How does partisan control of key political institutions constrain interest group action, particularly if they do not prefer working with the party that currently controls more of the policy checkpoints in the legislative process? Furthermore, some of the more distinctive, detailed theories about interest group strategies and the lobbying process in Congress have proven difficult to operationalize, as the next section detailing the empirical findings will show. These theories also need to be connected with theories of legislative behavior so that it is possible to understand the process driving the behavior of both interest groups and lawmakers.

### 1.5 Political Networks and Interest Group Strategies

As a result of diffusion into multiple disciplines during the 1990s, the number of published studies utilizing some form of SNA has increased exponentially. Approximately 2,000 SNA studies

were indexed in 1995, but this output jumped to nearly 20,000 in 2010 (Borgatti 2014). This burgeoning trend includes the proliferation of political network studies, which have enjoyed greater presence in recent volumes of political science and sociology journals. *Social Networks*, which publishes SNA studies from numerous disciplines, dedicated an entire issue to political networks in January 2014. The American Political Science Association has established a Political Networks Section, which began hosting an annual summer conference in 2008. The conference, commonly referred to as Polnet, provides scholars from multiple disciplines the opportunity to write conference papers and discuss new methods, data, and theories about how social networks influence political agents, and how they impact political behavior.

SNA methods are a much-needed catalyst for the development of a more interdisciplinary approach to political science research. Recent SNA studies have contributed new insights to the discipline's understanding of international relations, democratic transitions, interest group networks, and legislative institutions (McClurg and Lazer 2014; Gibson 2001; Smith et al. 2014). Another area of emphasis has been citizen networks, and how network characteristics influence vote choice, participation decisions, the degree to which individuals may change their views on particular issues and how social media such as Facebook and Twitter inform political discourse and mobilize voters (Sokhey and McClurg 2012; Bello and Rolfe 2014; Golbeck and Hansen 2014; Pattie and Johnston 2009; Ryan 2011; Bond et al. 2012; Janoski 2010; Huckfeldt, Pietryka and Reilly 2014). The unifying strand connecting political networks research is how social relationships can explain individual, institutional and group behavior in ways often overlooked by traditional political science research.

Early studies of interest group networks tended to come from the power structure literature. These researchers tend to zoom out and look at interest groups at a systems or network level. These scholars document the interrelationships between corporate power centers, and contend they have demonstrated the conditions necessary for elite collusion and social cohesion of business interests,

although the mechanisms by which the relationships translate into political action are either not clearly specified or lack adequate empirical testing.[11] In many of these studies scholars try to resolve some inherent tension between the theoretical assumption that business interest groups behave as a cohesive force and differential patterns of political behavior by business groups. Most studies make distinctions about corporate PAC strategies based on factors such as corporate geographical location, the degree of internationality, the level of competition in particular industrial sectors, the division between management and ownership, the interconnectedness of board members in the larger corporate network, and regulatory environment. Such theories try to explain variance in patterns of corporate campaign contributions, as well as the existence of social welfare programs, in a political system purportedly dominated by elites.

Strategically, firms in more monopolistic and less competitive industries (e.g. banking and manufacturing) may be more likely to support regulatory legislation and social welfare programs than their counterparts in emerging or more competitive industries (Dye 1976). The tendency of corporate ideology to coincide with geographical location overlaps here, as Dye found preliminary evidence that firms in the Northeast particularly are less ideological in their donation strategies than industries concentrated in the South or out West.[12] Domestic firms will favor protectionism, tariffs

[11] Domhoff specifies the four mechanisms of influence as lobbying, the policy-planning process (think tanks funded primarily through corporate foundations), opinion-shaping process (mass media), and candidate selection and campaign finance. The evidence he musters is largely anecdotal and not subjected to robust hypothesis testing. Bunting (1983), Roy (1983) and Domhoff (2005) provide detailed historical analysis of the interconnectedness of finance, transportation, and communications industries from the late 19th to mid-20th century. The implication of establishing the existence of this dense, cohesive network provides a pathway for information to travel, which could be used to facilitate collective action. This action could manifest itself in the form of collusive, oligopolistic practices, or in the form of monolithic campaign finance schemes that tilt the political system toward the interests of the power network. There are two problems with this approach: first, other studies suggest these networks may actually be getting more decentralized, and less stable in more recent history (Barnes and Ritter 2001; Gogel and Koenig 1981; Palmer 1983). The second problem is that these mechanisms of influence are not clearly specified, and do not lead to any predictive theories of corporate behavior (Mizruchi 1996).

[12] Dye and others have christened this theory the "Yankee-Cowboy" theory, which is based on the premise that older corporations based in the Eastern United States, particularly banks and manufacturers, are generally less conservative than newer industries in the South (oil, agribusiness, defense contracting, etc.).

and limits on imports, whereas international firms will favor free trade (Burris 1987). Another variant theorizes about how corporate firms and directors will behave based on their location in corporate director networks. Individuals in the network core will be more likely to adhere to some variant of corporate liberalism, which these scholars define as pro-*status quo*, greater willingness to accept welfare state programs for poor and middle-class citizens, and less fervent in anti-regulatory zeal (Burris and Salt 1990; Ussem 1984). So far, the empirical study of these theories has yielded limited evidence of their validity (but see Burris (2005)), and some studies unearth evidence that directly contravenes the theories tested (Burris 1987; Burris 1991; Burris 1992; Burris 2000).

Burris (2005) examines the network of corporate elites and how various social ties shape contribution preferences. Specifically, he analyzes the campaign contributions of corporate board members in a network of director interlocks. In attempt to answer critiques of interlock studies, he acknowledges the limitations of previous studies and employs SNA to explain the social, political and economic effect of these ties. In his model, Burris looks at whether shared firms, common industry, geographic proximity, policy-planning ties, direct corporate board ties, and indirect corporate board ties are significantly related to the similarity of party contributions, presidential contribution matches, and presidential contribution correlations (Burris, 2005, 263). He finds that these social sources of political cohesion are generally significant in the presidential contribution matches and correlation model, whereas the results are somewhat mixed for party contribution similarity. The geographic and industry variables were not as strong as the political cohesion predictors. Common membership in such networks does appear to facilitate political cohesion among individual elites, which is another manner in which this study differentiates itself from earlier studies of firm-level cohesion and PAC contributions. Confirmation of cohesion and coordination of elites means there could be reason to expect substantiation of interest group influence on political outcomes, even if it does not confirm the underlying assumptions of most

power structure research. The broader implication of the study, as Burris notes in his conclusion, is that political behavior should be studied in context of embeddedness in social networks (Burris, 2005, 279).

Some recent contributions in the literature have made some progress toward addressing the weaknesses of traditional interest group studies. In general, these studies have refined the theories of interest group influence strategies and have improved the methodological approach to quantifying and analyzing those strategies. Political networks studies push the existing boundaries of knowledge forward in several ways. This emerging sub-literature has generated theoretical frameworks and empirical evidence based on the relational nature of politics and in some ways transcends the limitations of earlier research. Specifically, they have more clearly delineated the particular strategies pursued by interest groups depending on their designation as lobbying organizations, business organizations, unions or citizen groups, and how groups coordinate those activities with other groups in various political networks. As a result, these authors have been able to generate hypotheses that are testable and can be customized for each different type of interest groups. At least one study provides evidence about how electoral and legislative strategies are generally distinct from one another, and suggests common campaign contributions may not be a particularly useful predictor of when groups will form ties in legislative coalitions, which is consistent with earlier studies. Two other studies have shown how legislators with certain shared social characteristics tend to have more common donors than other legislators (Koger and Victor 2009(b); McClurg and Philips 2011).

**Table 1.1 McClurg and Philips Predictions by Policy Strategy and Breadth of Goals**

| Types of Legislators Targeted Based on Interest Group Goals | | |
|---|---|---|
| Change vs. Status Quo | **Particularistic Goals** | **Broad Goals** |
| **Policy Change** | Central players, across parties | Many legislators, across parties |
| **Policy Protection** | Central players, within parties | Many legislators, within parties |

McClurg and Philips (2011) address the various strategies of different interest groups by modeling contributions from PACs to members of the House of Representatives during the 110th Congress as a social network. They argue that interest groups can pursue a variety of strategies in accordance with how they allocate contributions, and examine the manner in which interest groups build coalitions along two dimensions of strategy: whether groups seek to change the status quo or protect it, and whether the goals of groups can be conceptualized as particularistic or broad (see Table 1.1). These individuals will target legislators based on their party identification and location within the House social network. Groups seeking policy change will target legislators of both parties, and groups seeking to protect the status quo will concentrate contributions on members of whichever party is considered the more reliable champion of the status quo policy. Groups seeking particularistic benefits will central (key) network players, whereas groups seeking broad benefits will contribute to many legislators. This theory generates to four possible outcomes, which are then tested on identifiable interest group sectors.

McClurg and Philips' theory does rest on the assumptions that groups or aggregations of groups in the same policy domain will be generally disposed toward either policy change or the status quo, and generally disposed toward either particularistic or broad benefits. However, it precludes the notion that a group may pursue both status quo and policy change depending on the issue area and the institutional constraints facing particular interest group sectors. These studies neglect the role of institutional constraints, and how such constraints may impact lobbying strategies deployed. If interest groups find the current administration and Congress to be generally disagreeable, they may generally prefer the status quo, whereas policy change may be more suitable if they are ideological allies with those making policy. Groups with a clearly defined policy agenda do probably have a general notion about whether their goals are generally achievable or whether it is better to protect current policies against unwanted reforms. This dimension is less problematic that the scope of benefits dimension, because each piece of legislation could provide particularistic

or broad benefits. Godwin, Godwin and Ainesworth (2007) describe a lobbying process whereby collective goals are used to get legislation on the policy agenda, and particularistic goods are used to help build the coalition needed to pass the legislation. Further complicating matters is the lack of clarify regarding definitions particularistic or broad benefits. For example, a transportation bill funding new highway and bridge construction may be considered to meet a collective benefit but may also be considered a particularistic benefit because it enhances the profitability of the trucking industry.

Koger and Victor examine the contributions of registered lobbyists to members of Congress (Koger and Victor 2009(a); Koger and Victor 2009(b)). The purpose of the first study is to understand what types of legislator attributes attract campaign contributions from lobbyists. They find that members of Congress of the same party, from the same state, and those who share the same committee assignments have more lobbyist donors in common. Other significant predictors were electoral vulnerability and similarity in voting records (Koger and Victor 2009(a)). The other study distinguishes the contribution strategies of lobbying firms from those of individual lobbyists. As lobbyists are increasingly culled from the ranks of former partisan operatives, they tend to contribute almost exclusively to one party or the other. However, some firms appear to balance their donations when donor contributions are aggregated at the organizational level (Koger and Victor 2009(b)). These studies focus exclusively on lobbyists, and not on the operatives of PACs affiliated with various business corporations, professional associations, unions or ideological groups. They do provide some further context for how individual lobbyists behave, and how candidate attributes interact with small percentage of direct contributions to congressional candidates. It would be difficult to make inferences about the larger body of interest group actors working to influence Congress based on these studies, as the eschew analysis of specific interest group sectors emphasized by McClurg and Philips in order to focused more narrowly on lobbyists

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Other political networks scholars have examined the nexus between lobbyists, interest group operatives, political parties, and legislators. The central premise of these studies is to construct and analyze social networks in order to ferret out the underlying mechanisms of collective or social action. The self-contained studies examining policy networks or interest group networks want to assess how agreement and disagreement influences the choice of tactics in advocacy networks. A multiplex analysis of a health policy communications, coalition, and issue networks revealed the perceived influence of interest group representatives was dependent upon the role they plated. The author developed network roles of confidant, collaborator and issue advocate demonstrated how these respective network roles facilitate communication, collaboration and issue advocacy (Heaney 2014).

Another study showed how the divergent social networks of straight and gay AIDS activists had significant overlaps and differences in terms of their support for the AIDS Coalition to Unleash Power (ACT-UP) and its protests of the Federal Drug Administration. Specifically, whereas age, religiosity and HIV status were significant predictors of gay activists' support of ACT-UP and its tactics (younger, less religious and HIV-positive gay men and women were more supportive), those characteristics had no impact on the opinions of straight activists (Jennings and Andersen 1996). Liberal ideology and close contact with someone who died of an AIDS-related illness and made both straight and gay activists more supportive of disruptive tactics and organizations. These studies provide some empirical justification for theorizing that internal convergence and divergence in interest group networks can potentially augment or inhibit group effectiveness.

Another investigative approach attempts to link interest groups and lobbyists to partisan allies or specific legislators. These studies are often difficult to conduct because empirical data is, as noted earlier, typically wanting. Such circumstances sometimes necessitate survey research where scholars ask lobbyists, interest group representatives and members of Congress questions about their activities, ties to other actors, and interactions with those actors in various

circumstances. Grossman and Dominguez (2009) surveyed congressional candidates about which interest groups and combined their responses with other data in order to determine whether different types of interest group ties persisted across different networks. In their multiplex analysis, they find that interest groups' electoral networks (endorsements, PAC contributions) tend to be highly differentiated from legislative coalitions such that there is not much overlap. The study provides solid evidence of differentiation between electoral goals and access-based strategies, at least during the period of analysis (1999 to 2002). Electoral networks tend to be partisan, whereas the network coalitions for legislation tend to involve bipartisan mobilization of groups.

One current knowledge gap concerns different economic or business sectors may actually have differentiated political goals and unique political constraints. Extant studies have not scrutinized how various interest group sectors adjust their strategies in response to differentiated political constraints. Theories of interest group tactics and influence should be further refined to account for the context in which policy decisions are made concerning a particular set of issues. There is no reason to suppose, that, aside from basic tax policies and far-reaching regulatory issues, businesses in different economic sectors have the same umbrella of policy goals and interests, or that obstacles to those goals are identical. Partisan and institutional barriers might be differentiated greatly, as might intra-sector coalitions and opposing coalitions. The goal of this analysis will be to supply some of those conditions and make predictions about when they will manifest themselves.

Researchers need to take further advantage of SNA methods in order to discern whether there are other legislator characteristics that might be reliable predictors of interest group donations geared at building legislative support for their policy initiatives. Most models look at three or four social characteristics when there are likely other factors that have not been considered, particularly factors related to the personal backgrounds of legislators. Some obvious examples are gender and race, but other examples could include occupational history and congressional experience. A fuller accounting of social factors would expand on the discipline's knowledge of how interest groups

construct access networks and add new control variables for potentially confounding factors in SNA models of interest group donation patterns.

### 1.6 Interest Group Impact on Legislative Behavior and Policy Outcomes

Analyses of interest group influence over legislative behavior constitute a large and contentious body of literature. In spite of several decades of study, questions about how much interest group campaign donations and lobbying tactics influence political institutions remain largely unresolved. Studies of interest groups and electoral influences, institutional influences and policy influences have yielded conflicting results that are at times difficult to reconcile. Several studies purport to show influence of contributions on congressional roll-call voting or committee voting behavior (Fleisher 1993; Saltzman 1987; Schroedel 1986; Stratmann 1991; Stratmann 1992; Witko 2006). Other studies show no significant effects (Abler 1991; Baumgartner et al. 2009; Chappell 1982; Johnson 1985).

Definitive answers have remained elusive. Studies showing evidence of interest group influence on roll-call votes are typically qualified in some way. For example, Fleisher (1993) finds moderates more susceptible to defense PAC giving than ideologues, and concludes defense policy outcomes can be influenced at the margins. Saltzman (1987) finds labor PACs influence roll-call votes even controlling for party and constituency factors, but qualifies the finding by observing most labor PAC strategy is focused on influencing election outcomes. In this sense, Saltzman contradicts the interest group literature to some degree, because labor unions pursue incumbent access in ways similar to most other types of interest groups, although they do pursue electoral goals to a greater degree than most business groups. In other words, most studies of campaign contributions' impact on roll-call votes also focus on a single issue or specific type of interest group over a relatively short period of time (Abler 1991; Chappell 1982; Fleisher 1993; Hersch and McDougall 2000; Saltzman 1987). Therefore, when studies do find empirical evidence of interest group influence on roll-call voting, it is typically limited in scope and duration. Few political

scientists would characterize the influence as a near-complete and systematic domination of American politics by interest groups in general or business interests in particular, as is sometimes argued by political sociologists. On the other hand, several scholars have produced analyses that show statistically insignificant relationships between contributions and voting behavior. They conclude interest groups have no definitive role in determining how members of Congress vote, although some concede lobbying efforts are sporadically effective (Abler 1991; Baumgartner et al. 2009; Johnson 1985). The general thrust of these studies is that interest group influence is often substantial, but contributions are not always reliable predictors of floor votes in Congress.

Whether campaign contributions (particularly PAC contributions) sway electoral outcomes has been another focal point in quantitative studies of interest group influence. It is generally accepted that candidates who raise and spend more money nearly always prevail. According to the Center for Responsive Politics, the candidate spending the most money won 93 percent of all House races between 2000 and 2010; the pattern is somewhat attenuated but quite strong in Senate races, which were won by the candidate spending the most money 83 percent of the time during the same period (Biersack 2012). A study of electoral competitiveness in U.S. House elections from 1972 to 2002 found that increasingly partisan House districts, along with an increasingly enhanced incumbency advantage buttressed by substantial fundraising advantages, explains the proliferation of safe seats and disappearance of many competitive districts (Abramowitz, Alexander and Gunning 2006).[13] Relatedly, Gross and Goidel (2003) analyzed gubernatorial elections from 1978 to 1998 and found that greater challenger spending decreased the incumbent candidate's percentage of the vote.[14] These findings are largely intuitive, as incumbents have more opportunities to

[13] Both Theriault (2008) and Abramowitz, Alexander and Gunning (2006) find an effect for partisan sorting in most districts, but Theriault has a significant finding for the effect of redistricting on safe seats, whereas Abramowitz, Alexander and Gunning's test of redistricting is insignificant.

[14]The study also shows that the availability of public finance decreases the incumbent's vote share.

cultivate relationships with PAC officers and lobbyists than challengers. They tend to view strong fundraising as not only a way to boost campaign capacity but also as insurance against a strong challenger (Lessig 2011). The well-documented coincidence of the incumbency advantage and fundraising advantage can be difficult to disentangle, and both trends seem to be mutually reinforcing. Given the increasing difficulty of influencing electoral outcomes, most interest groups will pursue access strategies as a primary strategic goal while electoral strategies remain a secondary goal (but see Magee (2002)). Even if interest groups manage to coordinate their efforts behind a quality challenger, it is difficult (though hardly impossible) to galvanize enough voters to defeat an incumbent, hence the concentration of non-incumbent contributions in open races.

Access strategies manifest themselves in several different scenarios. The gradual erosion of deference to senior members for committee chairs began in the 1970s, particularly for Republican House members. It meant new opportunities for interest groups. When the "Republican Revolution" of 1994 led to a GOP takeover of the House, Speaker Newt Gingrich decided to impose term limits on committee chairs and made efforts to appoint some chairs based on merits other than seniority. Brewer and Deering (2005) find that 6 of 13 new committee chairs were chosen for reasons other than seniority, and that all but one of those six new chairs had stronger fundraising ties to the interest groups who lobby those particular committees than other candidates. Groups are unlikely have the clout to directly influence such choices, but campaign contributions can have significant indirect impacts. Several studies of leadership PACs show that superior fundraisers use their funds to secure appointments to prestigious committees, leadership positions, and to further the party's electoral and policy goals (Clucas 1997; Currinder 2003; Green and Harris 2007; Heberlig 2003).

Another instance where interest groups have been shown to have influence is during the committee process of drafting, sponsoring and marking up legislation. In particular, the study of legislative sponsorships and co-sponsorships provides insight into how groups can influence the

congressional agenda and policy content without necessarily having to organize members of Congress around floor votes. Quantitative studies of committee activities and interest groups have been somewhat limited, and the results are mixed. Schroedel (1986) examines the relationship between PAC contributions from the banking industry and legislative co-sponsorships related three banking bills. The bills divided large commercial banking institutions, supporting the bills, and smaller securities institutions opposing passage. Results showed that House members receiving more PAC contributions from the commercial banking industry were significantly more likely to co-sponsor the bills, and members receiving more PAC contributions from the securities industry significant less likely to co-sponsor the bills. A similar study of a Senate bill that provided tax cuts for timber gains showed that Senators receiving more contributions from the forestry industry were more likely to co-sponsor the legislation (Tanger and Laband 2009). In a mail survey of lobbyists, Hojnacki and Kimball (2001) find that connected PACs are more likely to contact members of key congressional committees than non-connected PACs, but that the access advantage had more to do with the groups' base of support than with the amount of money they contributed to committee members. These studies tend to be limited in scope, and do no clearly establish any kind of systematic pattern of influence is at work. What they do establish are the merits of investigating interest group influence in ways that might not show up in roll-call votes, and advancing the methodology beyond anecdotal descriptions limited to a particular occurrence.

Other studies show a linkage between PAC contributions and committee participation in hearings pertaining to bills on the legislative agenda. In addition to examining the impact of PAC contributions on House roll call votes, Witko (2006) looks at the relationship between a PAC and the likelihood a House member participates in a congressional hearing about an issue on which a PAC has taken a position. He finds a significant relationship between PAC contributions on both roll-call votes and committee participation, although the finding is stronger for low visibility, non-ideological bills. High visibility tends to encourage more partisan and ideological behavior, which

constrains the influence of interest groups. In a separate study, Witko (2011) finds evidence that connected PACs who give more money to candidates are rewarded with more federal contracts. The Witko studies transcend the usual limitations of interest group influence studies because they include both a larger samples, particularly in the contract study, which analyzes awards from 1979 to 2006. Showing sustained influence, or influence across a broad spectrum of policies, is crucial for scholars who wish to make a compelling case that interest groups really do have more than marginal influence over public policy and the behavior of legislators.

In a similar vein, there are a few other studies which make use of large amounts of quantitative data to establish whether there is a distortive effect of elite attitudes on political outcomes in American democracy. Gilens (2012) examines policy preferences of Americans at various income levels and assesses the relative agreement or divergence of those groups with policy outcomes. Decades of public opinion surveys and policy outcomes show that American public policy is far more responsive to the attitudes of affluent citizens (which he defines those in the top 10 percent of household income) than to the vast majority of poor and middle class citizens. Interest groups, however, are not fingered as the culprit for this distortion as much as the prevalence of socially liberal and fiscally conservative attitudes among the affluent citizenry (Gilens 2012, 1-11). He concludes that interest groups do have an influence on public policy, but that the influence is not consistently in lockstep with affluent attitudes.

Based on the data in his analysis, Gilens disagrees with pluralists about the character of American democracy but also quarrels with elite theorists who contend that interest group contributions and lobbying efforts are a primary causal factor worthy of inclusion in any theory of the public policy process or legislative behavior. The findings of the original analysis are further refined in a later paper, which more narrowly focuses on interest group impact on public policy by dividing groups into mass-based interest groups and elite-based groups (mostly business groups). They find the preferences of elite individuals and organizations have substantial influence over

governmental policy in the United States, whereas citizen-based groups and opinion have a negligible effect (Gilens and Page 2014). To clarify, in the latter study, which included 1,779 policy issues, there is a finding for significant business group influence, which contradicts the finding of the earlier analysis. Gilens and Page (2014) conclude there is evidence for theories of elite dominance and biased pluralism, but not for majoritarian pluralism and majoritarian democracy.[15]

The Gilens and Page study constitutes some of the strongest quantitative evidence marshaled thus far in favor of elite theory in terms of policy outcomes, and moves Gilens in the direction of other political sociologists and other scholars who have studied interest group influence in much the same way, albeit less systematically. Analysts who examine macro-level changes in public policy or political behavior emphasize the rightward ideological shift in American politics that occurred during the late 1970s and early 1980s. First, after the FEC's decision to allow non-union organizations to form PACs, the number of such groups grew exponentially, as previously noted. In the 1980 election, contribution strategies changed for business PACs, as GOP challengers enjoyed previously unprecedented support during the wave election of 1980. Commonly known as the "Reagan Revolution," the election gave Republicans the White House and control of the Senate for the first time in 28 years.

Changes in the electoral landscape during the mid-1970s to early 2000s coincided with policy changes that generally favored the business community. Several industries, including transportation, energy, communications, and finance, were deregulated (Winston 1998). Rates for income taxes, estate taxes, and capital gains taxes were generally reduced, with a disproportionate

[15] The four theories of democracy are as follows: Theories of Majoritarian Electoral Democracy attribute most government policies to the democratic will of the majority of average citizens. Economic Elite domination contends public policy is dominated by individuals possessing the most resources, or wealth. Majoritarian Pluralism is the classic conception of factions rooted in Federalist No. 10 where political parties, political majorities, organized interest groups, business firms and industrial sectors comprise diverse constituencies that decentralize power. Biased pluralism is where interest groups are diverse but the views of those with less wealth and influence get less traction than views of powerful groups, such as corporations and trade associations (Gilens and Page, 4-8).

benefit accruing to affluent taxpayers (Tax Policy Center 2014). Unions were also weakened substantially, particularly in the private sector. As union membership declined, "right to work" laws were enacted, and free trade agreements made collective bargaining more difficult, as American workers faced increasing competition from emerging labor markets. The coincidence of party realignment, changing campaign finance laws, the proliferation of business PACs, declining union membership, and globalization make it difficult to empirically disentangle the causes of these policy shifts, but some scholars contend that changes in election dynamics and interest group politics are part of this greater narrative.

Literature concerning the impacts of interest groups on members of Congress is vast and varied in approach, and contentious in terms of the conclusions reached by political scholars. There is no broad consensus about whether interest group relationships with members of Congress influence congressional behavior. For every study showing a significant relationship between donations and roll-call votes, there is another showing no relationship. One reason for such disparate outcomes is that most studies examine anecdotal accounts, focus on a specific issue type (e.g. defense bills, agriculture bills) or rely on a small sample of votes. This methodological limitation makes it difficult to formulate contingent theories about when interest group influence may manifest itself in models of roll-call votes and when such influence is unlikely to show up in statistical models. Such a possibility suggests the need to examine a broad array of issues rather than narrow the focus. At the same time, context is important, particularly the campaign finance structure during the time of analysis and the internal dynamics of the affected political institutions. To ensure these contingencies are taken into account, it may be preferable to analyze a large number of policy issues over a somewhat brief period of time. Long-term analyses tend to ignore short- and medium-term factors, eschewing the difficult work of building comprehensive political theory on a piecemeal basis such that these factors are not ignored.

In studies of interest group influence in Congress, It is also rare that multiple points of access are examined in quantitative studies of interest group influence. The scope of activity should be expanded beyond roll-call votes to include committee activity, specifically co-sponsorships of congressional legislation. Manipulating the legislative agenda is often just as crucial to interest group strategy as corralling votes on pending legislation. By examining multiple stages of the policy process, the analyst can determine whether some groups prefer one strategy over the other. For example, perhaps policy change necessitates lobbying key committees and organizing floor votes, but status quo protection merely requires making no legislative requests or even asking key committee members not to alter existing policy. Studying contribution strategies, lobbying efforts and voting outcomes in tandem may provide revelations that would otherwise be missed by studying each separately.

Quantitative analysis of lobbying is limited somewhat by the less-than-transparent nature of lobbying disclosure rules. The Lobbying Disclosure Act (1995) held that interest groups spending over pre-specified limits for lobbying firms or in-house lobbyists must register with the Office of the Clerk in the U.S. House of Representatives or the Senate Office of Public Records. Currently, the Open Government Act (2007) has set the spending threshold at $3,000 for lobbying firms and $12,500 for in-house lobbyists. The reports are to name the lobbyists, client, the bills or issues on which lobbying was conducted, and whether the lobbyist(s) held meetings with members of Congress, the White House, or executive branch administrators (Office of the Clerk 2013). The problem is most of these reports are vague about exactly who was lobbied. For example, if Walmart lobbies Congress on specific issues, the entry under “covered positions” typically consists of vague allusions to “Congress,” “U.S. House,” or “U.S. Senate.” Without knowing which members of Congress lobbyists are approaching, it is hard to understand how and when influence flows throughout the access networks created by the campaign finance process. Establishing the access pathways is relatively straightforward, but modeling how the information and attempts to sway

members of Congress works in practice will be challenging until the federal government adopts better transparency laws and practices.[16]

Most of these studies assume there is a social dynamic at work but typically this assumption is not tested. Qualitative analysis is capable of rendering a more detailed social dynamic of this process, but the data tends to be anecdotal rather than systematic. Quantitative studies largely ignore the interdependence of the members in the legislative body studied. Most of the quantitative models use traditional attribute-based data, typically using PAC contributions as the independent variable of interest and some sort of legislative behavior (e.g. whether the bill passed, roll-call votes, co-sponsorships) as the dependent variable. Given that linear regression or maximum-likelihood estimation are the predominant approaches to quantitative analysis, the assumed independence of cases is not considered and is therefore a source of model specification error. These errors can potentially lead to autocorrelation issues.

The methodological problem corresponds to theoretical shortfalls with the literature. Political scientists tend to dismiss the social nature of politics, viewing political phenomena as little more than an amalgamation of individual attributes, preferences and actions. Understanding how interpersonal relationships shape preferences and action will enhance quantitative modeling of interest group behavior and Congressional behavior. It is not enough that political science provides us with models that merely predict *what* individuals or groups will do during the policymaking process, even though some are highly accurate (see Poole and Rosenthal (1985) for an example). We must also understand *how* and *why* those decisions are made. Quantitative studies must therefore account for how social relationships between interest groups, lobbyists and members of Congress contribute to legislative outcomes.

[16] The same observation could be made about state laws concerning the transparency of contributions and lobbying.

### 1.7 Social Network Analysis and Legislative Networks

Apropos political networks research as it pertains to the inner workings of Congress, some initial research has been published, though none of it addresses the primary questions of this study directly (save perhaps (McClurg and Philips (2011))). Nevertheless, the research currently available provides evidence about how various elements of graph theory can be useful when explaining the social dynamics of legislative interaction in Congress. In particular, legislative networks have received significant attention from scholars investigating social factors related to party factions, congressional committees, party caucuses, co-sponsorship ties, and various other legislative characteristics (Bratton and Rouse 2011; Fowler 2005; Fowler 2006; Koger, Masket and Noel 2010; Porter et al. 2005; Ringe, Victor and Carman 2013).

An emerging investigative theme of these studies concerns the internal structure of political institutions and political parties. Scholars want to know how these parties coordinate political action, and how social ties facilitate cooperation and fissures in the network. Legislative member organizations in European Parliaments and in U.S. Congress provide informal networking opportunities for legislators to exchange policy-specific, or party-specific, or other otherwise unobtainable information (Ringe, Victor and Carman 2013). Connections between congressional committees and subcommittees, rarely studied previously, are used to facilitate the exchange of information and provide a hierarchical structure within legislative networks. The authors also find a correlation between committee assignments and roll-call voting (Porter et al. 2005). Affiliated political organizations have sophisticated networks for transferring donor information between each other as well. (Koger, Masket and Noel 2010). In this study, the authors sent membership dues or contributions using unique names for each to see which other organizations received their mailing address and other contact information. In this particular paper, there is a confluence between political parties, interest groups, campaign finance organizations, and media outlets. By documenting these ties the analysts were able to construct an extended party network to include

organizations outside elected office. The result was a polarized network with a largely Democratic, liberal grouping of factions and a Republican, conservative grouping of factions. Within each faction, there were divisions. Divisions within the Republican factions were more distinct, whereas Democratic factions tended to share information across factions (Koger, Masket and Noel 2010, 40-50). Similarly, another study of party cleavages in Italian parliament unearths intra-party cleavages and interparty collaboration by analyzing co-sponsorship ties (Parigi and Sartori 2014). Analysis of these fissures within legislatures and political parties shows how SNA can potentially be used to unearth cross-currents that facilitate internal institutional discord, mitigate conflict, or induce cooperation (bipartisanship).

Graph theory concepts and methods from other disciplines have enriched recent political networks scholarship. This novel approach delivers a fresh approach and provides scholars a new way to conceptualize and measure variables. The co-sponsorship studies have been quite instructive in this approach, perhaps because co-authoring legislation is frequently a bipartisan process that cannot be merely explained by political science motifs of political parties and ideology. Bratton and Rouse (2011) scrutinize how ideological distance, legislative districts, homophily and transitivity influence the likelihood that legislators will co-sponsor legislation. Homophily is the tendency of people with shared characteristics to like each other or bond with one another to a greater degree than those without shared characteristics. Transitivity is in essence the measurement of an indirect effect — the extent to which a legislator tends to work with their collaborator's collaborators. Homophily measures such as race, gender, and ethnicity have been included in political science models of legislative behavior for some time, but other measures, such as legislative proximity, office proximity, educational background, and occupational background have rarely been examined. Fowler (2006) analyzes House and Senate co-sponsorships and finds a logrolling effect — a sponsor is more likely to co-sponsor legislation written by colleagues who sponsor his or her legislation. He also introduces a new measure that he terms "connectedness" —

a weighted measure of closeness centrality that he uses as a proxy for legislator influence. He finds that more influential legislators are more likely to get their bills passed, and that colleagues who co-sponsor each other's legislation are also more likely to vote in the same manner, even after controlling for party and ideology. These studies introduce new ideas and approaches to legislative behavior, which has historically been driven by institutional theories and rationalist assumptions (McClurg and Lazer 2014).

Some analysts have used SNA to test how novel conceptualizations— at least novel in political science — of social forces influence legislative behavior. Proximity is one such variable that has never been given much attention in traditional political science literature. Specifically, some scholars investigate whether legislators who live and work in close proximity to one another are more likely to receive similar campaign contributions, cosponsor legislation or vote similarly on roll-call legislation (Koger and Victor 2009(a); Rogowski, Sinclair and Beck 2012; Bergemann and Parigi 2011). These studies presume that these individuals will have more occasions for informal social interaction with colleagues — which according to Kingdon's highly influential study of the 91st congress is the most significant determinant of how members make voting decisions. The evidence in this particular social relation is somewhat mixed. There is some evidence that members of Congress from geographically proximate districts are more likely to have common donors (Koger and Victor 2009(a)). Another paper analyzed the voting patterns of members of Congress living in the same houses in Washington, D.C. from 1815-1841. The authors found the WNOMINATE scores of members to be more tightly clustered than would be expected (Bergemann and Parigi 2011). On the other hand, a recent study of House and office locations found little evidence that office location — whether the office was located in the same building, same floor or same wing — had any effect on co-sponsorships or roll-call voting in recent sessions of Congress (Rogowski, Sinclair and Beck 2012). The study also uses some other interesting control variables, including House member experience, congressional cohort, college and religion.

These network studies of physical proximity do not tell a clear story, but they do reinforce the merit of political sociology's propensity to test broader array of social characteristics in their models of congressional decision-making.

It is necessary to return again to McClurg and Philips (2011) because they study both interest group strategies and legislative outcomes using SNA methods. Their study illuminates how network cohesion in interest group networks influences congressional behavior. They model how legislator attributes attract common PAC donations from the agriculture, defense, communication, energy, and health sectors, and how the donations patterns of these groups structure partisan conflict or cooperation. Two measures of policy sector network location are derived: partisan differentiation and closeness centrality. Partisan differentiation is measured as the difference between mean in-party ties and mean out-party ties. Closeness centrality is essentially an inverse function of the sum of geodesic distances from one actor to all other actors.[17] In their models of legislator attributes, McClurg and Philips find ideological extremeness is negatively related to closeness centrality in all but two cases. Constituency preferences are typically insignificant, whereas those in leadership positions have more ties to members of the other party and are more central in the closeness centrality networks (McClurg and Phillips 2011, 20-21). Interestingly, they also found Republicans had stronger partisan ties and more central in the network despite Democrats having seized control of the House during the 2006 mid-term elections. In the party unity models, they find healthcare sector contributions significantly contribute to party unity of Democrats, and energy sector contributions significant contribute to party unity of Republicans, although the effect was rather modest in the latter case. They conclude interest groups will attempt to build cooperation at times and induce conflict at others. Changing policy depends on the nature

[17] A simple function for actor closeness centrality discussed in Wasserman and Faust (1994) is as follows: $\mathbf{C_C(n_i)} = \left[\sum_{\mathbf{j=1}}^{\mathbf{g}} \mathbf{d(n_i, n_j)}\right]^{-1}$

of the change requested, the connections enjoyed by the groups seeking the change, the relative unity of the groups, and the unity of opposition groups (McClurg and Philips 2011, 24-26). The empirical evidence provided for their conclusions is somewhat limited, however.

The analysis provides some important foundational work for theories of interest group interest (as noted earlier) and employing network analysis methods to determine how social characteristics are the mechanisms through which interest group strategies work. Through their analysis of several policy sectors, McClurg and Philips reveal interest group donations strategies and effects differ depending on the issue area, contribution strategies and the legislative agenda, even though their theory does not address these contingencies directly. There are some problems with approach in terms of the models. Centrality measures are difficult to use in networks with high densities because they tend to yield measures with very limited variation. UCINET generally dichotomizes valued data to create various centrality measures. In order to create measures with sufficient variation, one typically has to take various cutpoints (quartiles, means, and medians) and dichotomize based on a critical threshold determined by the analyst. For example, a researcher who wants to discount the impact of having only a small number of ties in order to focus on ties between members with larger numbers of common donors may take a cutpoint where ties strengths with values below the lowest quartile are set to "0" and all other values are set to "1." This practice can be useful if analysts compare the data at various cutpoints, but it also requires that they throw away a substantial chunk of data to generate scores with sufficient variation to test in regression models. The party unity models subset the data such that it is possible to differentiate between the effects on Democrats and Republicans, but do not report any results for models that include all members of the network. Criticisms aside, the study represents a very useful starting point for an in-depth study of how interest groups forge social ties between members of congress, and how those ties influence legislative behavior.

## 1.8 Synthesizing Political Science and Political Sociology Research

As the recent deluge of political networks studies demonstrate, SNA methods have plenty of utility for researchers engaged in the analysis political networks. New theoretical and analytical approaches to interest groups and legislative institutions have been particularly fruitful. Studying SNA methods and their previous use exposes political scientists to the work of political sociologists and scholars in other disciplines, which subsequently helps ferment new research approaches. The objective of this study is to combine the best elements of previous research to create a more comprehensive theory of interest groups and their influence in legislative institutions. There are several features of this study that distinguish it from previous studies of similar political phenomena. First, it combines behavioral theories of interest groups, institutional theories of political science, sociological theories of political networks and SNA in a unique way. Second, it connects interest group strategies to legislative behavior in a multiple circumstances. Few quantitative studies focus on both strategic interest group behavior and how it translates into legislative outcomes at multiple points in the policy process. Third, the analysis will disaggregate interest group, co-sponsorship and roll-call data in a novel way to account for the various industries and group types that make contributions to candidates and lobby Congress. Last, the study will demonstrate how institutional and social constraints have different impacts on the ability of interest groups to sway members of Congress concerning different policy issues.

The next chapter touches on the theoretical foundations of this project. In particular, it will review mechanisms of legislative access and influence, and how they relate to the social nature of congressional decision-making. It will build on previous research by synthesizing varying approaches and developing some new theoretical and analytical approaches that clarify instances when to expect Congress will be more responsive to interest group preferences and when those preferences may be overridden by other concerns. The theoretical concepts and assumptions will then be used to derive predictions about when interest groups will have significant influence over

legislative behavior. There will be preliminary discussion about why they might not. Ultimately, the hope is that the study will illuminate the import of interest group ties between members of Congress, why those ties form, and how those ties impact public policy. Recently, lobbying data has been made available that provides pretty good detail about the positions interest groups take on pending legislation. This data provides more context about how and when access networks might work in practice. It is employed here so that new insights about interest groups and legislative networks may be derived.

Returning to the larger question about whether the U.S. system of campaign finance and lobbying subverts democratic policy and delegitimizes the public standing of Congress and other political institutions, it is crucial to note the study does not make any definitive claims. What is does aim to do is redirect research in a more fruitful direction. Political networks research offers a path to improved understanding about how social relationships drive institutional action. Scholars must move beyond approaches that merely predict political phenomena to approaches that enrich our understanding of the phenomena studied. Testing complimentary or competing theories of interest group influence will add something to the accumulation of evidence concerning pluralist and elite theories of democracy. Combining some of the best features of previous approaches moves the discipline toward a more comprehensive theory of interest groups and legislatures, and can help eliminate persistent misconceptions about public policymaking in the United States.

## Chapter 2. Interest Group Influence in Congressional Policy Networks

This chapter specifies a theory of interest group influence in congressional policy networks. It includes theoretical frameworks borrowed from several sub-literatures, which inform the development of relevant concepts, assumptions, and predictions of the theory espoused herein. Specifically, traditional institutional theories of interest groups, lobbying and Congress are spliced with theories of campaign finance strategies, political network theories, and theories of the policy process to explain interest group strategies and the social mechanisms of interest group influence over congressional behavior. Thematically, the chapter explores interest groups and access strategies, Congress and the social nature of decision-making, policy networks and policy domains, and the importance of supplying contextual information about constraints on such access strategies. The central premise of this investigation is that as interest group ties between legislators grow stronger, they will work together more frequently to co-author and pass legislation, all else equal. Access is the fulcrum of interest group influence – in other words, the relationships established between interest groups and members of Congress during the campaign is used to facilitate legislative action. But this influence may only manifest itself under certain conditions, which will be delineated in this chapter and empirically demonstrated in the chapters that follow.

### 2.1 Interest Groups, Access and Relationships

Interest groups have been the subject immense scholarship and have therefore been subject to a variety of definitions and conceptualizations. Granados and Knoke (2005) utilize the term "organized interest group," and include the following parameters: formal structure, bounded membership, a clear distinction between leaders and its members, and an attempt to influence government officials or public policy (Granados and Knoke, 2005, 287).[18] Their definition is well-

[18] Granados and Knoke look extensively at how groups influence Congress, executive branch officials and administrative agencies.

crafted because of its specificity and restrictiveness, especially when compared to earlier, more amorphous definitions like those proposed by Truman (1962). Truman's conception merely required that groups have shared attitudes and make claims on others. Definitions of interest groups were refined in response to the work of Mancur Olson and other rational choice theorists, who wanted to explain how individual motives and incentives compelled people to join groups (Ainsworth 2002). In a more concrete sense, campaign finance laws helped to facilitate the creation of these formal interest group organizations, which are typically political action committees (PACs). PACs have the distinction of being organizationally separate from their parent organizations, but their goals and objectives are generally synonymous.

Defining interest groups in this manner allows one to distinguish them from individual donors who likewise make contributions to congressional candidates but have no formal organization to coordinate their action. These individuals generally lack shared, coherent policy goals or lobbyists to work toward those goals. Furthermore, the definition allows the exclusion of identifiable group who lack political objectives or collective organization (Granados and Knoke 2005). Because these groups have identifiable characteristics, structure, particular organizational features, and their policy goals are often stated, it is easier to measure the impact of their activity. All such groups are political arms of political parties, corporations, business and professional associations, unions or formal grassroots organizations. With these considerations in mind, interest groups will hereafter be referred to with reference to this particular conception of the interest group — that which is distinct from politically active individuals or loosely affiliated groups based on ethnicity, gender, sexual orientation, or any other purely demographic characteristics.

Political scientists and political sociologists mostly agree that interest groups are usually strategic actors, and that they make contribution decisions on a rational basis (Ainsworth 2002; Baumgartner et al. 2009; Burris 1987; Clawson, Neustadtl and Scott 1992; Granados and Knoke 2005; Wright 1995; Godwin, Godwin and Ainesworth 2007). Disagreement arises concerning the

degree to which groups emphasize electoral strategies or access strategies when making decisions about contribution allocation. While groups frequently produce a mixture of electoral and access objectives, campaign contributions to members of Congress are generally geared toward obtaining access to members and not influencing electoral outcomes. Several interrelated facts about contemporary congressional elections mentioned in Chapter 1 support such an assertion. First, the vast majority of House and Senate races are not competitive, especially if there is an incumbent running for re-election. Second, incumbents tend to receive the vast majority of contributions made by organized interest groups, which exacerbates the lack of competition. Third, interest groups who have developed beneficial relationships with incumbents — even those with whom they may not always agree — are loathe to sacrifice them in order to support a candidate moderately more sympathetic with a substantially higher chance of electoral defeat. Fourth, substantial percentages of contributions from most interest group sectors go to members of both political parties, which suggests contributions are to some degree made based on who is likely to win, regardless of which candidate a group or collection of groups would prefer. [19] As such, the primary purpose of PAC contributions in particular is assumed to be related to access goals and not electoral goals. It should be noted this assumption enjoys a fair amount of empirical verification as well (Baumgartner et al. 2009; Hojnacki and Kimball 2001; McClurg and Philips 2011; Victor 2007).[20]

The term "lobbying" is also often used without clear definition. The 1995 Lobbying Disclosure Act (1995) defines lobbying activities as "lobbying contacts and any efforts in support of such contacts, including preparation or planning activities, research, and other background work

[19] Abramowitz, Alexander and Gunning (2006) document the decline of competitive elections. Figure 1.2 in Chapter 1 displays the percentage of contributions going to incumbent candidates in each interest group sector. Wright (1995) notes how pursuing access strategies are more efficient and less risky than pursuing electoral strategies. The partisan balance of each sector's overall PAC contributions suggests strategic behavior as well, with most sectors opting to preserve access to members on both sides of the aisle.

[20] But see Grossman and Dominguez (2009) for evidence that campaign contributions and lobbying efforts may not be as closely synchronized as is widely believed.

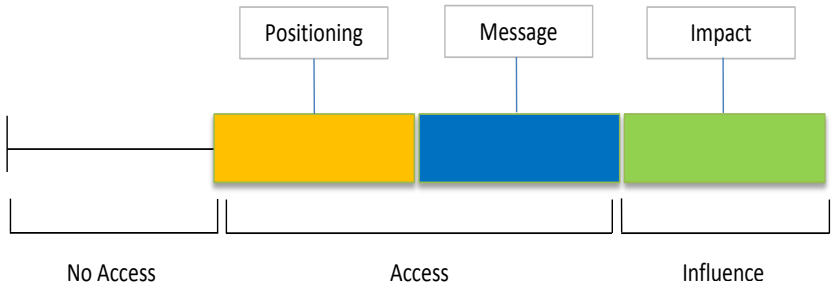
that is intended, at the time of its preparation, for use in contacts, and coordination with the lobbying activities of others." This definition pertains to direct lobbying, which means direct written or verbal communication with a member of the legislative or executive branch.[21]. Indirect lobbying — those activities which are circuitously directed at influencing legislators through constituents, media campaigns and rank-and-file-member activities — should also be considered, as they are coordinated efforts by the same groups to influence elected officials. Direct and indirect lobbying efforts are often employed in conjunction with each other. Direct and indirect lobbying can therefore be difficult to separate without finely grained data (see Victor 2007). Absent such precision, it behooves the researcher to define lobbying broadly to encompass it in all of its forms. Nevertheless, direct lobbying will be the primary focus of the theory explicated herein.

Despite the widely shared assumption that interest groups pursue access strategies with great regularity, the conceptual meaning of access has remained largely ambiguous. Too often scholars conflate access with influence. In the realm of lobbying, access is typically viewed as a means, and influence as an end. For this reason, the two concepts are often difficult to distinguish. Access might be a harbinger of influence, but not necessarily so. Conceptually, it could be defined very narrowly to merely mean a lobbyist or interest group representative has made formal or informal contact with a member of Congress or congressional staffers at a fundraiser, committee hearing, meeting or other social event. More broadly, it could mean a close relationship where an interest group representative is a trusted confidante sought out by a member or members of Congress for advice on pending legislation, policy information or other resources. Wright (1995) conceived of a qualitative access continuum with no access on one end and influence on the other, which is

[21] The Lobbying Disclosure Act (LDA) was significantly overhauled by the Honest Leadership and Open Government Act (2007), which was meant to rein in some of the more egregious ethical violations by curbing revolving door practices, strengthening disclosure requirements, instituting a prohibition on free travel and gifts from lobbyists, increasing transparency, strengthening penalties and other regulations, and ending the widely denounced "K Street Project." However, many of the definitions set forth in the LDA remain in effect.

replicated in Figure 2.1. In between are intermediate stages positioning and messaging. The positioning stage concerns the formative stages of relationship building, which includes the establishment of lobbying offices, campaign contributions, helping legislators obtain general information and inviting them to events sponsored by the interest group. During the messaging phase the member of Congress will make requests for information concerning specific policy issues and positions on legislation. In the final stage, where influence is actually obtained, a member of Congress actually adjusts his or her position because of the group's lobbying message.

**Figure 2.1 Access-Influence Continuum from Wright (1995)**




This conceptualization of access has substantial merit. It provides gradations which distinguish group-legislator relationships of varying strengths and conceptually separates access and influence to the degree it is possible. It contains a crucial assumption, which is that access is a prerequisite for interest group influence via lobbying. Wright does allow for the influence of legislator ideology, grassroots lobbying and constituency views in the high-level version of his theory, but access as a mechanism for those social forces makes little sense, except perhaps as an interactive effect between direct lobbying and indirect lobbying. Unfortunately, the qualitative nature of each group-legislator relationship would be difficult to gauge without extensive survey research.

Recent scholarship does suggest some relationship between campaign contributions and the degree of access enjoyed by various interest groups. Boehmke, Gailmard and Patty (2013) find that

business groups and trade associations are much more likely to engage in direct lobbying of legislatures and administrative agencies than labor associations, citizen groups, non-profits, and government organizations. Similarly, Baumgartner et al. (2009) found evidence that business groups and trade associations were more active in lobbying, and had better access to high-level government officials in the executive branch, as well as congressional leaders. These findings are consistent with earlier studies yielding similar results (Langbein 1986; Esterling 2007). However, Victor (2007) and (Hojnacki and Kimball 2001) find mixed evidence or no evidence that money is a significant predictor of lobbying or access. On balance, the most expansive quantitative studies do show such an association if not a linkage, and qualitative studies based on interviews with lobbyists have established that contributions are often given with such a purpose in mind (Ainsworth 2002; Clawson, Neustadtl and Scott 1992; Clawson 1998; Lessig 2011; Wright 1995).[22]

With a few modifications, Wright's conceptualization of access could prove significant to this project's theory of interest group influence. Rather than focus on the qualitative status of each group-legislator relationship, the concept can be reformulated with an assumption about the quantitative aspect of group-legislator relationships. Each relationship based on group-legislator access carriers some probability of manifesting influence over one or more legislators. In some cases, these relationships are public knowledge; in other instances, they are more clandestine for reasons of political expediency. Nevertheless, as the number of such access-based relationships increase, the probability that at least one or more of those relationships constituting actual influence should likewise increase. Whether or not group-legislator relationships gestate into political partnerships influencing legislative outcomes will depend upon the group's goals, their ability to deliver resources valued by members of Congress, their relationship with other members of

[22] It is probably fair to point out that Hojnacki and Kimball (2001) are two of the authors for the Baumgartner study, which contravenes some of their earlier claims, and Victor's study is based on a small sample of legislators and interest groups.

Congress, and the constraints introduced by institutional barriers and other actors engaged in the policy process.

Influence is achieved through the careful development and maintenance of relationships. The purpose of congressional fundraisers, for example, is to not only provide candidates with resources necessary to get elected, but to provide donors and their representatives with the opportunity to create a personal connection. These connections are solidified through the exchange of campaign contributions. Some theorists have conceptualized the process as a form of ritualized gift-giving, or have described it as a gift economy, which create "networks of obligation" (Clawson, Neustadtl and Scott 1992; Lessig 2011). Lessig argues that lobbyists use campaign contributions to garner beneficial public policy concessions, and politicians use its legislative power to extort funds from interest groups. Members of Congress who are prolific fundraisers tend to be viewed as "safe" incumbents. Those campaign funds are used to run sophisticated re-election campaigns with consultants, pollsters, television advertisements, social media presence and large staff. Large campaign war chests sometimes discourage quality challenges from opposing an incumbent at all. Business-related interest groups fear losing subsidies, tax benefits, and regulations that insulate them from competition. This mutually reinforcing mechanism provides stability and dependability to what would otherwise be an insecure and unstable social relationship. These theorists argue that it would be a mistake to characterize these relationships as *quid pro quo* relationships, as there is generally no explicit understanding between legislators and groups courting their favor.[23] But the system does change the legislative process in profound ways.

[23] This is not to suggest that corruption never results or that bribes never occur. Relatively recent examples include those of Rep. Randy "Duke" Cunningham (R-Calif.) and Rep. William J. Jefferson (D-Lou.), who were both convicted on corruption charges and sent to prison in 2006 and 2009, respectively. Cunningham and Jefferson both took gifts and bribes from defense contractors in exchange for awarding them lucrative defense contracts, though their particular cases do not appear to have been related. Rep. Tom DeLay (R-Tex.) was convicted of money laundering and conspiracy charges in 2010 after illegally fundraising for Republicans seeking state office in Texas, and he may do prison time pending the outcome of his legal appeals.

Sometimes, legislators will respond in ways that are completely legal yet controversial because they take actions that are clearly meant to benefit an influential contributor. Perhaps the most visible example in recent year was the revelation that, in spite of receiving a massive taxpayer-funded bailout, executives at AIG were still allowed to pay themselves scheduled performance bonuses. It was Sen. Chris Dodd (D-CT), AIG's top all-time recipient of campaign contributions, who amended bailout legislation to allow TARP recipients to make contractually scheduled bonus payouts to company executives (Beckel 2009). Although Dodd initially tried to shift blame to the conference committee for making the changes, he later admitted that he modified an amendment to the original legislation at the behest of administration officials (Keating 2009). The original bill would have capped executive bonuses, but the modified amendment contained no such cap. Controversy over the bailout legislation eventually caught up with Dodd, and in January 2010 he announced he would not be seeking re-election. For its part, AIG disbanded its lobbying team and did not make any campaign contributions from its PAC in 2009 or 2010, according to the Center for Responsive Politics. While special interests have the ability to create favorable policies by strategically targeting individuals in Congress well-positioned to do them favors, exposure of controversial policies or ill-gotten gains via the legislative process can have real consequences for the guilty offenders. The problem, according to critics of the current system, is that such favors rarely receive the kind of media attention focused on the AIG-Dodd affair.

While Lessig and others reformers focus heavily on money's influence in national politics, campaign contributions are not the only relationship-building tool at the disposal of interest groups. Information is a tool groups use to strategically manipulate legislative outcomes to their advantage. As noted previously, lobbyists and PAC officials tend to present information aimed at either changing a member's mind on a certain issue, or reinforcing prior preferences, depending on whether the organization's goals are policy change or status quo protection (McClurg and Philips 2011; Wright 1995). Information is used strategically whenever it furthers an interest group's

agenda.[24] Information can be a policy study or analysis; committee testimony; drafts of legislation; data that would otherwise be unavailable, labor-intensive or cost-intensive to collect; legislative strategy; insights into how other lawmakers are leaning on a particular bill; potential co-sponsors for legislation; information about constituency opinion; informal meetings just to maintain good relationships; notification of a group's grassroots lobbying campaigns; publicizing the intent to score a particular roll-call vote in their interest group ratings; and other media strategies (Victor 2007). All of these activities and the utility of the information they supply are crucial to relationship development with members of Congress, the executive branch or any other target of the messaging.

Of course, not all interest groups develop close working relationships with members of Congress, and many contributors do not engage in direct lobbying or in strategic use of information to manipulate outcomes. Pluralists note that members of Congress' attention is scarce, and that the mere act of giving a direct contribution to a campaign does not necessarily distinguish a group from the deafening chorus of other organized interests attempting to secure benefits for the collectives they represent (Ainsworth 2002). Another problem is that interest groups frequently disagree over matters of public policy, and will simultaneously attempt to use whatever access points are available in order to pursue their goal of policy change or status quo protection. The attention problem is mitigated by the existence of congressional committees and subcommittees, which split up the legislative workload so that members can focus on specific set of policy issues and develop expertise. Interest groups frequently funnel donations to members who sit on key committees or subcommittees relevant to their policy domain. Disagreements can be overcome by building coalitions of support that tip the scales in favor of one option or another, or by emphasizing policy solutions that are relatively uncontroversial and enjoy wide support. Separation of powers means

[24] Wright (1995) notes that strategic use of misinformation typically comes at a high price, and that doing so can irreparably damage the relationship between groups and a member of Congress. While allowing that such manipulation is possible, he does not expect such practices to prevail in any systematic manner, and that such instances would be confined to generally isolated circumstances.

that groups must also convince both legislators and administration officials to act on their behalf, or at least not actively oppose their goals. As a result, executive branch lobbying in conjunction with legislative lobbying has become more common (Boehmke, Gailmard and Patty 2013). Influence does have its constraints, but they are not insurmountable.

Theories that narrowly conceptualize group-legislator relationships as one of campaign finance and access tend to gloss over some of the more complex facets of lobbying. However, the supposition that access is the foundation upon which influential relationships are built is both theoretically plausible and empirically supported. In most circumstances, lawmakers have little incentive to prioritize the needs of non-donors over those of donors. By extension, one would expect donors to get more face time with their member or their member's staff. Multiple studies have demonstrated that business groups and trade groups tend to have more access than other types of interest group organizations. As such, another contention of this investigation is that campaign contributions do not necessary buy influence, but they do buy access, which is a necessary ingredient for an influential relationship.

### 2.2 Congress and the Social Nature of Decision-Making

The congressional paralysis that characterizes contemporary politics has many commentators and pundits bemoaning the demise of congressional collegiality. However polarized and partisan Congress becomes, it still requires a smattering of cooperation to carry out its vital functions — passing laws, vetting executive branch appointments, approving budgets and treaties, and executing various oversight responsibilities. This reality means that decisions must be made in a social context. Congressional action is not merely the product of the individual preferences of autonomous individuals. Indeed, a primary distinction between social network explanations for the phenomena studied and non-network explanations is that conceptualization and measurement is based on relationships between units instead of individual attributes. There is a decidedly social

element to these outcomes, and it is in large part based on the relationships between those elected to serve in the institution. For this reason, it makes sense to analyze Congress as a social network.

A social network is comprised of actors and relationships. The actors or sets of actors are finite in number, and those actors have a clearly shared relation or relations between them.[25] The relationship is the critical, defining feature of the network (Wasserman and Faust 1994). The actor set or sets in a congressional network depend upon the criteria used to define the network and bound its membership. Depending on the specificity or broadness with which one defines a network, the actors could be limited to members themselves, or include interest groups, lobbyists, constituents, media, congressional staff, members of the executive or judicial branch, and other federal government employees. For purposes of this analysis, members of Congress are the primary actors of interest, so the network membership will consist of those actors. There are several reasons for restricting the network actors to members of Congress. First, they are the only actors who are in no part exogenous to the formal institution. Other actors have informal relationships with the institution, which is another way of saying they are not formally integrated with its decision-making authority structure. Second, members of Congress are the only actors whose behaviors comprise the dependent variables of interest. Interest groups do not run campaigns, sponsor legislation or cast roll-call votes. Third, it is empirically difficult to analyze networks with two completely different types of actors, particularly where one type of actor is an individual actor and the other type of actor is an organization.[26] Fourth, it is possible to conceptualize interest group as a relationship instead of an actor. This allows the analyst to test the impact of these organizations, as

[25] Wasserman and Faust (1994) provide a formal (mathematical) definition at the end of Chapter 3 of their text.

[26] The statistical and empirical intricacies of one-mode and two-mode networks will be detailed in Chapter 3.

well as other exogenous forces, by thinking of them as conduits of access between members of Congress.

In general, the measurement and analysis pertains to the overall structural properties of the network, relational processes or relational systems (Wasserman and Faust 1994).[27] Relational ties are assumed to be more important than attributes.[28] Ties can be formed on most any basis. Different types of relational ties can include behavioral interaction, transfers of material resources, association or affiliation, physical connection, formal relations (power or authority), biological relations, affective evaluation of one actor by another, or movement between places or statuses (Wasserman and Faust 1994, 18). Most ties in congressional networks concern behavioral interaction, association or affiliation, or formal relations. Behavioral interactions include routine formal legislative acts such as co-sponsoring legislation or roll-call votes. Affiliation-based relationships could be common political party identification or interest group supporters. Formal relations could be joint committee memberships or the relationship between congressional leadership and the rank-and-file. Analyzing multiple types of relations within a network is permissible provided the relationships are properly conceptualized and measured.

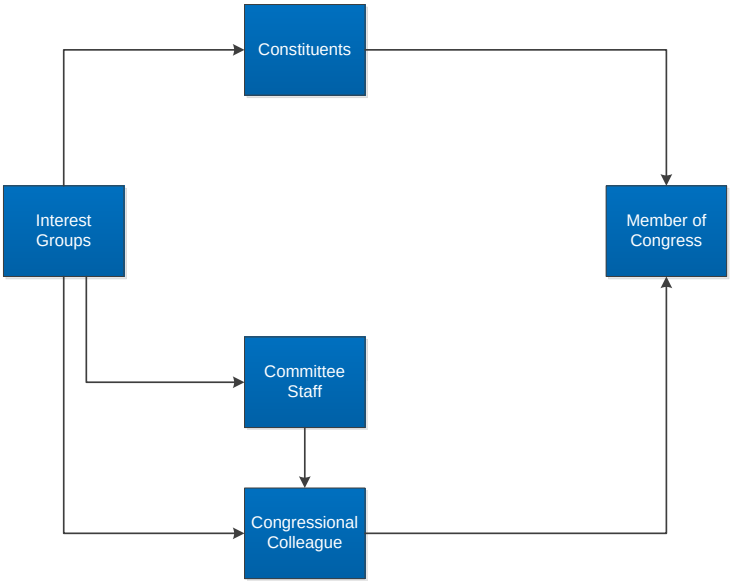
Kingdon makes such an attempt. Although his analysis does not incorporate an SNA framework, Kingdon's work concerning the importance of relationships in congressional decision-making is a key reference point for political network analysts. His study was quite ambitious in that it sought to explain the effect of several different kinds of actors on congressional decisions, including constituents, other members, party leaders, committee chairs, ranking committee members, interest groups, the administration, staff and mass media. The chapter on interest groups

[27] Both Wasserman and Faust (1994) and Scott (2000) have very useful introductory chapters in their books about social network analysis. Scott gives a very nice overview and explores basic concepts in a very accessible manner. Wasserman and Faust's book is more technical and oriented towards methods.

[28] Hereafter ties and relations are used interchangeably.

and members of Congress provides an illuminating picture of interest group influence that flows through several intermediaries, which include congressional colleagues, staff, and constituents (see Figure 2.2, from Kingdon 1989, 158). Kingdon's survey of members shows interest groups are the third most important social factor in decision-making behind congressional colleagues and constituents. Groups are most likely to be effective if they have some connection with a member's constituency. Kingdon finds they tend to have little influence on floor votes, and speculates they instead prefer working with members of key committees and on the legislative agenda. Interest groups are more important to the process when high-salience issues arise. Interest groups active at the time of his survey were more likely to align and work with liberal Democrats than Southern Democrats or Republicans, which is likely an artifact of the pre-FERA era (Kingdon 1989, 174-175).

**Figure 2.2 Kingdon's Flows of Interest Group Influence**




*Source: Kingdon (1989)*

Kingdon's theory and predictions, as they relate to interest groups, are quite convincing in some ways. Its framing of influence is similar to the access theories developed by other scholars, if

somewhat less precise. The view that important committee members receive lots of attention from interest groups has considerable empirical support. There is also some evidence that Democratic Party networks (including interest groups) may be denser than those tied to the Republican Party (Grossman and Dominguez 2009). Most importantly, he develops the idea of influence that flows throughout a system. Social network analysts often make careful considerations about how social forces might work in the network context. The appropriateness of network centrality measures varies, for example, depending on the manner in which social goods flow throughout the network and the dimension in which they are transmitted (Borgatti 2005). Although several kinds of social goods might flow throughout a congressional network, the essential transmission interest groups attempt to effect (through relationships with members) is one of influencing attitudes. The access network, with the actors and its connective pathways, is established with money. But the subsequent flow of this attitudinal influence through the access network is my primary investigative interest.

There are some aspects of Kingdon's approach and assumptions with which I disagree. First, he tends to understate the level of influence enjoyed by interest groups. In fairness, the Congress analyzed in the original study was the 91st Congress (1969-1971), which was the last session before FERA completely reformed the electoral landscape and incentivized more formal, intense interest group formation and interaction. Second, while it makes sense that interest groups would generally have more interest in high-salience bills, increased interest also increases the prospects of conflict with other groups or coalitions, which for the member of Congress has little political utility. Representatives are just as well off choosing one side over the other in such a case.

Witko (2006) actually provides evidence to the contrary, which shows groups are more likely to have an effect when the issue has less visibility and therefore less interest from other actors. While it is certainly the case that committees are a critical component of the policy process, groups must still rely upon floor votes to change status quo policies. Such activities would nearly always be necessary for groups wishing to change the status quo. Last, the assumption that group influence

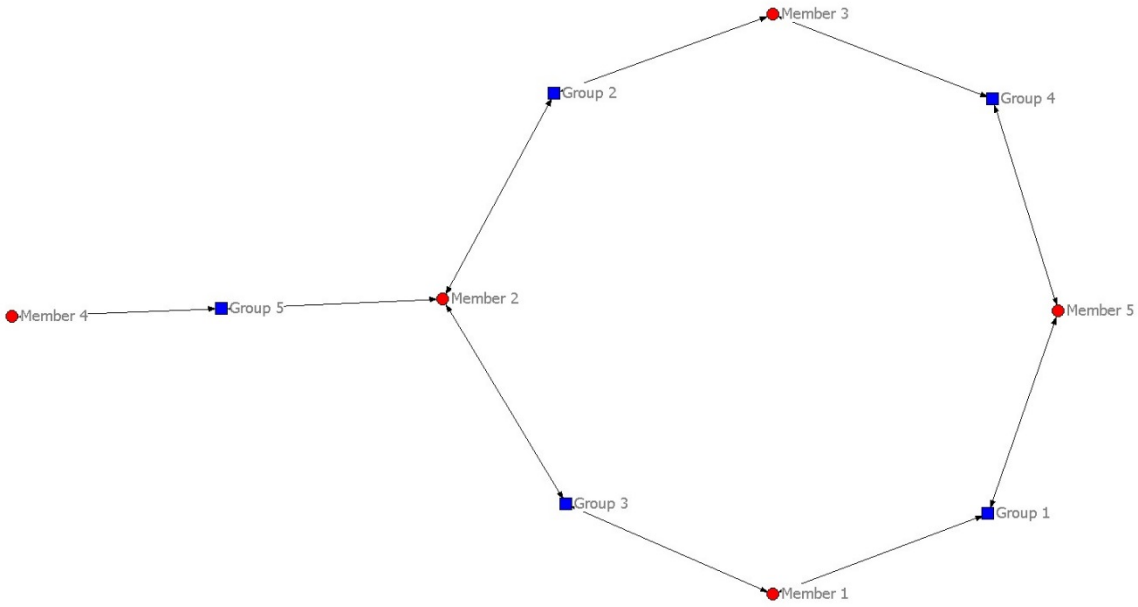
is unlikely without constituent support is questionable. While it certainly seems plausible that interest groups are more likely to be successful if a lawmaker's constituents are favorably disposed toward legislation with group support, it would not be a necessary condition for influence. Groups have far more ways of influencing member behaviors than constituency mobilization, which is costly and difficult to orchestrate without a compelling, highly salient issue. Last, the flows of influence throughout the congressional network are simpler to analyze if the members of Congress are actors and all other actors are defined through their mutual relational ties to lawmakers within the institution.

Figure 2.3 shows two network visualizations $N_1$ and $N_2$, created by NetDraw (Borgatti 2002). Both contain actors labeled *Member 1,2,3,4* and *5*; the first contains a second group of actors labeled *Group 1,2,3,4* and *5*. $N_1$ is a two-mode graph, which means there are two types of actors whose roles are functionally unique. In this case, the two actor types are interest groups and members of Congress. The ties could be based on any number of factors, but here let us assume the ties are based on access. The arrowheads on each tie indicate a two-way tie, or symmetrical tie.[29] While the establishment of such ties is formulated on the basis of campaign contributions from the group to the member, the contribution is assumed to be the establishment of a relationship from which information or other resources can flow in both directions. Two-mode networks only allow ties between different types of actors, and not within types (Borgatti, Everett and Johnson 2013). This structural limitation is the reason why, if the objective is to investigate the impact of interest groups on the behavior of Congress, such networks are difficult to analyze. Two-mode analysis would be appropriate if the objective was to compare the behavior of the two types of actors comprising the two groups. Given that the theory pertains to social impact on only one type

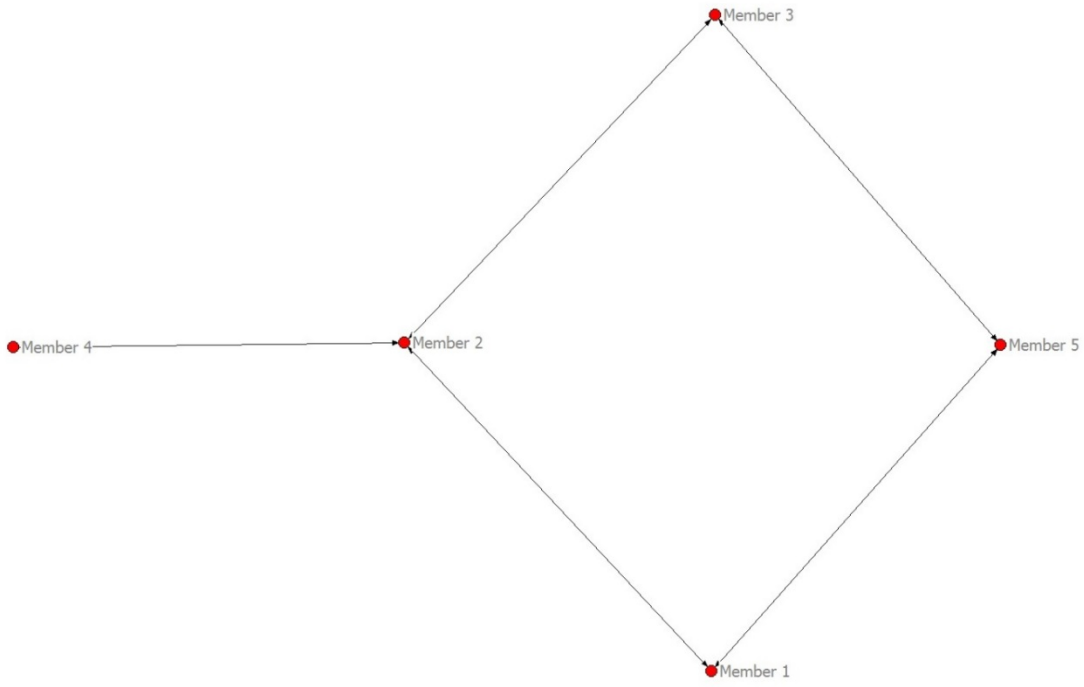
[29] Ties can be directional or symmetrical. Directional ties are those which have a clear origin and destination. Non-directional ties make no such assumptions (Wasserman and Faust 1994). Directed ties or directed graphs have some unique applications, but the network data in this study is assumed to be non-directed unless otherwise noted.

**Figure 2.3 Network Visualization of Two-Mode and One-Mode Data**

$N_{1.}$




$N_{2}$.



of actor — members of Congress — it makes more sense to conceive of a one-mode network where interest groups are defined in terms of how they affect relationships between members of Congress.

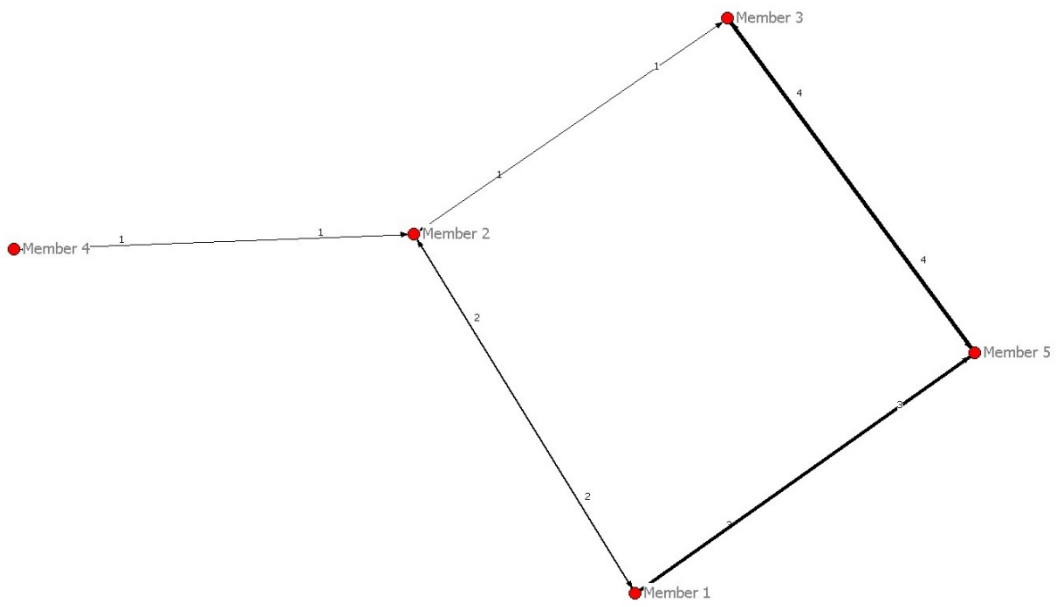
$N_2$ is created from the same data as the first network; the data is converted to a one-mode network by first choosing which set of actors to keep (in this case, members of Congress) and creating ties based on mutual affiliation with the second actor type (interest groups). This is called an affiliation network. Therefore, the members are now tied to one another based on joint affiliation with the same interest group. Indeed, the behavior of interest groups and their members still matter, but the way in which they are conceptualized and measured is altered slightly in order to measure the behavioral impact on members of Congress. The visualizations shown in Figure 2.3 are obviously simplified versions of a congressional network. As shown in $N_1$, none of the groups have ties with more than two members, but one member (Member 2) has ties to three groups. No two members have more than one mutual affiliation with any group in the network. In other words, the strength of each member's tie to other members in $N_2$ is binary, a "0" (in which case there is no tie) or "1" (in which case there is a tie).

Members often have several affiliations (or joint relationships) with interest groups, which means tie strengths will be valued and not dichotomous. Figure 2.4 shows the same five-actor affiliation network as in Figure 2.3, but whereas *N2* has only dichotomous ties, this figure shows how valued data can be visualized. The tie strengths to and from each node is also reported, and the ties themselves are accorded extra thickness as the number of joint affiliations between members increases. For example, the 4.0 between Member 3 and 5 indicates that they share 4 common interest group affiliations.

One example of a successful long-term interest group coalition is the nutritional and dietary supplements lobby, which has been a major player in the health sector since a coalition of groups came together in the early 1990s to lobby for passage of the Dietary Supplement Health Education

Act (DSHEA). This act allowed companies to bypass the Federal Drug Administration (FDA) testing and approval process, making it much easier for industry to push new products to the market without regulatory oversight. The coalition – now known as the Alliance of Natural Health – found advocates in veteran Sens. Orrin Hatch (R-Utah) and Tom Harkin (D-Iowa). These two legislators not only wrote the original legislation, but have continued to combat any legislation to strengthen

**Figure 2.4 Network Visualization of Valued, Affiliation Data**




federal law or FDA regulations aimed at curbing some of these exemptions. In the 111th Congress, for example, Hatch and Harkin ensured that the Dietary Supplement Safety Act of 2010, sponsored by Sens. John McCain (R-Ariz.) and Byron Dorgan (D-N.D.), never made it to the floor using their influence on the Senate Health, Education, Labor and Pensions Committee.

Between 2003 and 2008, five nutritional and dietary supplement organizations made 81 contributions to 28 Senators who were in the 111th Congress. Of those, 54 contributions went to 11 of 23 individuals on the Health, Education, Labor and Pensions Committee, of which Harkin was chair and Hatch was a member. Several groups made multiple contributions to the same

senator. The top recipients were Sens. Harkin, Hatch, Bob Bennett (R-Utah), and Mike Enzi (R-Wyo.), the ranking Republican on the committee. Harkin had 26 total contributions, followed by Hatch (12), Bennett (5) and Enzi (5). With the exception of Bennett, all of these senators were on the committee. Most senators had no ties between them, as 72 members received no contributions from this industry. Those who were recipients in most cases had between 1 to 2 nutritional and dietary supplement donor organizations in common. Every pairwise combination of Enzi, Bennett, Hatch and Harkin had a tie strength of three (or 3 common donors), except for Hatch and Harkin, who had four common donors from this industry.

These contribution patterns fit neatly into the spectrum devised by Wright. Groups have no access to those Senate committee members to whom they made no contributions. The positioning and messaging stage applies to those with 1 or 2 common donors, meaning groups have mutual access to those senators, and the senators are inclined to listen to their concerns (i.e. the positioning or messaging stage). Enzi, Bennett, Hatch and Harkin all have a tie strength of 3 or 4, and it is with these individuals that access has actually manifested itself as influence. These advocates and committee leaders ensured that McCain's bill did not reach the floor. Instead, an alternative bill authored by Sen. Richard Durbin (D-Ill.), which was co-sponsored by Hatch and Enzi, wound up getting a floor vote and passing in the Senate, although it did not pass the House. Nevertheless, the senators who had the most interest group affiliations were those most likely to work on behalf of the industry.

It is important to acknowledge this conceptual variation, because it is key to the most critical assumption undermining the theory set forth in this dissertation: as the number of interest group ties between any two members of Congress increases, so does the chance that pair of lawmakers will be predisposed to work together on creating and enacting legislation (i.e. co-sponsorships and floor votes). A greater number of mutual access points makes it easier for an interest group or interest group coalition to coordinate and successfully disseminate information, legislative

expertise, coordinated campaign contributions, or other social goods. The influence any specific group has over both members is not always known. But it is a safe surmise that as the number of mutual access relationships increase, so do the odds that one or more of these relationships lies on the influence end of Wright's spectrum. The exact flow of influence through the network is unknown, but as a result of campaign finance disclosure laws, the access points are known. Building on Wright's theory of access and influence, as well as Kingdon's social context of social decision-making, this is the primary argument of the study.

### 2.3 Policy Networks and the Policy Process

Deriving a more nuanced theory of interest group influence over Congressional relationships requires the analyst to consider a method for organizing interest groups and congressional relationships in context of specific issues or policy areas. Several researchers have developed the concept of policy networks, which are "defined by the interaction among organized groups and between those groups and public officials" (Salisbury et al 1987, 1218). The concept has been somewhat elastic, with the literature variously employing overlapping concepts such as policy communities, policy domains, or issue networks (Granados and Knoke 2005; Kingdon 2003; Salisbury et al. 1987). Analyzing policy domains allows the researcher to determine how interest group goals vary in different economic sectors, and the conditions under which various interest group sectors have the most success. This approach requires matching interest group sectors to policy domains so that the network actors and substantive content of the policy issues are clearly defined.[30]

Social network analysts differ in their approaches, but three general assumptions about networks and actors in policy domains have emerged (Knoke 2001). First, repeated interactions between actors with established relationships constitute a stable social structure. Second, the

[30] Measurement strategies related to interest group sectors and policy domains are detailed in Chapter 3.

relationships are assumed to be the primary explanatory variables, and not attributes or characteristics of individuals. Third, actors exist in multiple structural networks in which they are embedded, and those networks shape the perceptions, attitudes and actions of those actors, just as surely as those actors can reshape the network structure by their behavior (Knoke 2001, 63-64).

These points are generally consistent with this study's conception of a policy domain. Repeated interactions are an important component to a policy domain, because they establish familiarity and trust between groups and members of Congress, as well as create a system whereby some groups have more influence than others. While lobbying coalitions can consist of diverse, disparate interest group organizations, over time certain groups will attain primacy within a particular policy domain. For example, one would expect healthcare interest groups to achieve greater influence over healthcare-related issues than construction industry groups, particularly across an aggregation of health policy legislation. The second assumption noted by Knoke (2001) is inherent to the basic theoretical foundations and assumptions of SNA, broadly speaking. All variables can be conceptualized and measured relationally with careful thought to the social dynamic and an appreciation for how an affiliation, characteristic or attribute was originally measured. Last, Knoke speaks to the fact that there are several, overlapping networks which constitute these policy domains. These different networks are references to the different types of ties that can exist between interest groups and legislators. He is also pointing out that behavior can influence network structure just as surely as structure influences behavior.

There are several caveats to this third assumption that need to be unpacked. First, there are various types of ties that interest groups and members of Congress may have between each other in a policy domain. Knoke (2001) classifies those ties as resource transfers, information transmission, power relations, boundary penetration, and sentimental attachments. In this study, the focus is on access (as measured through a resource transfer) because of its foundational role and because it is the only interest group-legislator tie that is systematically catalogued with any

regularity. Missing data is relatively easy to handle with respect to traditional, attribute-based quantitative data where the cases are assumed to be independent. The interdependence of cases with respect to SNA renders comprehensive data collection increasingly important. Missing or erroneous data can lead to significant error in network measures (Borgatti, Carley and Krackhardt 2006; Costenbader and Valente 2003). Therefore, the data used to generate policy domain network must be complete and as devoid of errors as possible, even if theoretically one assumes other types of social commodities to flow through the network. There are multiple types of social forces acting upon the relationships between interest groups and members of Congress in various policy domains. The appropriate methodology depends on the theory and whether the emphasis is on overall network structure or relational processes. Given this dissertation's focus on relational processes, the more appropriate methods would focus on those relationships rather than overall structure, though network visualizations will be utilized at times. Knoke (2001) also envisions multiplex analysis as the appropriate method to deal with policy domain research, although there are other analytical methods available (e.g. dyadic regression).

The primary goal of actors in specialized policy networks and policy domains is to develop a policy agenda and influence legislative outcomes through the policy process. Kingdon (2003) defines a policy agenda as "the list of subjects or problems to which governmental officials, and many people outside of government closely associated with those officials, are paying some serious attention at any given time" (Kingdon 2003, 3). To be more precise, the policy agenda is the problems or policies interest groups and legislators intend to take up during the current session of Congress. In the 111$^{th}$ Congress, bailouts in the financial sector, reform of investment banking regulations, healthcare reform, economic stimulus meant to stabilize the economic recession, cap-and-trade regulations for the emission of greenhouse gases, and labor regulations were all part of the policy agenda, albeit in different policy domains. The agenda before interest groups in these

policy domains and their goals will determine how they attempt to influence members of Congress with whom they have access.

Interest group use of access and the degree of success with which it is employed will depend on a variety of factors, particularly those corresponding to the policy process. Sabatier (2007) contends that theories of the policy process meet the criteria of a scientific theory, have a fair amount of recent conceptual development and empirical testing, explain much of the process and address broad sets of factors political scientists have deemed important in previous studies.[31] These factors may include interest group conflict, institutional arrangements, information flows, and socioeconomic variation (Sabatier 2007, 7). The book reviews several theories of the policy process, including rational choice-institutional theories, Kingdon's multiple-streams theory (also set forth in Kingdon (2003) and Sabatier's own advocacy coalition framework. The theory I develop attempts to meet all of these criteria, and use components of the three mentioned frameworks, although socioeconomic variation is perhaps indirectly indicated. By that I mean socioeconomic variation between group resources is not directly assessed except that those who contribute to more candidates will have more access by virtue of those resource expenditures.

Institutional-rational choice theorists consider institutions in the policy process to be either individual entities defined by rules, norms and strategies employed by individuals within an organization, or the organizational entity itself (Ostrom 2007). In the case of Congress, both definitions apply. Indeed, the political parties operating in Congress could be considered institutions themselves. As noted in *Federalist No. 10*, Congress was designed to restrict the influence of various factions seeking accommodations through the legislative process (Madison 1787). The success of institutional structure and processes devised by the Framers to prevent

[31] Specific to scientific theory he means something with clear concepts and propositions and gives rise to falsifiable hypotheses. Ideally, the theory should apply to a broad array of policy systems.

factions from securing private goods is a contentious point of disagreement between pluralists and elite theorists. Clearly, the goal of preventing the development of political parties failed, but whether other factions (i.e. interest groups) have systematic institutional clout is less clear. Given the empirical evidence suggests interest group influence over legislative outcomes occurs in some instances and not in others, it follows that institutional structure and processes may be a possible explanation for interest groups' contingent success or failure.

Political parties are the most powerful cohesive factions within most legislatures. The rules, norms and strategies they execute (i.e. the institutional role they play) often conflict with goals of interest groups. In particular, partisan control of the House and Senate (not to mention the White House) will constrain groups, especially if the party in power is not sympathetic to the policy agenda of a particular policy domain. In that case, the party in control may choose to ignore the concerns associated with the policy domain, or even block any attempts to move legislation through Congress. Given that divided partisan control is frequently a reality in Congress, interest groups will frequently need to forge relationships with Democrats and Republicans in order to push policy changes through the bicameral institution. Rules and norms dictate the majority party controls legislative committees, the legislative calendar, and therefore the legislative agenda. Leaders of the majority and minority party will at various junctures attempt to force or block votes using House rules or the Senate filibuster. During the 111$^{th}$ Congress, Senate Democrats filed 137 cloture motions in an attempt to end Republican filibusters of various legislative initiatives, which unquestionably constrained some of the lobbying initiatives of groups who tend to affiliate with Democrats (U.S. Senate, 2014). These institutional constraints cannot be ignored or assumed to have no effect.

Consequently, the impact of partisan control will influence outcomes for each policy domain, but the impact will not be the same across domains. In essence, the ability of groups to generate legislative interest and roll-call votes on initiatives they deem important will be

constrained by this fact. As noted in Chapter 1, interest groups can be aligned on a liberal-conservative continuum based on their contribution patterns to all candidates for national office and any donations to outside groups who operate in various electoral capacities. During times of Democrat or Republican control of Congress, the assumption is that groups most loyal to the party in charge of each will have the most success in organizing bill sponsors and floor votes. This calculus is somewhat more complicated during times of mixed-party control of government, where one party controls the House, and another the Senate. Groups with the most resources, and the best connections with both sides of the aisle will be most able to navigate the process if they desire policy change. Other considerations, such as public opinion, current events, and the likelihood of getting better policy out of future congresses will shade group strategies. Ultimately, loyalty will win the day during times of unified control, whereas resources are the path to success during times of divided control.

Kingdon's theoretical framework of the policy process could anticipate such dynamics in its explication of three independent streams consisting of problems, policies and politics.[32] When these normally independent streams converge, "policy windows" appear, providing policy entrepreneurs with the opportunity to make substantial policy changes (Kingdon 2003; Sabatier 2007). Interest groups and their operatives, termed "policy entrepreneurs," need access, among other things, in order to couple these streams together.[33] Having access ensures that when policy windows open, and the terms of policy change is favorable, groups will lobby on behalf of those policies and attempt to organize members of Congress around the legislation necessary to enact said changes. When policy windows are open, but the terms of policy change is unfavorable, groups

[32] The policy stream includes definitions and data which correspond to public problems. The policy stream includes solutions and proponents of solutions, particularly policy entrepreneurs. The politics stream includes elected officials and elections.

[33] The policy stream includes solutions and proponents of solutions, particularly policy entrepreneurs. The politics stream includes elected officials and elections. Policy stream criteria include value acceptability, technical feasibility and must fit certain integration criteria. Politics are affected by party ideology and the national policy mood (Zahariadis 2007)(see page 71 of (Sabatier 2007)).

will lobby against those policies and attempt to prevent members of Congress from coalescing around such policies. Groups opposing legislative changes to the status quo will prefer to kill legislation in its infancy and avoid a floor vote, which could potentially make status quo protection more challenging by shining increased attention on an unwanted policy solution. Conversely, groups seeking to change the status quo will by necessity have to organize members at both stages of the policy process. The policy windows are another way of conceptualizing the same constraints envisioned by the institutional theories of the policy process.

The advocacy coalition framework contends that grouping actors in a policy subsystem into advocacy coalitions is the best way to deal with multiplicity of actors engaged in the process (Sabatier and Weible 2007).[34] Scholars utilizing advocacy coalition framework note how such constraints and limited resources typically induce groups to build coalitions of their own. These coalitions are strategic actors who attempt to implement their policy goals before their opponents can successfully do the same. These coalitions consist of interest groups, legislators, researchers, government agency officials and other intellectuals. Aggregating the knowledge, resources, and labor of these coalitions helps to overcome the collective action problem (Sabatier and Weible 2007). According to Sabatier's case studies, as well as the work undertaken by Baumgartner et al, these coalitions can be quite fractious, and the point is made that there are often more than two sides to any particular issue. These factions are assumed to correspond to "sides" of an issue. This is undoubtedly true, but in practice proposals never translated into bills are impossible to systematically track. Furthermore, legislation can only be opposed or supported, unless of course a group wishes to surrender any influence and abstain from taking a position. While it may not

[34] The other primary assumptions of the advocacy coalition framework are that (1) most policymaking is the province of specialists within a policy domain, but their behaviors are affected by political and socioeconomic factors and (2) the use of social psychology concepts or model of the individual to explain the policy process.

represent the ideal policy, each group or coalition must ultimately decide whether or not to support the bill if they are stakeholders in the policy outcome.

From the perspective of a single interest group, other interest groups active in the policy domain should be seen as either inhibiting or augmenting its attempts to corral legislative support for its initiatives. At the policy domain, or policy network level, greater unity between the constituent interest groups will result in more influence over legislators with whom they have access. This is probably most true of interest groups who are native to the policy domain — that is groups, routinely engaged in a particular policy area. On one hand, it is important to distinguish between group unity and disunity within the policy domain for groups who have repeated interactions with legislators on those issues, and those groups who only occasionally lobby on such issues.

An example is perhaps more illustrative. One of the 43 publicly known opponents of the Patient Protection and Affordable Care Act was the Society of American Florists (MapLight 2012). This group, along with unions who opposed and supported the bill, would be considered exogenous to the healthcare policy domain. Health insurance trade groups, professional associations representing doctors, healthcare employers and healthcare employee groups would be considered part of the policy domain due to their regular engagement with health-related issues. But interest group unity or division internal and external to the policy domain will affect the degree to which group access is effective. If there is little disagreement about passage or opposition, those groups are more likely to be effective in corralling legislators with whom they have strong ties. Furthermore, as more groups lobby on pending legislation, the odds of the bill garnering significant public attention increase, and salience to the public tends to make interest groups less effective (Baumgartner et al. 2009; Witko 2006).

## 2.4 Social Network Theory of Interest Group Influence

This study seeks to explain why and when interest group influence may predominate over members of Congress in a social context. Interest group contributions to candidates represent more than a mere resource exchange, though this is certainly implicated. Campaign finance laws in the United States have established a formalized system of interest group access that has become a vehicle for relationship formation and development. The more common donors any two members of Congress have, the more relationships they have in common with interest group officials, lobbyists, policy experts, think tanks and other operatives meant to influence the decisions they make. As such mutual accessibility increases, these pairs of legislators become increasingly likely to coordinate their actions. Mutual accessibility means these individuals are increasingly likely to receive the same lobbying pitches, policy studies, expert input and any other lobbying tactics. It is impossible to determine how influence (the ability to alter legislator attitudes) flows throughout a network without systematically collected survey data, so it becomes necessary to make assumptions based on what is known about access pathways. As the strength or quantity of group access pathways to any pair of legislators increase, so will that pair's propensity to act on behalf of interest groups with whom they have relationships.

Interest groups are strategic actors, and will work to set up access pathways in a manner most advantageous for leveraging favorable congressional action. As noted in previous studies, members of the same political party, who hail from the same state, and who serve on the same legislative committee(s) tend to have more common lobbyist donors (Koger and Victor 2009(a); Koger and Victor 2009(b)).[35] It is assumed these findings for lobbyists in Koger and Victor's study extends to PAC organizations as well. Members from the same state often have more donors because they typically have similar (or in the Senate, identical) constituents, contacts, and state-

[35] Interest group PACs and individuals are not included in their study.

level interest group activity, so this extension is also quite plausible. Last, it is well-documented that interest groups target members of committees with key oversight of relevant policy issues. What has not been tested is whether these general findings extend to the various policy domains in which members make decision. The partisan tilt of most policy domains, for example, combined with the greater level of agreement between members of the same party makes the party/ideology prediction a fairly safe one, although it has not been extensively tested with respect to these various policy domains.

Beyond these factors, another potential set of targets may be based on legislator attributes, particularly gender and racial identity. These strategies are essentially tests of homophily — whether those with shared characteristics have more donors in common than those who do not share those characteristics. A number of women's rights and civil rights groups, for example, may target women in Congress or members of the Congressional Black Caucus because they believe them to be more sympathetic to their agendas. Broadly speaking, legislators may have more common donors with fellow members if they are of the same gender or racial/ethnic group.

Constituent characteristics may also be a driver of interest group donation strategies. Geographic proximity is one such distinction, but there is no reason to suppose that other constituency attributes cannot be a deciding factor for interest groups looking to build coalitions. Specifically, constituent ideology may be a driver of contribution strategies. Constituent ideology is frequently substantially different from the ideology of the legislator. For example, Powell (2000) notes how majoritarian systems tend to create governments with larger ideological distortions between representatives and their constituents than in proportional systems. Members of Congress tend to vote with their own party and behave in a more partisan way than their typical consistent. Often the dynamics of congressional races play out differently than presidential elections, where local politics and incumbency have less importance. Depending on a group or policy domain's main goals, they may attempt to build coalitions of voters from safe conservative or liberal districts,

or use support of legislators in swing districts to accumulate access to those members who are under more pressure to exhibit independent tendencies.

Member experience has not received much attention in quantitative studies of political networks either (but see Rogowski, Sinclair and Beck 2012). One suspects the longer members work together, the more likely they are to become increasingly embedded in various policy domains as they develop expertise and initiate more social contacts. Each pair of legislators would therefore become more mutually accessible over time as a natural outgrowth of temporal or maturation processes. Interest groups may also seize on close interpersonal relationships forged between two members of Congress. For example, during their time together in the Senate serving on joint committees, conservative Sen. Orrin Hatch (R-Utah) and liberal Sen. Ted Kennedy (D-Mass.) became close friends, and worked together on several important pieces of legislation (Hatch 2009).[36] Consequently, they have lots of interest group donors in common.[37] Hatch and Kennedy may be outliers because they are some of the most prolific legislators in terms of bills passed during the late-20th and early-21st Century, but the example shows why exploring the attraction of experience may be useful from the vantage point of interest groups.

Another as-of-yet unexplored sociological variable that is plausibly of interest from strategic interest groups looking to establish access is the career path of members of Congress. Political sociologists note the importance of educational socialization, formal professional association (corporate interlocks) and informal non-professional associations (social clubs). However, informal professional background affiliations could potentially explain why some legislators have more mutual interest group connections. Those who have worked exclusively in the private sector may

[36] Specifically, Hatch and Kennedy worked together to establish the Children's Health Insurance Program (CHIP), the Ryan White Comprehensive AIDS Resources Emergency Act, and the Americans With Disabilities Act (ADA) (Hatch 2009).

[37] In the three Senate fundraising cycles immediately prior to the 111th Congress, Hatch and Kennedy had 179 common interest group donors, which was a higher than the PAC network average of 158, and particularly an outlier for members of different political parties.

attract more support from business sectors because such individuals are often more skeptical of government action than individuals who come from the public sector. When campaigning for president in 2012, former Massachusetts Governor Mitt Romney billed himself as an experienced business executive whose managerial competence in the finance industry was an asset that made him more qualified than President Barack Obama to make government more efficient and effective. This was a direct contrast to Obama, a law professor and legislator whose background was largely in the public sector. Likewise, Sens. Tom Coburn (R-Okla.) and Rand Paul (R-Ky.) have argued their experience as medical doctors makes them better equipped to make decisions about government healthcare policy because they have dealt with laws and regulations in their private practices. Therefore, it seems plausible that business-oriented interest groups would be more likely to support individuals with a desirable professional background, and target legislators based on such attributes. As a result, one would expect those with similar backgrounds to have more mutual interest group ties.

These factors — ideology/party, state, gender, race, constituent ideology, experience, and occupational background — comprise a battery of strategies that may shape the way interest groups make contributions, and therefore the way access networks develop. Hypotheses associated with these factors will be subjected to multiple tests, as there will be assessments made for each policy domain identified in the 111$^{th}$ Congress. This method of disaggregating the data provides more than one test of these hypotheses, and therefore better insight into the prevalence of these strategies as they concern different interest groups working to influence various areas of public policy.

Having established the particular strategies which are supposed to drive patterns of access, the next phase of the theory attempts to explain the how interest groups mediate, or coordinate, social action in Congress. The access-influence continuum as developed by Wright (1995) conceptualizes the process of developing influential relationships in a largely qualitative context. Here, the continuum is conceptualized quantitatively in that as the number of common interest group

affiliations between any two members of Congress increases, the more likely they are to engage in some form of coordinated action on the basis of those connections. Specifically, co-sponsorships and roll-call votes have been singled out because legislation is the primary formal output of any legislative institution, and the most impactful exercise of members' decision-making authority.

As with the interest group strategies, the theory will tested across several policy domains to see how well the hypothesis hold up. It should be clear that, absent the constraints outlined in earlier sections of this chapter, I initially expected the general thrust of the hypothesis to hold up in most instances. Of course political parties, competition from competing interests within and outside the policy domain may mitigate the effectiveness of such groups, along with the personal convictions of an individual legislator, may constrict the effectiveness of these groups. There are several other possible sources of decision-making influence that potentially confound these results that are of little theoretical interest but which are nevertheless important. Those factors will be discussed more in Chapters 4-7.

There is a difference in the way these interest group ties manifest themselves in the realm of legislative sponsorship and co-sponsorship vis-à-vis roll-call votes. Drafting legislation or attaching one's endorsement to it during the committee markup process is effectively an optional action. Technically, roll-call votes also fit this definition, and members of Congress do sometimes abstain from voting for various reasons. However, this practice is the exception rather than the rule, as it sometimes causes more unwanted attention if a legislator appears to be ducking an important issue. Consequently, roll-call votes are de facto mandatory in most cases. This distinction merits discussion because the frequency of co-sponsorships between two members may be related to the goals of interest groups situated within a policy domain. If protection of the status quo is the goal, members with strong ties to these groups — often those with the most expertise — may be asked not to author or co-sponsor any bills pertaining to such a policy until partisan control changes or the legislative context is otherwise more favorable. Therefore, those individuals with the strongest

mutual ties may be either significantly more likely or significantly less likely to co-author legislation depending on those goals, which will differ depending on the policy domain. Respecting roll-call votes, only a positive, significant relationship makes sense in terms of direct interpretation, as legislators do not typically choose to shirk their voting responsibilities in the way they can shirk sponsoring or co-sponsoring legislation. Members attempting to protect the status quo at the behest of interest groups may be more likely to vote "Nay" along with those who have the mutual interest group ties, but they will still vote. Therefore, the default assumption for roll-call votes will be that any two legislators who have more mutual interest group ties will be more likely to vote in similar fashion, notwithstanding the dynamics of each policy domain. Results that are negative and significant would be best explained as due to phenomena related to other variables or factors unaccounted for by the model specification presented.

The theoretical arguments of this project can be summarized as follows: The current structure of U.S. campaign finance laws have created and significantly enhanced access networks that give actors working on behalf of these groups far more opportunities to interact with members of Congress than in the past, which has undoubtedly enhanced the power of these groups. To maximize their political leverage, interest groups strategically establish access pathways to legislators based on social characteristics such as committee memberships, constituent ideology, experience, gender, ideology, professional background, race, and state. The resulting structure of these contributions (and their resulting relationships) provides a network through which interest group resources can flow. The primary aim of these resources is to influence legislators as they make key decisions about whether to introduce legislation and how to vote on it once it reaches the floor. The more common access points legislators have, the more likely they are to be co-opted into action on behalf of the interests to which they have ties. As the number of these affiliations increase, it becomes more likely that coordinated efforts by groups will effectively alter their behavior, even controlling for other social factors.

Groups will use policy papers, insider information, lobbying tactics, promises of future contributions or threats to withdraw contributions, committee testimony, and any other resource to influence legislators if they feel it necessary. Each issue area, or policy domain, consists of core stakeholders who are clearly defined as having greater substantive interest in the outcomes of a particular policy issue than other interest groups. It is assumed that the actions of these groups form the primary structure of congressional access networks for a particular area of policy. The more affiliation ties shared by any two members of Congress, whether in the House or Senate, the more likely those two members are to co-sponsor or vote in similar ways because of the increasing similar and/or strength of social resources transmitted through the access network. Given these theoretical assumptions, the next section lays out all of the hypotheses which may be deduced accordingly.

## 2.5 Hypotheses

### Interest Group Strategies

*H1*: If any two legislators have overlapping committee assignments, then they will have more interest group ties.

*H2*: If any two legislators have ideologically similar constituents, then they will have more mutual interest group ties.

*H3*: If any two legislators have more concurrent experience serving in Congress, then they will have more mutual interest group ties.

*H4*: If any two legislators have the same gender, then they will have more mutual interest group ties.

*H5*: If any two legislators have similar ideology, then they will have more mutual interest group ties.

*H6*: If any two legislators have similar professional backgrounds, then they will have more mutual interest group ties.

*H7*: If any two legislators have the same race or ethnic identity, then they will have more mutual interest group ties.

*H8*: If any two legislators represent constituents in the same state, then they will have more mutual interest group ties.

**Legislative Impact**

*H9*: If any two legislators have more mutual interest group ties, then they will have more mutual legislative co-sponsorships.

*H10*: If any two legislators have more mutual interest group ties, then they will have more mutual roll-call votes.

There are network-level circumstances in which the effects of *H9* and *H10* could be attenuated or enhanced. The salience of legislation to the stakeholders could make interest groups more or less likely to lobby depending on how crucial it is to that particular economic sector or interest group sector's goals. Witko (2011) found that interest groups were less effective if issue salience to the electorate was higher, but he did not test how interest group salience might influence legislator behavior. Overall, if the groups are more engaged in lobbying legislation, the groups are more likely to use their social ties to either promote legislation's passage or protect the status quo. Legislative complexity will also affect the propensity of groups to lobby on particular bills, as sweeping legislation (e.g. the Patient Protection and Affordable Care Act) will invite the participation of peripheral groups in addition to primary stakeholders, which could weaken the influence of the primary stakeholders within a policy domain. Interest group unity in terms of supporting or opposing the bill is crucial, as proponents of pluralism often point out in their defense of the interest

group system. Partisanship – particularly an interest group sector's support for the minority party – may also manifest itself in ways that limit the effect expected in H9 and H10. These factors will be discussed further in Chapters 5-7.

The numbering of the hypotheses in this chapter will be referenced throughout the remainder of the dissertation for purposes of clarity and consistency. Figures 7.1 and 7.2 in Chapter 7 report the results of each hypothesis test in a simplified chart based on the regression models in Chapters 4-6. The figures are intended to make it easier for an individual to absorb the major findings of the study by looking at a single figure. Next, the study turns to the methodology for testing these hypotheses, conceptualizing and measuring the concepts described in Chapter 2, data sources, and model specification. It also describes how primary stakeholders are determined for each issue network.

## Chapter 3. Methods

Having reviewed existing literature and specified a social theory of interest group influence over congressional decision-making, the next step is to explain and detail the research design and methodology utilized for this analysis. Section 3.1 explains the rationale behind a 111th Congress case selection, which is based on the political context of the 2008 election and the methodological benefits of looking at that particular session of Congress due to the policymaking that followed in the wake of the Democrats' electoral success. Section 3.2 works out the network membership criteria and assumptions made when deciding which legislators to include in the network (i.e. how to handle intra-session membership changes). The variables, measurement techniques and data sources used in the study are reviewed in Section 3.3. The QAP regression technique and the model specification, including regression equations, are described in Sections 3.4 and 3.5.

### 3.1 Why the 111th Congress?

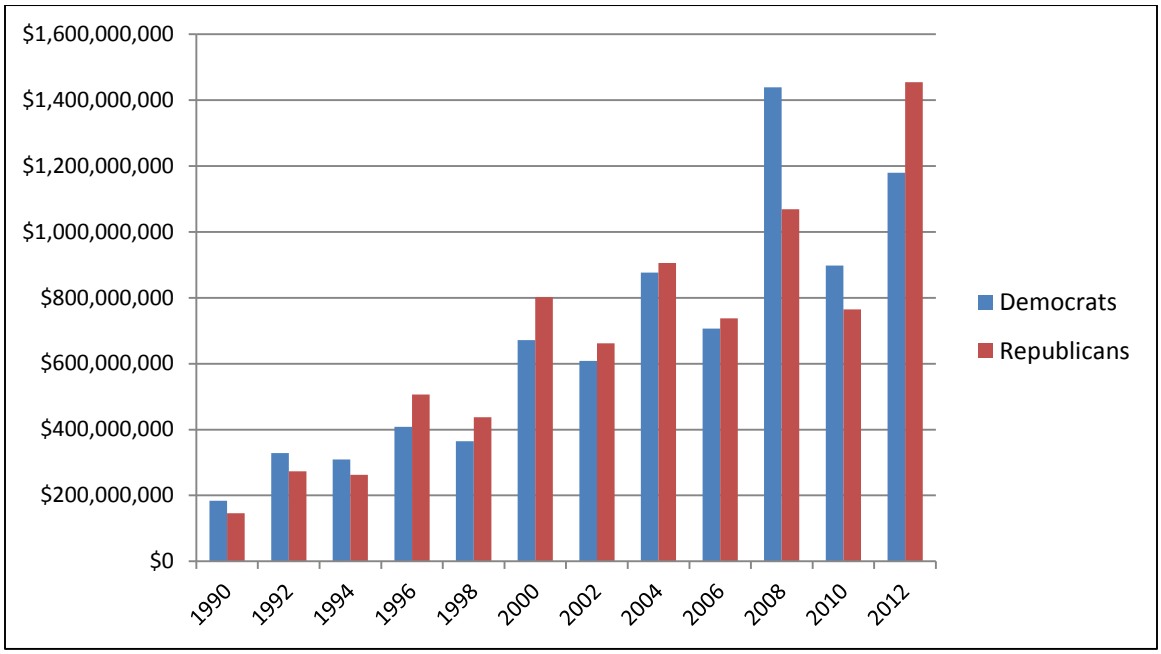
When then-Sen. Barack Obama (D-Ill.) was the presumptive presidential nominee for the Democratic Party in 2008, he vowed not to accept campaign contributions from lobbyists and special interest groups. "We will not take a dime from Washington lobbyists or special interest PACs. We're going to change how Washington works. They will not fund my party. They will not run our White House. And they will not drown out the voice of the American people when I'm president of the United States of America" (Overby 2008). Specifically Obama pledged not to take any money from registered lobbyists or connected PACs, which include the very corporations, professional associations, unions, and non-profits included in this study. Obama's strong rhetorical stance was not exactly matched by action. His pronouncement did not bar him from taking money from bundlers or political operatives who are not registered lobbyists but who are practically indistinguishable from their more formal counterparts. Nor did it preclude House and Senate Democrats from taking money from those PACs (Steiner 2013).

Less than a fortnight after making his promise not to take money from lawyers or PACs, Obama broke an earlier promise to accept public financing in lieu of private campaign contributions, as he was on track to easily surpass the public cap with donations from individual donors. This drew strong criticism from Obama's opponent, Sen. John McCain (R-Ariz.), who had agreed to accept the public financing option. As a result, Democratic leaders were put in the awkward position of having to defend their presidential candidate taking private financing, which they had roundly criticized in the past using rhetoric similar to that of Obama's. The situation underscores the ambivalence many Democrats have about the nature of privately financed elections. Ideologically they may be opposed, but many of these officeholders also understand political realities. In 2008, the fundraising cycle heavily favored Democrats. Taking individual donations, PAC contributions and outside money into account, Democrats outraised Republicans $1.44 billion to $1.07 billion in the 2008 election cycle – the largest fundraising advantage enjoyed by either major party since at least 1990, and the first time Democrats outraised the GOP since the 1994 election cycle (as shown in Figure 3.1). One major reason for examining the influence of interest groups under unified Democratic government is because of this tension, which is much more complex than for the GOP, whose ideological and political goals are generally synonymous as they relate campaign finance issues.

On the other side of the same proverbial coin, corporate PACs were faced with a federal government completely controlled by Democrats for the first time since 1995 — a government that was expected by conservatives to be the least hospitable to business interests in decades. Would these groups have much success in combatting the political tide that so swiftly shifted against them? Would they attempt to reshape legislative initiatives to extract as many concessions as possible, or simply defend the status quo at all costs? Would groups loyal to the Democrats successfully build coalitions that included some sympathetic Republicans in an attempt to pass desired legislation? The answer to each of these questions is a conditional "yes," as discussions of the policy decisions

and how they were influenced by interest group connections will reveal subsequent chapters. However, this was not clear prior to the investigation.

**Figure 3.1 Donations to Candidates for Federal Office, by Party (1990-2012)**




Interest groups were also under higher-than-usual levels of scrutiny due to the financial crisis that unfolded during the 2008 election, particularly in the finance, real estate, and insurance industries, which has historically marshalled more resources than any other economic sector. Could interest groups – PACS in particular —successfully continue to wield influence at a time when, according to 2008 CNN exit polls, 56 percent of the voting public was opposed to the bailout of banks, insurance companies, mortgage lenders, and automobile manufacturers? Would the additional public scrutiny of interest group lobbying give members of Congress pause when faced with the opportunity to pass legislation that would benefit their financial backers? Again, interest groups managed to extract some concessions, although there were some battles where they were simply unable to overcome the partisan stranglehold of Democrats on Congress and the White House.

A final, more practical reason is that it was the last election cycle before the U.S. Supreme Court's *Citizens United* decision, which has already reshaped federal and state election laws in a way that could alter the dynamics of interest group power. In an electoral environment where wealthy donors are able to supply such massive amounts of money that traditional, interest group-based fundraising (and therefore access) could become less important to getting re-elected. The role of groups may become somewhat diminished as officials become increasingly beholden to liberal and conservative ideologues. As more is understood about how changing campaign finance laws impact interest group strategies, it will be imperative to have the *status quo ante* comparison to assess the law's effects. Therefore, study of the pre-*Citizen's United* era makes sense for now, as one waits for the passage of time so that post-*Citizen's United* analysis is feasible.

For all of these reasons, and because Congress tends to get the most done during the first two years of an incoming president's first term, the 111$^{th}$ Congress was an ideal starting point for investigating the linkage between interest group connections and legislator action. President Obama had an ambitious agenda that included government stimulus for the economy, which was in a deep recession; reforming the private healthcare system and expanding Medicaid so that a larger percentage of Americans had access to healthcare; enacting new regulations designed to prevent future economic meltdowns caused by risky lending practices; creating new environmental regulations designed to reduce carbon emissions; and passing some form of comprehensive immigration reform. Such an environment is intriguing because the status quo was about to change substantially, so it was an ideal point in time to assess the role of interest groups in fomenting these changes.

### 3.2 Network Membership Criteria

Several aspects of network membership had to be considered. Who would the actors be in these networks? The range of individuals attempting to influence legislative outcomes varies substantially, including legislators, congressional staffers, policy analysts, constituents, lobbyists,

PAC officials, political activists, federal courts, members of the executive branch, the White House staff, the president, the media, and others. Ultimately, members of Congress were the only actors used in the network, as they have exclusive decision-making authority over the enactment of new legislation. Furthermore, SNA generally requires the actors have the same network roles when testing hypotheses. The effect of any actors outside the network is consequently assessed by analyzing the ties between any pair of legislators in the House or Senate.

The exact number of legislators had to be carefully defined given that network data is going to be used. In any session of congress, there is going to be turnover that occurs mid-session due to death, retirement, or resignation. In attribute-based research this phenomenon does not pose much of an issue, but it is problematic for SNA because of the interdependence issue and the bias associated with omitting nodes or edges noted in Chapter 2.[38] Handling changing network memberships does ultimately force one to either accept some limitations to this general principle or else devise a time-series approach that was time-prohibitive given the complexity of such networks and the number of policy domains to be analyzed. After viewing the House and Senate turnover in the 111th Congress, the final criteria for network membership was established. To be a network actor, each legislator had to be seated by the time of President Obama's inauguration, and serve at least the first six months of the session. The relaxation of the front-end requirement for membership from January 3, 2009 (the first day of the session) to the inauguration was done so that replacements for House and Senate members who resigned to take positions in the administration

[38] A node is an actor in a network and an edge is a tie. In this study, members of Congress are nodes and any social linkages or ties they may have are edges. The studies demonstrating these biases are (Borgatti, Carley and Krackhardt 2006) and (Costenbader and Valente 2003).

could be included.[39] The end result was House networks with 432 members and Senate networks with 100 members (see Appendix A and Appendix B for the member lists).[40]

### 3.3 Variables, Measurement and Data

There are three sets of models included in this dissertation, and Table 3.1 describes the designation of all variables in each model set. Each set has different variables, though there are overlaps. Each variable is classified as a control variable, independent variable and dependent variable. Next to each independent variable is the corresponding hypothesis number from Chapter 2. The first set of models — the PAC strategies models — include independent variables associated with each of the factors discussed in Chapter 2. Those independent variables are committee memberships, constituent ideology, member experience, member gender, ideology, occupational background, member race, member race/ethnicity and state. The second set of models is the co-sponsorship models, which analyze the degree to which other social characteristics predict the tendency of legislators to co-sponsor each other's legislation. They include all of the variables from the PAC strategies model — except now they are included as controls. Additional control variables include caucus memberships, committee memberships, and office locations. The independent variable of interest to the theory is the PAC affiliations, while the dependent variable is co-sponsorship affiliations. The roll-call vote models use the same control variables as the co-sponsorship models except that co-sponsorships themselves are included as a control variable. PAC affiliations are again the independent variable, with the roll-call votes the dependent variable. Essentially, the remainder of the dissertation is organized as follows: Chapter 4 deals with the PAC strategies models, Chapter 5 the co-sponsorships models, and Chapter 6 the roll-call votes models.

[39] A slight exception to these criteria is Sen. Al Franken (D-Minn.), who was included despite not getting seated until July 2009 due to an election dispute with Sen. Norm Coleman.

[40] The three House districts not included were the Illinois 5th, California 32nd, and New York 20th. Those seats were resigned by Rep. Rahm Emanuel (D-Ill.), who became White House Chief of Staff; Rep. Kirsten Gillibrand (D-N.Y.), who was appointed to replace Sen. Hillary Clinton; and Rep. Hilda Soldis (D-Calif.), who resigned to become U.S. Secretary of Labor.

Independent and dependent variables are all conceptualizations based on the theory developed in Chapter 2. Control variable additions will be explained as each variable's conceptualization, measurement, data source, and conversion from attribute to network data is described. Chapter 7 summarizes the study.

**Table 3.1 PAC Strategies, Co-Sponsorships and Roll-Call Votes Models**

| Variable | PAC Strategies | Co-Sponsorships | Roll-Call Votes |
|---|---|---|---|
| **Committee Memberships** | Independent (H1) | Control | Control |
| **Constituent Ideology** | Independent (H2) | Control | Control |
| **Member Experience** | Independent (H3) | Control | Control |
| **Member Gender** | Independent (H4) | Control | Control |
| **Ideology** | Independent (H5) | Control | Control |
| **Occupational Background** | Independent (H6) | Control | Control |
| **Member Race/Ethnicity** | Independent (H7) | Control | Control |
| **Member State** | Independent (H8) | Control | Control |
| **Caucus Memberships** | | Control (House) | Control (House) |
| **Office Location** | | Control | Control |
| **PAC Affiliations** | Dependent | Independent (H9) | Independent (H10) |
| **Co-Sponsorship Affiliations** | | Dependent | Control |
| **Roll-Call Vote Affiliations** | | | Dependent |

Table 3.2 displays the data source, measurement strategy, and network transformation for each variable used in the study. The data source was used to code or (if available electronically) copy and format each variable so that it was in a comprehensive table of attributes, or lists of affiliations that could be converted into a social network matrix. Unlike attributes, which are typically a list of one dataset with rows of cases and columns of variables, network datasets are square, case-by-case matrices with relational data for each pair of network actors on a single variable. Therefore, separate matrices are created for each variable, though the relational criteria are dependent upon the variable in question.

**Table 3.2 Variable Data Sources, Measurement and Network Transformation**

| Variable | Data Source | Measurement | Network Transformation |
|---|---|---|---|
| **Constituent Ideology** | The Almanac of American Politics | %Bush (2004); % Obama (2008) | Absolute value of the difference by dyad |
| **Member Experience** | The Almanac of American Politics | Concurrent Years Serving | Minimum for each dyad |
| **Member Gender** | CQ Today | 0=Male; 1=Female | "0" or "1" for shared gender by dyad |
| **Ideology** | Poole and Rosenthal | DWNOMINATE (1st dimension, 110th Congress) | Absolute value of the difference by dyad |
| **Occupational Background** | The Almanac of American Politics | 0=No, 1=Yes for each CRP industry | Count of shared background sectors |
| **Member Race/Ethnicity** | CQ Today | Categorical by race/ethnicity | "0" or "1" for shared race by dyad |
| **Member State** | The Almanac of American Politics | State Name | "0" or "1" for shared state by dyad |
| **Caucus Memberships** | The Almanac of American Politics | List of memberships (111th Congress) | Count of shared Caucus memberships by dyad |
| **Committee Memberships** | The Almanac of American Politics | List of affiliations | Count of shared Committee memberships by dyad |
| **Office Location** | The Almanac of American Politics | Coded by building and floor (as of 2009) | "1" if office is in same building & floor, "0" otherwise by dyad |
| **PAC Affiliations** | Center for Responsive Politics | List of direct PAC donations (2007-08 election cycle) | Count of shared PAC contributors by dyad |
| **Co-Sponsorship Affiliations** | Center for Responsive Politics | List of sponsors and co-sponsors by H.R., S. bill number | Count of co-sponsored bills by dyad |
| **Roll-Call Vote Affiliations** | Poole and Rosenthal | YEA=1; NAY=0 for each non-quorum roll-call | Count of roll-call vote concurrence by dyad |

### 3.3.1 Committee Memberships

Committee memberships are another important explanation of PAC strategies and legislator behavior. Therefore, the measure developed here will be used as the independent variable to test *H1* of the PAC strategies model and as a control variable in the co-sponsorship and roll-call vote models. The committee membership data also comes from *The Almanac of American Politics*. As noted in Chapter 1, several studies have shown that individuals on key legislative committees receive targeted contributions from interest groups (Bennett and Loucks 1994; Koger and Victor 2009(a); Romer and Snyder 1994; Wright 1995). The division of labor in Congress depends on the ability of committees and subcommittees to focus on a particular policy area or domain, so a

particular industry or sector often targets those early-stage decision-makers. In the 111th Congress, 33 of 71 House Resolutions (H.R.) pertaining to agriculture were referred to the House Agriculture Committee (although four of those bills were joint referrals). Agribusiness interests will therefore be more likely to target House Agriculture Committee members because that committee vets and amends more of those bills than any other committee. Shared committee memberships are an independent variable of interest in the PAC strategies models, and control variables in the co-sponsorship models and roll-call vote models. Certainly committee memberships can facilitate legislative cooperation unrelated to PAC influence.

As with the House Caucus variable, a list of committee memberships was created for all 22 House committees, as well as the 20 Senate committees. In addition to the committees, members of the House and Senate leadership were also treated as another committee, as leadership often works together even though they do not sit on a formal committee together. The committees were used to create a two-mode legislator *x* committee matrix for both congressional chambers, and subsequently one-mode legislator *x* legislator affiliation matrices. The committees variable is used in the co-sponsorship and roll-call vote networks as a control variable, as interacting with members regularly in these meetings may influence lawmakers in terms of co-sponsoring and voting independent of any PAC activity.

### 3.3.2 Constituent Ideology

Constituent ideology has long been an important component of political behavior studies and has been subjected to a variety of measurement strategies (Bishin 2000; Peress 2013; Ardoin and Garand 2003; Berry et al. 2007; Berry et al. 1998; Powell 2000). In context of PAC strategies, it is hypothesized that PACs may be more likely to donate to members with similar constituents who prefer particular policies, or who are particularly dependent on a particular industry for their

economic well-being.[41] Ideology is often difficult to measure for mass groups in particular, but the general approach taken by most scholars is to use registration statistics or election results as a proxy for the measure. For purposes of this study, constituent ideology will be used (as the independent variable) to test *H2*, which is that similar constituent ideology yields more similar PAC contributions. In the co-sponsorships and roll-call votes models, it is a control variable.

Both of these approaches have disadvantages. Party registration frequently obfuscates the true ideological orientation because of regional variation in party coalitions.[42] The election-based approach is also problematic, as candidate-specific idiosyncrasies could sway votes in ways distinct from purely ideological motivations. Nevertheless, the latter approach is less problematic because it is easier to extract a more precise measurement of a state or congressional district's political sentiment due to the frequency of elections, and the fact that they entail a more consequential statement of preferences. Comparatively, the relative infrequency with which voters update registration to reflect a change in political attitudes or partisan affiliation can create bias, particularly if a significant partisan realignment occurs during one's lifetime. Presidential elections typically generate the purest statement of principles given that each candidate is necessarily the national standard-bearer for his or her party and regional variation is not possible.

The models will use data based on presidential votes in both 2004 (for PAC strategies model) and 2008 (for co-sponsorships and roll-call votes) — specifically the percentage of votes

[41] For example, gun rights groups would be theorized as having more incentives to establish and maintain relationships with candidates in districts with high rates of gun ownership. Industry representation might also manifest itself in this manner. This is therefore in line with the presumably strategic orientation of PAC behavior.

[42] Because of the partisan lineage of Democrats in the Old South, many voters are still registered Democrats even though they are ideologically more conservative. In Kentucky, for example, Democrats constitute 53.4 percent of registered voters, whereas Republicans only account for 38.7 percent of registered voters. Yet, Republicans have largely dominated federal races there for House and Senate seats, as well as presidential elections, for nearly 20 years. In spite of the Democratic tilt, most scholars and journalists would describe the Bluegrass State as conservative, particularly when voting for federal offices.

won by George W. Bush in 2004 and Barack Obama in 2008. Two different measures had to be used because the independent variable must be antecedent, and therefore measured at an earlier point in time. It would be methodologically incorrect to use Obama's share of the vote in the PAC strategies models, but preferable in the co-sponsorship and roll-call vote models because the 2008 vote is temporally closer to the activities of the 111th Congress. The data for House and Senate votes comes from *The Almanac of American Politics*. Transformation of the data from attribute data to matrix data was completed by taking the absolute value of the difference in presidential support for each pairwise combination of legislators in the House and Senate.

### 3.3.3 Member Experience

Legislator experience has not been a major subject of exploration in many institutional or behavioral studies. Poole (2007) finds that legislator ideology is remarkably consistent over time, with members not altering their ideological predispositions much over the course of their careers. On the other hand, several studies have shown that legislators are more likely to be the recipients of PAC contributions if they sit on or chair key committees, or have a role in leadership (Bennett and Loucks 1994; Brewer and Deering 2005; Gopoian, Smith and Smith 1984; Grenzke 1989; Romer and Snyder 1994). Given that such positions are generally held by more experienced legislators, it is plausible that contributions are made on the basis of individual experience because veteran lawmakers typically have more institutional authority. They have also had more time to develop relationships with groups in access networks.

In the House and Senate PAC strategies models, it is the independent variable used to test *H3*, which says that a pair of experienced incumbents would have more appeal to most interest groups, particularly those pursuing access strategies. It is a control variable in the co-sponsorship and roll-call vote models because legislators who have worked together for some time may have close personal friendships or professional rapport that has developed, much like the previous example of Sens. Hatch and Kennedy. The relationships between experienced legislators does not

necessarily depend on PAC activity. Experience data comes from *The Almanac of American Politics*, and was calculated based on the year a member was first elected.[43] The transformation from attribute data to a legislator *x* legislator network matrix was made by taking the lower value within each dyad. For example, Rep. Neil Abercrombie (D-Hawaii) and Rep. Robert Aderholt (R-Alabama) had been in Congress for 18 and 12 years, respectively; therefore, the value for their dyad would be 12 because that is the length of time they have served concurrently.

### 3.3.4 Member Gender and Race/Ethnicity

Gender and race are both categorical attributes that fall under the general social network concept of homophily. Several studies show that these attribute similarities are generally conducive to forging social connections in a variety of formal and informal settings (Kleinbaum, Toby and Tushman 2013; Mollica, Gray and Treviño 2003; McPherson, Smith-Lovin and Cook 2001). There has been some exploratory work on such factors in political network studies, and evidence suggests race and gender do impact co-sponsorships in state legislatures (Barnello and Bratton 2007; Bratton and Rouse 2011). In this dissertation, the gender measure is the independent variable used to test *H4* and race the independent variable used to test *H7*. In the co-sponsorships and roll-call votes models, it is a control variable.

Other political science research into the relative propensities of individuals to sponsor legislation based on ethnicity, race or other personal attributes also provides some evidence that these characteristics are consequential for our understanding of American political institutions (Rocca and Sanchez 2008; Platt and Sinclair-Chapman 2008; Garand and Burke 2006). But the latter group of investigators is asking whether individuals who are women or racial minorities more or less likely to sponsor legislation — not whether those individuals are more likely to work with

[43] In a small number of instances, legislators did show up as serving for non-consecutive periods of time, and their experience was adjusted accordingly. One example is Rep. Ron Paul, who was in Congress from 1979-1985, and again from 1997-2013. At the time the 111th Congress took office, he had accumulated 19 years of experience.

others like them. Given the significance of the findings in the homophily research, and the political science research showing racial and ethnic minorities are less likely to co-sponsor legislation than their white, male counterparts, including these variables as controls in the co-sponsorship and roll-call models is appropriate.[44]

The impetus for using the variables in the PAC strategies models is that interest groups who are particularly interested in race or gender issues, or whose constituents are stakeholders in seemingly unrelated issues, might be more likely to target members who share gender, racial, or ethnic attributes. A black representative might be hypothesized to work more actively on civil rights; a woman Senator more likely to work on access to reproductive health services; an Hispanic lawmaker might be more interested in immigration issues. Common interests and shared attributes between legislators may result in having more common donors. Each racial/ethnic category was a unique number. For these, and any other categorical variables, a dyad is scored "1" if the pair has the same gender or race/ethnicity category, and "0" otherwise. The race and ethnicity categories included white, black, Hispanic, American Indian, and Asian/Pacific Islander. Data comes from CQ Today ("CQ Guide to the New Congress" 2008). A matrix was created for both the House and Senate.

### 3.3.5 Ideology

The need to have ideology in the PAC strategies, co-sponsorships and roll-call vote models is fairly obvious, as the preferences of the legislator and the legislator's party is generally going to be more consequential for his or her behavior than any other single factor. In the PAC strategies models, the ideological difference variable described here is the independent variable used to test *H5*. In the co-sponsorships and roll-call votes models, it is a control variable.

[44] On the other hand, there is some recent evidence that gender at least exerts little substantial influence over roll-call voting patterns (Frederick 2013).

The challenge for the researcher is always disentangling those two factors. Most researchers use the DWNOMINATE scores created by Keith Poole and Howard Rosenthal because they are the most comprehensive, familiar measures of congressional ideology and are freely available to the general public. There has been some debate between two methodological and theoretical camps concerning the relative merits of conceptualizing and measuring ideology by using spatial modeling to create individualized scores, or whether party affiliation and the institutional processes discussed by proponents of a cartel theory of political parties might be more advantageous (Krehbiel 2000; Groseclose and Jr 2003; Snyder and Groseclose 2000; McCarty, Poole and Rosenthal 2001; Cox and Poole 2002; Cox and McCubbins 1993). At issue were not only questions about how to measure and/or interpret ideology and/or party influences, but whether parties mattered much at all. Between the early 1930s and late 1970s, the difference between the two major U.S. political parties was not as stark. Starting in the early 1980s, polarization began increasing, with current levels of partisan polarization levels the highest in more than a century (Poole 2014). Clearly both ideology and party are important, yet disentangling those influences is often impossible.

Initial models for PAC strategies, co-sponsorships, and roll-call vote models contained both the NOMINATE measures on the first dimension for candidates during the 110th session of Congress and party affiliation. The ideology data came from Poole and Rosenthal, whereas the party affiliation data came from *The Almanac of American Politics*. Correlations of the two measures are quite high.[45] Conceptually, because NOMINATE scores are measured based on roll-call votes, there is some validity to the notion that the measure picks up both ideological and party effects. Sometimes individual members may be constrained and vote with their party even though

[45] For the House network matrix, the correlation between the absolute value of the ideological difference and the dichotomous measure of whether two members share party identification is -.898; for the Senate it is -.845.

ideologically they would prefer to vote against it, or vote against their party even though they would prefer to vote with their co-partisans because of constituency or interest group constraints. Such forces to some degree are picked up by the measure.

When early specifications of the models were run, the variance inflation factor test was high enough to indicate multicollinearity in the sample. Multicollinearity, it should be stressed, does not bias coefficients or render faulty standard errors. It does, however, render those coefficients less efficient (Voss 2004). It also makes it difficult to assess the effects of party and ideology separate of each other. Party identification and ideology were strongly correlated that it actually flipped the party identification variable to a negative coefficient. When the analyses were run with a party identification variable and no ideology variable, the coefficient sign was positive. In essence, the high variance resulting by the inefficient estimation is causing the problem (Kennedy 2002; Voss 2004). Ultimately, party identification was dropped from the model because of the conceptual and empirical similarity in terms of what is being measured, the confusion of interpreting such a coefficient, and because the theory and analysis does not attempt to distinguish these two forces from each other. Ideology was preferred to party identification because it is a more precise measure and performs better than the party ID measure, though both are highly significant in most of the PAC strategies, co-sponsorships and roll-call vote models. Creating the matrix was pretty straightforward. Because only one piece of information is needed (i.e. the ideology score), legislator x legislator House and Senate networks were created from the attribute itself, rather than having to first create two-mode affiliation matrices. The dyad scores are based on the absolute difference between each pair's first-dimension NOMINATE scores.

### 3.3.6 Occupational History

Occupational history is the independent variable that is utilized to test *H6* and capture how past work and professional experience impact the likelihood individuals might have similar organized interest groups interested in lobbying them. These groups may believe some members

are more inclined to work with another member with a similar professional orientation, or vote synchronously on a particular issue. Not much work has been done examining how professional backgrounds of legislators influence behavior, so measurement strategies were wide open. The most straightforward approach was to use the same economic sector categories the Center for Responsive Politics uses to categorize PAC contributions. Those categories include[46]:

[46] The following are examples of the kinds of businesses located in each CRP sector:

Agribusiness is the sector that encapsulates the economic activities of several different interests, including crop producers, dairy farmers, timber producers , poultry and egg companies, livestock and meat producers, food manufacturers and stores, and tobacco companies.

The Communications and Electronics sector includes telecommunications companies, telephone utilities, computer and Internet companies, and the movie and music industry.

The Construction Sector includes home builders, construction services, building material companies, equipment companies, and special trade contractors such as electricians and plumbers.

Defense Sector industries include defense contractors, aerospace firms, defense electronic and miscellaneous companies providing military services or goods.

The Energy and Natural Resources sector corresponds to electric utilities, oil and gas businesses, and mining.

The Finance, Insurance, and Real Estate Sector includes insurance companies, commercial banks, real estate interests, and security and investment firms.

Healthcare interests include doctors' associations, pharmaceutical companies, and HMOs, among others. Other industries include nursing associations, dentists, medical device manufacturers, and makers of nutritional and dietary supplements.

Ideology and single-issue groups are not businesses but ideological groups interested in generally liberal or conservative causes.

The Labor Sector refers to various private and public sector unions.

The Lawyers and Lobbyists Sector refers to legal associations, law firms, and lobbying houses.

The Miscellaneous Business Sector includes manufacturing, textiles, steel and chemical industries, restaurants, beer wholesalers and funeral services.

Other interests are not really businesses at all, but are primarily comprised of educational institutions and non-profit organizations.

The Transportation Sector consists of industries which comprise the four primary modes of transport in the United States: highways, rail, waterways and aviation. Specific groups include car dealerships, trucking companies, railroads, and airlines.

- Agribusiness
- Communications and Electronics
- Construction
- Defense
- Energy and Natural Resources
- Finance, Insurance, and Real Estate
- Healthcare
- Ideology and Single-Issue Groups
- Labor
- Lawyers and Lobbyists
- Miscellaneous Business
- Other
- Political Parties
- Transportation

Those groups were the starting point for the occupational background coding. Added to those groups was whether the members worked in the public sector as either previously elected officials to a different office or as merit employees (these were treated as two distinct categories). The coding was accomplished by reviewing the job history and biography of each member of Congress in *The Almanac of American Politics* and deciding how to categorize their previous work experiences based on that information. Each legislator received a "1" or "0" depending on whether they worked in a particular sector. When the attribute data was converted to network data, UCINET coded each sector to create a two-mode legislator *x* industry matrix. From that, one-mode legislator *x* legislator matrix was created for both the House and Senate that counted the number of instances where both members in a dyad had occupational experience in the same sector.

### 3.3.7 Member State

The following measure is the independent variable used to test *H8*. States are another social variable of importance. Geographic proximity in terms of lawmakers' residences, as well as the local flavor of politics which pervades each state, should be taken into account. Furthermore, there are many state-level organizations, such as the Kentucky Medical Association, Louisiana Banker's Association, and Illinois Right to Life, that form PACs and give money to federal candidates from

their state. Building on the studies by Koger and Victor, here the object is to see how these state-level influences manifest themselves in various policy domains. Some industries will have more state-level activity than others, depending on the level of nationalization there is surrounding an issue. Categorical variables such as state lend themselves very well to SNA, as affiliations between actors are easier to model in a social context. This data also came from *The Almanac of American Politics*. To create the member state variable a list was created and numbers assigned to each state. From the state numbers each dyad was coded a "1" if its constituent pair were from the same state, and "0" otherwise. First, a two-mode legislator *x* state matrix was created where each lawmaker was coded by state. Second, legislator x legislator affiliation matrices were created for both the House and Senate so that each dyad with same-state lawmakers had a "1", and all other dyads a "0". In the PAC strategies model, candidates from the same state are assumed to attract more contributions, all else equal.

### 3.3.8 Caucus Memberships

Caucus memberships are the only variable specific to one chamber of Congress. The Senate does not have a formal caucus structure, so data was only available for the House. Included were members of the Blue Dog Coalition, Congressional Black Caucus, Congressional Hispanic Caucus, Republican Main Street Partnership, Republican Study Committee, Progressive Caucus, and Tuesday Group.[47] Dichotomous variables for each caucus were used to create a two-mode network of members and caucuses. This two-mode network was converted into a one-mode affiliation network that counted the number of caucus affiliations for each pair of legislators. Policy ideas ferment and percolate in these caucuses, which is why House members in the same caucuses might

[47] The Blue Dog Coalition is a group of fiscally moderate to conservative House Democrats. The Congressional Black Caucus consists of black lawmakers and focuses on African-American policy issues. The Congressional Hispanic Caucus has Latino members of Congress. Issues that affect Latinos are its focus. The Republican Main Street Partnership includes GOP House members who advance a more centrist platform. Some governors and senators are also informally affiliated. The Republican Study Committee advocates more conservative policy ideas. The Progressive Caucus is the coalition of liberal House Democrats. The Tuesday group is another caucus of House Republicans.

be targets of PACs looking to build a coalition of support. In the House co-sponsorship and roll-call models, this measure is included as a control variable because membership in these organizations may also influence behavior independent of any PAC or interest group activity in those contexts.

### 3.3.9 Office Location

Spatial proximity is another area social network analysts like to scrutinize for patterns of influence. Research concerning the effect of communal living in Washington, DC boardinghouses during the 1800s, as well as the impact of proximate office locations in a more contemporary context, has yielded mixed evidence this particular social factor plays a significant role in terms of influencing congressional behavior (Bergemann and Parigi 2011; Rogowski, Sinclair and Beck 2012). However, the variable has not been tested in the context of several specific policy domains, which could yield surprising results as-of-yet uncovered by aggregated data, nor did either analysis include the Senate. The Rogowski, Sinclair and Beck study measured proximity by using data about congressional office spaces. In particular, whether any pair of members in the House had offices located in the same building, floor, or adjacent space. In this instance, same floor was used because same building was viewed as a bit too lax a standard for having chance personal contact between members or their staffs as a result of office location, and data concerning adjacent office spaces was not publicly available. Unique floor numbers were created for each House and Senate member based on their building and floor. The data was used to create two-mode legislator *x* office floor matrices, which were then converted to one-mode affiliation matrices that were legislator *x* legislator in dimension. This variable could potentially have an influence on lobbyists' strategies, particularly if lobbyists or PAC officials were more likely to informally interact with other officials who just happen to be closely located to a key legislative ally. In the co-sponsorship and roll-call vote models, legislators with nearby office, particularly co-partisans, could be valuable sources of

information, advice, or even partners who help build legislative coalitions.[48] This measure is a control variable.

### 3.3.10 PAC Affiliations

PAC ties are the dependent variable in the PAC strategies model and the primary independent variable of interest in the co-sponsorship and roll-call vote models. As such, it will be used at the dependent variable in tests of *H1-H8*, and as the independent variable for *H9* and *H10*. Extensive literature reviews and the theory expressed in Chapter 2 have captured the lack of consensus about the nature of PAC influence in the legislative context. Legislator attributes are assumed to be clear drivers of choice for strategic PACs, who are considering a multitude of characteristics beyond partisan affiliation or ideological orientation. As is related to co-sponsorships and roll-call voting, it is contended that as the number of mutual ties to organized interest increase, legislators are more apt to join a coalition or otherwise cooperate with colleagues who have larger numbers of PAC ties more frequently than with legislators with fewer PAC ties, all else equal.

PAC ties were derived by taking Federal Election Commission data curated by the Center for Responsive Politics and creating list of candidates and contributors in the most recent election cycle prior to the 111th Congress taking office. For House members, this was the 2008 election cycle. However, the Senate election cycles are somewhat more complex. Election seats are staggered every two years so that roughly one third of the Senate is up for re-election in each congressional election. The Senate is divided into Class I, II and III seats; in 2008 (it was the Class II seats for which elections were held). The process of gathering the data and initial network

[48] Senate offices are assigned on the basis of seniority. Government service as a senator, vice president, House member, cabinet secretary or governor is counted, and in that order. Those elected without experience are seated in accordance to state population. The House of Representatives has a lobby for freshmen representatives. The rest are assigned according to seniority. Given this process, there was some concern about experience and office floor being highly correlated, but the Pearson correlation coefficients for the House and Senate matrices were .13 and .01, respectively.

modeling revealed that Senators do little fundraising in cycles where they are not personally facing re-election, which means using only the most recent election contributions will understate the strength of ties that Class I and Class III senators have in various interest group-legislator networks. To address this problem, Senate fundraising returns were used for the 2004 and 2006 election cycle as well, so that every elected senator in the network had data from their most recent election cycle, where they are most active as well as any additional fundraising activity. This approach has a limitation in that all of the contributions (and therefore social relationships) were not materializing at the same time. Interest group relationships with legislators and other network power dynamics change over the time. Electorally, the GOP fared better in 2004, whereas the Democrats performed better in 2006 and 2008 cycles, largely owing to President George W. Bush's sagging popularity. Nevertheless, this was a more accurate way to characterize the Senate network(s) than merely using data from the latest election cycle.

Relationships were the focal point of the theory, so each contribution was treated as a tie — no weight was given to the monetary size of the donation. Again, it is stressed that interest groups with PACs give varying amounts of money, but here it is assumed that any donation of funds to a campaign establishes a basic level of access. While it is true that some PACs contribute more than others to particular candidates, all of the donations given are relatively small in comparison with the overall amount of money a candidate generally raises in order to secure re-election. Contribution limits for multicandidate PACS are $5,000 per election. What is important is whether there is an access relationship. The strength of the relationship is dependent upon a multitude of factors, many of which are unknown. The existence of such an access relationship is thought to be more important than the contribution amount. The mere act of giving a contribution is assumed to afford a group the opportunity to influence a legislator, or members of his or her staff.

The social network variable is therefore a count of the number of mutual PAC organizations contributing to each pair of legislators, and not the financial contributions (however

measured) matched by each dyad.[49] Initial lists were created from the Center for Responsive Politics' "Open Secrets" data for both chambers based on member name and PAC donor codes. From those lists, two-mode networks (legislator *x* PAC organization) were created for each chamber and PAC sector. The PAC sectors are the same Center for Responsive Politics sectors that were used to code the occupational history data. A composite two-mode network with all interest group PAC donations was also created. Each two-mode matrix was converted into a one-mode legislator *x* legislator matrix to create the desired network measure.

### 3.3.11 Co-Sponsorship Affiliations

Legislative co-sponsorships are not components of the PAC strategies models but are the dependent variable of interest in the co-sponsorship models and a control variable in the roll-call vote models. Co-sponsorships are an important coalition-building device and crucial for influencing the content of legislation in its early stages of development. The measure developed here is the dependent variable used to test *H9*. There are several reasons why individuals might be more likely to co-sponsor legislation independent of common PAC donors (see Table 3.1 with the other control variables). Partisan affiliation, interest in a particular issue, or personal friendships may drive these activities irrespective of PAC ties (Bratton and Rouse 2011; Fowler 2005; Fowler 2006). Nevertheless, for purposes of this investigation the primary objective is to explain the circumstances under which PACs may be most pervasive in terms of facilitating greater cooperation between legislators. Individuals who frequently collaborate during the bill-writing phase may also discuss votes on other pending legislation, which is why co-sponsorships are included as a control variable in the roll-call vote models.

[49] In addition to the theoretical reason, there is also a more practical reason, which is that UCINET has a difficult time handling large matrices with large values. Early specifications of models using money tended to crash when run. This may be somewhat ameliorated by newer releases of the software, however.

There are several sources of co-sponsorship data available, but the database of co-sponsorships for this study came from the Center of Responsive Politics.[50] The database lists all of the sponsors and co-sponsors for all House and Senate legislation. The complete list of bills for the House and Senate were considered (those bills that when introduced have H.R. or S. preceding the bill number); other types of legislation were not.[51] Before networks were created, each bill was matched with an issue area; the issue area data came from the Congressional Bills Project, which uses the coding system developed by the Policy Agendas Project for each bill (Baumgartner and Jones 2013; Wilkerson and Adler 2012).[52]

**Table 3.3 Policy Agendas Project Major Issue Topics**

| | |
|---|---|
| **Agriculture** | Health |
| **Banking, Finance, and Domestic Commerce** | International Affairs and Foreign Aid |
| **Civil Rights, Minority Issues, and Civil Liberties** | Labor, Employment, and Immigration |
| **Community Development and Housing Issues** | Law, Crime, and Family Issues |
| **Defense** | Macroeconomics |
| **Education** | Public Lands and Water Management |
| **Energy** | Social Welfare |
| **Environment** | Space, Science, Technology and Communications |
| **Foreign Trade** | Transportation |
| **Government Operations** | *All Bills (Composite of major areas) |

Table 3.3 shows the 2013 version of the Policy Agendas Project major issue topics. Major issue areas include 19 distinct topics. The topics cover an array of public policy issues, including farm bills, civil rights legislation, defense authorizations, government operations (appropriations, federal employee benefits, and administration), welfare policy, environmental policy, and

[50] This data is available publicly but not in an easily accessible form. The data was provided by the Center for Responsive Politics.

[51] House and Senate bills are the most common and consequential types of legislation considered by Congress. Joint resolutions, concurrent resolutions, simple resolutions, and amendments were not included.

[52] Wilkinson and Adler coded the data using the criteria set forth by Baumgartner and Jones.

transportation funding. These issue areas correspond to the policy domains described in Chapter 2. Disaggregating the data to see how social ties to interest groups play out in various policy domains is of crucial importance to the study.

Table 3.4 displays the economic sectors used to measure PAC donations alongside the corresponding issue area. Clearly, the PAC sectors do not correspond exactly to the issue areas used to code pending legislation. Those PAC sectors had to be matched to policy domains in order to measure the impact of interest groups with a highly specific and consistent interest in a particular realm of policy. Some sectors match more closely to a specific policy domain than others, but in each case the objective was to pair each domain with the closest association to a particular sector. As noted earlier, these sectors are assumed to have primacy over a particular area of public policy. Admittedly, several PAC sectors will lobby particular bills under a specific issue area, but the paired domain is assigned to the sector assumed to have the most comprehensive and sustained interest. Few would dispute that the agribusiness sector has more influence over agriculture policy than any other sector, as is the case for the defense sector and defense policy, or the healthcare sector respecting health policy. This primacy is partially because the sector is generally a primary stakeholder in terms of specific statutory or regulatory outcomes. Perhaps even more crucially, the relationships developed as a result of frequent interest and sustained lobbying mean that members will come to rely on these interest groups for information and feedback on bills corresponding to the particular policy domain of interest. As a result, the primary economic sector within a policy domain will be in a stronger position to build coalitions through mutual connections to members of Congress.

**Table 3.4 Matching Interest Group Sector PACs to Policy Domains**

| Policy Domain | Interest Group Sector |
|---|---|
| **Agriculture** | Agribusiness |
| **Banking, Finance, and Domestic Commerce** | Finance, Insurance and Real Estate |
| **Civil Rights, Minority Issues, and Civil Liberties** | Lawyers and Lobbyists |
| **Community Development and Housing Issues** | Construction |
| **Defense** | Defense |
| **Education** | Other (Education and Non-Profits) |
| **Energy** | Energy and Natural Resources |
| **Environment** | Energy and Natural Resources |
| **Foreign Trade** | Miscellaneous Business |
| **Government Operations** | All Sectors |
| **Health** | Healthcare |
| **International Affairs and Foreign Aid** | Defense |
| **Labor, Employment, and Immigration** | Labor |
| **Law, Crime, and Family Issues** | Lawyers and Lobbyists |
| **Macroeconomics** | All Sectors |
| **Public Lands and Water Management** | Energy and Natural Resources |
| **Social Welfare** | Ideological/Single-Issue Groups |
| **Space, Science, Technology and Communications** | Communications and Electronics |
| **Transportation** | Transportation |
| **All Issues** | All Sectors |

There were some policy areas that by definition defy association with a singular interest group sector. These areas, which include macroeconomics and government operations have far-reaching implications for all sectors of the economy. Therefore, all PAC contributions were used to assess the interest group influence on those issues. Each policy domain dataset was organized into a two-mode network that was legislator *x* bill in construction for the House and Senate. From that, a one-mode legislator *x* legislator matrix was constructed that denotes the number of times each pairwise combination of legislators co-sponsored a House or Senate bill. In addition to the 19 major policy areas, an additional network was constructed that serves as a composite measure for all issue categories. This aggregate network will be useful in comparing the results to previous approaches, and compare the aggregated data to the individual domains to see whether the findings

have some generalizability. As previously noted, all of these bills are those for which there was issue area data available. In the 111th Congress, there were 6,570 House bills and 4,059 Senate bills.

### 3.3.12 Roll-Call Affiliations

Roll-call votes are the other independent variable of interest in the roll-call vote models. This variable only appears in those models, as these votes are procedurally the last stage of the legislative process before the election and policy formation cycle starts again. Current literature is bitterly divided over the degree to which interest groups influence legislative outcomes, as is well-documented in Chapter 1 (Fleisher 1993; Saltzman 1987; Schroedel 1986; Stratmann 1991; Stratmann 1992; Witko 2006; Abler 1991; Baumgartner et al. 2009; Chappell 1982; Johnson 1985; McClurg 2006). To shed light on interest group influence in a social context across a variety of policy domains, the impact on roll-call voting also needed to be assessed in addition to the co-sponsorship data. The roll-call data comes from Keith Poole and Howard Rosenthal. Because the bill coding of the major policy issues is only applicable to votes on bills and not votes on resolutions, amendments, nominations, rules or treaties, only those roll-calls were included. Unanimous and near-unanimous roll-call votes were also excluded because they reveal little useful information due to the absence of variance. Most unanimous votes correspond to minor acts such as naming of government buildings or symbolic votes meant to convey unity, or a statement of basic principles.[53]

Roll-call votes were matched to the same issue areas based on bill number using the Congressional Bills Project dataset. Once each roll-call vote was associated with an issue area, the data was subset into the policy domains. These files were used to create two-mode, legislator *x* bill networks for each policy domain, as well as a composite network with all roll-call votes, for both

[53] Roll-call votes must have at least 3 members voting on the losing side to be considered non-near unanimous votes. This convention was developed by (Carroll et al. 2009) in a working paper that compares NOMINATE and IDEAL measures of political ideology.

legislative chambers of Congress. The two-mode networks were then transformed into one-mode legislator *x* legislator networks. Specifically, the variable captures the number of times each pair of legislators cast the same "yea" or "nay" vote on a particular roll call. In total, there were 716 House roll calls and 499 Senate roll calls included.

### 3.4 QAP Regression Model

The primary benefit of the QAP model is that it allows the analyst to ascertain the effect of specific relationships between each pairwise combination of legislators. This technique allows one to account for contingent dynamics. For example, if two members of Congress generally receive lots of donations from PACs connected to the defense industry, but there is very little overlap between the specific groups contributing to them, an attribute-based model would still predict the two individuals to behave similarly if it were simply considering total defense PAC contributions. Categorical variables, which are typically hard to measure using traditional attribute-based regression, can be easily dichotomized by each pairwise combination to test relationship data in a manner not previously possible, or at least very feasible without creating several dummy variables. In the case of variables with a large number of categories, such as legislator state, categorical attribute measures are almost entirely impractical without devising a more generic categorization scheme such as geographic region. The ultimate advantage is that it allows the analyst to assess the importance of social forces on the phenomenon of interest in novel ways.

UCINET provides the analyst with three types of hypothesis testing: node-level, dyadic, and a mixture of node and dyadic hypothesis testing. Node-level hypothesis testing is in many respects the same as traditional attribute-based testing. Dyadic hypothesis testing is for pairwise, relational data, where each possible combination of two actors is treated as a case. The other type of test concerns mixed dyadic-monadic hypotheses. Those tests are typically employed when the analyst wants to test the impact of actor attributes on a network variable, or a mixture of actor-level

network measures and attributes on a network or attribute variable.[54] UCINET also has tests for both continuous and categorical attributes. Given that I use multivariate, dyadic data for this analysis, the chosen model specification is the quadratic assignment procedure (QAP).

QAP models are similar to basic linear regressions of actor attributes. In the first stage of its node-level regression tool, UCINET performs a standard multiple regression for each vector, which could be an attribute or a network-derived measure such as centrality. The second stage is different from that of the standard regression, because the standard errors in the node-level or QAP models must account for interdependence, which violates the traditional regression assumption of independence. The cells of the dependent vector are randomly permuted and the regression recomputed hundreds or thousands of times. These permutations are used to estimate the standard errors by calculating the proportion of permutations that generate a coefficient as extreme as the original regression (Borgatti, Everett and Freeman 2002). The primary difference between node-level network regression and QAP regression is the unit of analysis.[55] QAP is for whole matrices and therefore analyzes the relationships between every pairwise combination of actors in the network, whereas the attribute-level regression just focuses on the actors themselves.

UCINET employs a newish multiple regression QAP method dubbed the "Double-Dekker Semi-Partialling MRQAP" after the method developed by Dekker, Krackhardt and Snijders (2003, 2007). The method improves the QAP procedure by combining earlier approaches to create a semi-partialling permutation test.[56] All of the matrices (both rows and columns) are randomly permuted

[54] In many instances, node-level network measures are treated like attribute data and used in node-level hypotheses tests. Whether or not one uses the mixed dyadic-monadic or node-level tests depends on several factors, the questions the researchers is attempting to answer, the sample size, the type of network measure used, and whether characteristics of the units of analysis are independent or dependent of one another.

[55] Both QAP models and node-level social network regressions compute standard errors similarly. The contrast drawn is that of traditional regression data using attribute data that does not violate the linear regression assumption of independence.

[56] Information on the methodological history of the multiple regression QAP permutation tests can be ascertained by reading previous literature (Hubert 1987; Smouse, Long and Sokal 1986; Krackhardt 1988).

and the regression coefficient for each variable is recomputed. UCINET allows the user to specify how many permutations to include for the model. After all of the permutations are complete, UCINET compares the coefficient size to ascertain the percentage of permutations that produce a coefficient as extreme (i.e. as large or as small). The effect of multicollinearity is partialled out by performing a double regression on each independent variable and its residual, and again on all variables (Borgatti, Everett and Freeman 2002). As noted earlier, the multicollinearity issue is not of great statistical concern provided there is no theoretical imperative to distinguish the effects of two variables with highly correlated measures and residuals (Voss 2004). In spite of the model's attempts to address the collinearity, political party was left out of the model for the aforementioned reason that the party variable was still wrongly signed when the ideological variable was included.[57] None of the other variables present much of a multicollinearity problem.

There are some additional specifications that had to be met. The QAP regression used only works with one-mode, two-way network data. One-mode data requires that there only be one type of node (actors, events, etc.) in the network. In cases where there were initially two-mode networks, a one-mode affiliation network was created to meet the analytical requirements of the model. Two-way network data means the matrix includes both the sending and receiving values associated for each dyad. It is possible for these values to be different in certain analytical contexts. A possible iteration of a co-sponsorship network could be a network that distinguishes between the sponsor and co-sponsor. If Sen. McCain co-sponsors a bill written by Sen. Richard Durbin (D-Ill.), but Durbin does not co-sponsor a bill written by the McCain *x* Durbin dyad would have a value of "1", but the Durbin *x* McCain dyad will have a value of "0". However, each of the network matrices constructed for this study uses symmetric data, meaning the value for both dyads related to a particular combination of actors is the same.

[57] Alternatively, it is possible the sign was correct, and that groups are actually less likely to contribute to members of the same party after ideological considerations are made. More study is needed.

The House QAP models contain 186,192 dyads (432 x 432 actors, minus the main diagonal); the Senate QAP models contain 9,900 dyads (100 x 100 actors, minus main diagonal). UCINET will only load values from the top half of all matrices if it determines the data is symmetrical. This makes the analysis more efficient, and does not pose a problem when calculating the significance because the distribution is derived using the same data (with the values rearranged). Were the values to double, and the reference distribution along with them, the regression results would be identical.[58] Each Senate model's dyads were randomly permutated 2,000 times, while each House model was permutated 1,000 times. There is no ironclad rule about how many permutations are ideal, although more is better because it helps to stabilize the *p*-values for each model. The House models were much larger and took significantly longer to run, and models with more than 1,000 permutations sometimes caused technical problems and software/CPU crashes. Consequently, the permutation number for the House model represents a compromise between the desire to make the estimation as accurate as possible, and the desire to avoid technical problems.

### 3.5 QAP Regression Equations

Here are the regression equations associated with each model set:

***House PAC Strategies Models***

$$Y_{PAC\ Ties} = \beta_{Committee}x_i + \beta_{Constituent\ ideology}x_i + \beta_{Experience}x_i + \beta_{Gender}x_i + \beta_{Ideology}x_i + \beta_{Occupation}x_i + \beta_{Race}x_i + \beta_{State}x_i + \beta_{Constant}x_i + \varepsilon$$

***Senate PAC Strategies Models***

$$Y_{PAC\ Ties} = \beta_{Committee}x_i + \beta_{Constituent\ ideology}x_i + \beta_{Experience}x_i + \beta_{Gender}x_i + \beta_{Ideology}x_i + \beta_{Occupation}x_i + \beta_{Race}x_i + \beta_{State}x_i + \beta_{Constant}x_i + \varepsilon$$

[58] This information came from an e-mail discussion with UCINET creator Steve Borgatti, dated June 18, 2014.

***House Co-Sponsorship Models***

$$Y_{Co-Sponsors} = \beta_{Caucus}x_i + \beta_{Committee}x_i + \beta_{Experience}x_i + \beta_{Floor}x_i + \beta_{Gender}x_i + \beta_{Ideology}x_i + \beta_{Constituent\ Ideology}x_i + \beta_{Occupation}x_i + \beta_{CRace}x_i + \beta_{State}x_i + \beta_{PACs}x_i + \beta_{Constant}x_i + \varepsilon$$

***Senate Co-Sponsorship Models***

$$Y_{Co-Sponsors} = \beta_{Committee}x_i + \beta_{Experience}x_i + \beta_{Floor}x_i + \beta_{Gender}x_i + \beta_{Ideology}x_i + \beta_{Constituent\ Ideology}x_i + \beta_{Occupation}x_i + \beta_{CRace}x_i + \beta_{State}x_i + \beta_{PACs}x_i + \beta_{Constant}x_i + \varepsilon$$

***House Roll-Call Vote Models***

$$Y_{Votes} = \beta_{Caucus}x_i + \beta_{Committee}x_i + \beta_{Experience}x_i + \beta_{Floor}x_i + \beta_{Gender}x_i + \beta_{Ideology}x_i + \beta_{Constituent\ Ideology}x_i + \beta_{Occupation}x_i + \beta_{CRace}x_i + \beta_{State}x_i + \beta_{PACs}x_i + \beta_{Co-Sponsors}x_i + \beta_{Constant}x_i + \varepsilon$$

***Senate Roll-Call Vote Models***

$$Y_{Votes} = \beta_{Committee}x_i + \beta_{Experience}x_i + \beta_{Floor}x_i + \beta_{Gender}x_i + \beta_{Ideology}x_i + \beta_{Constituent\ Ideology}x_i + \beta_{Occupation}x_i + \beta_{CRace}x_i + \beta_{State}x_i + \beta_{PACs}x_i + \beta_{Co-Sponsors}x_i + \beta_{Constant}x_i + \varepsilon$$

### 3.6 Predicted Direction of Hypotheses

This section clearly specifies the expected relationship between the independent and dependent variable for each hypothesis test. Table 3.5 displays each of the hypothesis tests, the independent and dependent variable, the expected direction of the relationship, and the number of tests to which each hypothesis is subjected. It is expected that, consistent with the theory, committee membership ties, experience ties, gender ties, occupational ties, race/ethnic ties, and state ties will have a positive relationship with PAC ties, even controlling for other factors, in the PAC strategies models.

Constituent ideology and legislator ideology ties are expected to have a negative relationship because they are measured as the absolute value of the difference between each dyad. PAC ties are expected to have positive relationships with co-sponsorship ties and roll-call ties in the co-sponsorship and roll-call vote models, respectively.

**Table 3.5 Hypotheses and Predicted Direction**

| ***H* No.** | **Independent** | **Dependent** | **Direction** | **House Tests** | **Senate Tests** |
|---|---|---|---|---|---|
| ***H1*** | Committee | PACs | + | 15 | 15 |
| ***H2*** | Constituent | PACs | - | 15 | 15 |
| ***H3*** | Experience | PACs | + | 15 | 15 |
| ***H4*** | Gender | PACs | + | 15 | 15 |
| ***H5*** | Ideology | PACs | - | 15 | 15 |
| ***H6*** | Occupation | PACs | + | 15 | 15 |
| ***H7*** | Race | PACs | + | 15 | 15 |
| ***H8*** | State | PACs | + | 15 | 15 |
| ***H9*** | PACs | Co-Sponsor | + | 20 | 20 |
| ***H10*** | PACs | Roll Calls | + | 20 | 13 |

There are 14 PAC sectors and an aggregate specification, which explains why *H1-H8* variables tested in the PAC strategies models get 15 tests for both the House and Senate. There are 19 major issue areas and an aggregate specification, which accounts for the 20 hypothesis tests of *H9* in the co-sponsorship model areas. There is a difference in the roll-call vote models, which use the same issue areas or issue domain coding scheme as the co-sponsorship models. The Senate only took roll-call votes in 12 issue areas, so there are only the 12 issue-specific models and the aggregate model, which is why *H10* has 13 tests in Senate models but 20 in the House models.

The next chapter provides an overview of the attribute data and network data. It introduces network visualization techniques meant to complement the results of the QAP models used to test the PAC strategies detailed in Chapter 2 and the current chapter. The data overview shows how descriptive statistics informed my thinking about how the hypothesis tests perform in the QAP

network models. Data visualization techniques also help to set these expectations. The chapter proceeds by first breaking down the aggregate PAC strategies models for the House and Senate, before looking at specific issue areas. It ends with a discussion of the results, and how PAC strategies have implications for the interest group impact models in Chapters 5 and 6.

# Chapter 4. Interest Group Contribution Strategies in the 111th Congress

## 4.1 Introduction

Chapter 4 is an examination of interest group strategies and how they influence contributions to members of Congress. In particular, it looks at how committee, constituent ideology, experience, gender, ideology, occupation, race/ethnicity, and state affect interest group contribution strategies. These are the concepts measured and tested in *H1-H8* set forth in Chapter 2. First, the chapter provides a basic introduction to the political context of the 111th Congress. Next, it introduces descriptive statistics for both the attribute and dyadic (network) data, and in doing so gives the reader insight into how these measures look in both contexts. Network visualizations are also provided to demonstrate show how political party ties influence the strength of interest group ties in Congress. Both aggregate and issue-specific PAC strategies models test the hypotheses for the House and Senate chambers. The last section provides a discussion of the results.

## 4.2 Political Context of the 111th Congress

As members of the 111th Congress prepared to take office following the 2008 U.S. election, lobbyists and PAC officials were planning strategic adjustments necessitated by current economic and political conditions. As was the case with Main Street and Wall Street, the economic recession did not spare the bottom line of K Street organizations after years of plump revenues. After large K Street firms posted several years of double-digit revenue increases, the year-to-year revenue fell 4.2 percent in 2008 (Palmer 2009). The Democrats won, and won big, which compounded woes for lobbying firms that catered to GOP-affiliated clients.[59] Some of these associations were circumspect about the implications of the coming legislative environment.

[59] Conversely, the changing electoral tides would be a bonanza for some Democratic lobbyists. Podesta Group, for example, saw revenues climb 40 percent largely due to signing up new healthcare, defense and university clients. Its co-founder, Tony Podesta, was brother of former Clinton Chief of Staff and Obama transition team coordinator John Podesta, who also co-founded the firm before leaving to pursue public sector opportunities.

"We're not going to be as aggressive as we have been in years past," said Sharon Sussin, the political director of the National Federation of Independent Business, in an interview with *Roll Call*. "We're trying to find that balance." Other groups, such as the National Association of Realtors and the National Automobile Dealers Association, maintained that they are bipartisan in their lobbying efforts and would adapt accordingly. Both groups signified the focus for their industries, which typically leaned GOP in terms of campaign giving, would be to target incumbents or recruit conservative Democrats more sympathetic to business interests than the party's progressive wing. For example, the American Gas Association lobbied several Democrats on behalf of natural gas firms concerning the need to pass the Promoting Natural Gas and Electric Vehicles Act of 2010, which would have made tax incentives available to those purchasing vehicles that run on natural gas or electric power sources (Murray 2010). Representatives from these groups and other more optimistic lobbyists noted that it would be possible to make inroads with newly elected backbenchers given the right pitch or issue (Murray 2008).

Of course, these interviews pertain to the lobbying strategies pursued after the election, and not the campaign contributions. Assuming that strategic groups would generally like to keep their options open, these sorts of strategies are also formulated and deployed during the election and access-forming stages of the legislative process. While lobbyists and interest groups lack a clairvoyant vision of future political currents, they do attempt to anticipate opportunities which may arise, hence the swing of interest group money in the direction of the winning major political party in virtually every national election cycle.

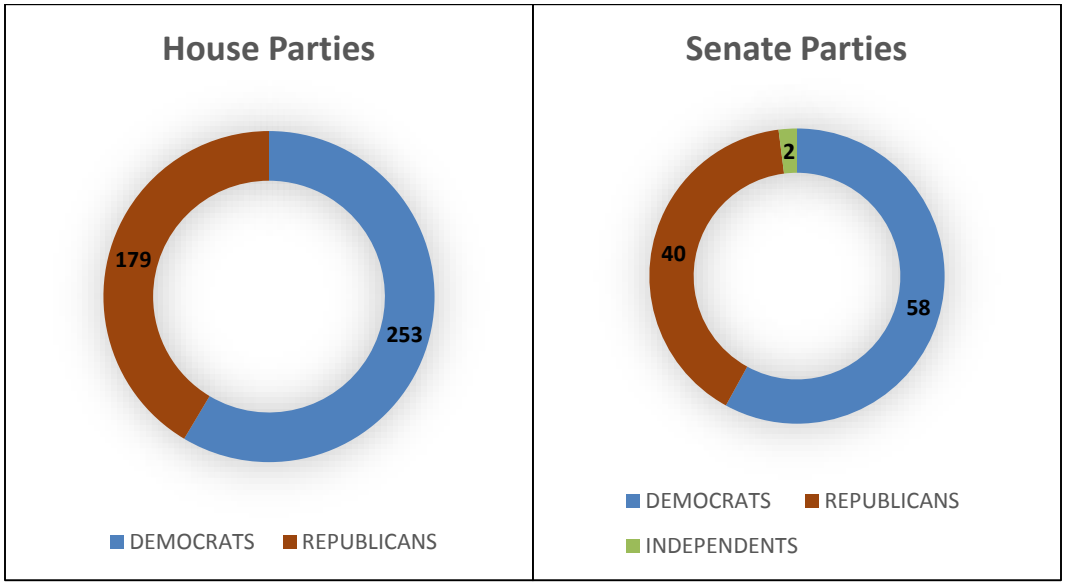
Political party and ideology are not the only factors influencing lobbying strategies. To understand what contribution strategies interest groups might employ at the access-forming stage, reviewing demographic data about the legislative body with which they intend to curry favors is instructive. The goal of this chapter is to clarify why groups might pursue one or more of the influence strategies hypothesized in Chapter 2. In other words, how do member ideology/party,

constituent ideology, experience, committee memberships, gender, race/ethnicity, occupational backgrounds, and state all provide incentives? And how do these incentives subsequently alter the interest group and lobbying ties between legislators? Which social characteristics are most likely to make legislators mutually accessible?

### 4.3 Attributes of the 111th Congress

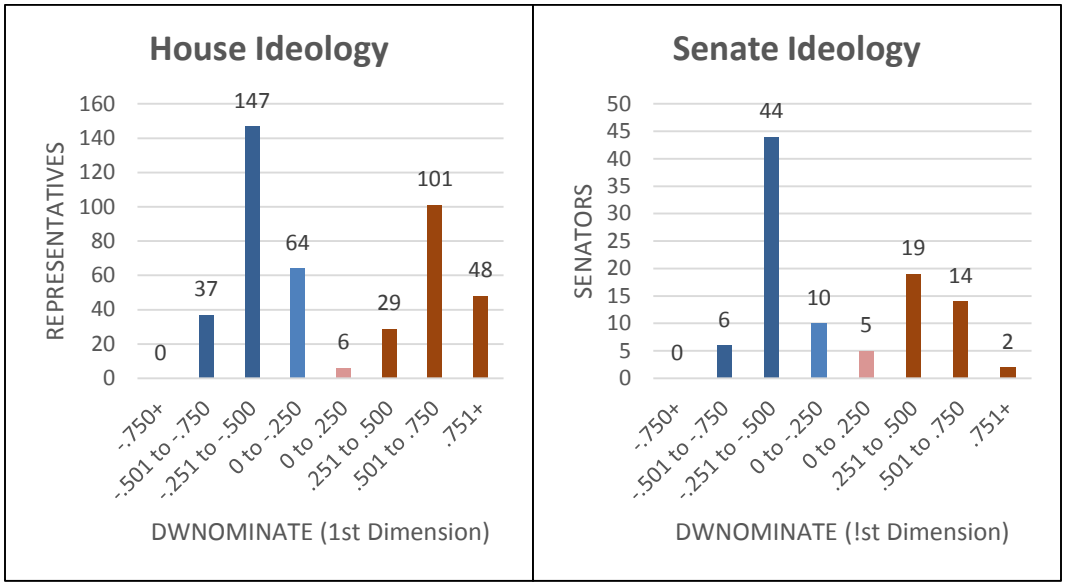
The most basic, consequential social characteristic for Congress as a whole at any given time is the partisan control or ideological predispositions of those who make public policy. Figure 4.1 displays the partisan composition of both the House and Senate, which is heavily tilted toward Democrats in the 111th Congress. Strategic PACs will generally adjust their donations in the direction of the majority party, even if they do not favor said party. For example, the share of defense sector PAC giving shifted from 60 percent Republican in the 2006 election cycle to 51 percent Democrat in the 2008 election cycle. Similar shifts occurred in the construction and energy sectors even though they still favored GOP candidates overall. These dynamics generally consist of moderate shifts from cycle to cycle, as high incumbency rates and ideological preferences do temper the degree to which PAC sectors shift their access strategies.

**Figure 4.1 Partisan Composition of 111th Congress**



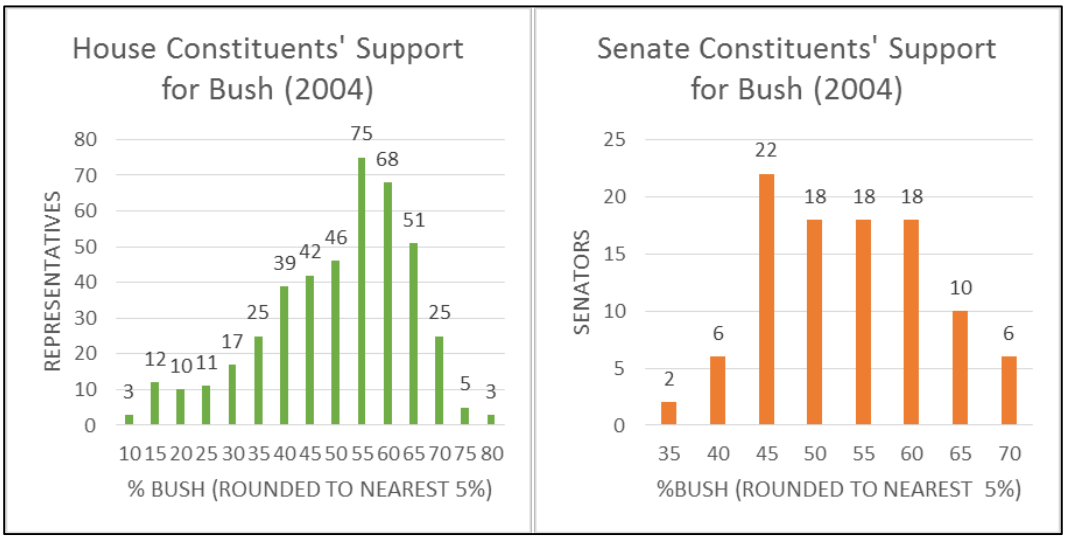
The distribution of ideology has some value in informing PAC strategies as well, particularly if a legislator is known to be an ideological moderate. Moderates are crucial to building legislative coalitions, whether they come from the majority or minority party. In the case of the 111th Congress, keeping Democratic moderates in the fold was slightly more important than slicing off GOP moderates, as the Democrats controlled all of the levers of power. Democrats had both the ability and incentive to deliver on policy changes, whereas the GOP was better served to sit out rather than assist with policy successes for which Democrats were sure to get the lion's share of credit, and insulated the minority party from blame if the policies proved unpopular. This is one reason that there are more far-right GOP outliers on the House and Senate ideological spectrum than far-left Democrats (shown in Figure 4.2). The other has to do with long-term polarization of the political parties, which began in the late 1970s. Although both parties have shifted away from the center, the GOP has moved further to the right than Democrats to the left (Bonica et al. 2013). The polarization trend has been asymmetric. Consequently, moderates (those with NOMINATE scores between -.250 and .250) in both parties are increasingly less common. On the whole, the two distributions look pretty similar for both congressional chambers.

**Figure 4.2 Ideology in the 111th Congress (based on previous Congress)**



PACs might target legislators based on their constituent ideology as well. If high-salience issues come up for a vote, they may combine direct lobbying with grassroots mobilization to show members of Congress the ability interest groups have to mobilize support or opposition for specific legislation. Figure 4.3 shows the frequency distribution of each constituency and their support for Bush in the 2004 presidential election rounded to the nearest 5 percent.[60] As shown, the House values have a substantially greater range (10-80 percent) than the Senate (35 to 70 percent), because of both the higher variation of political leanings in small geographic area and because Senate seats cannot be gerrymandered, as is the case with many House districts. In both cases, however, most of the distribution for both falls between 40 and 60 percent. The values for the Senate are obviously duplicated for senators hailing from the same state.

**Figure 4.3 111th Congress' Constituent Ideology (2004 Presidential Election)**

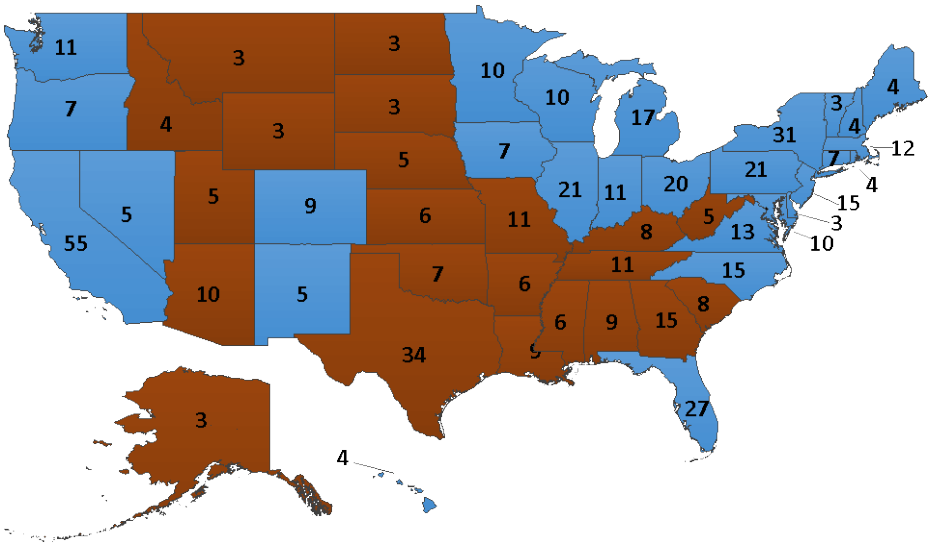



While these measures constitute a very high-level measure of ideological disposition, it is prudent to point out that similar political ideology often corresponds to other constituency

[60] The 2004 presidential election numbers are used here because the interest groups utilizing constituency based strategies would have used this data for the 2007-08 election cycle. Frequency distributions of the 2008 presidential election using Obama's percentage of the vote yielded similar distributions for the House and Senate to the ones shown here.

similarities. The agribusiness and energy sectors tend to more economically significant in rural, largely conservative pockets of South and Midwest. Communications and technology firms typically hail from largely urban areas on the West Coast. Unions tend to be more prevalent in areas with a large manufacturing base outside of the South. Additionally, there are cultural, ethnic, and other demographic trends which might cause certain interest groups to target representatives from similar constituent districts.

**Figure 4.4 2008 Electoral College Map**




Similarly, individuals might receive the same support if they hail from the same state or districts. Figure 4.4 shows the Electoral College map from the 2008 presidential election; the graphic provides an efficient breakdown of the number of representatives from each state delegation.[61] In addition to constituent-related factors, there are also going to be political and economic actors specific to a particular state that influence the flow of PAC contributions, and consequently, their willingness to engage members of Congress from their state. Hunter Bates, the former Chief of Staff to Sen. Mitch McConnell, started Bates Capitol Group in 2003, with the idea

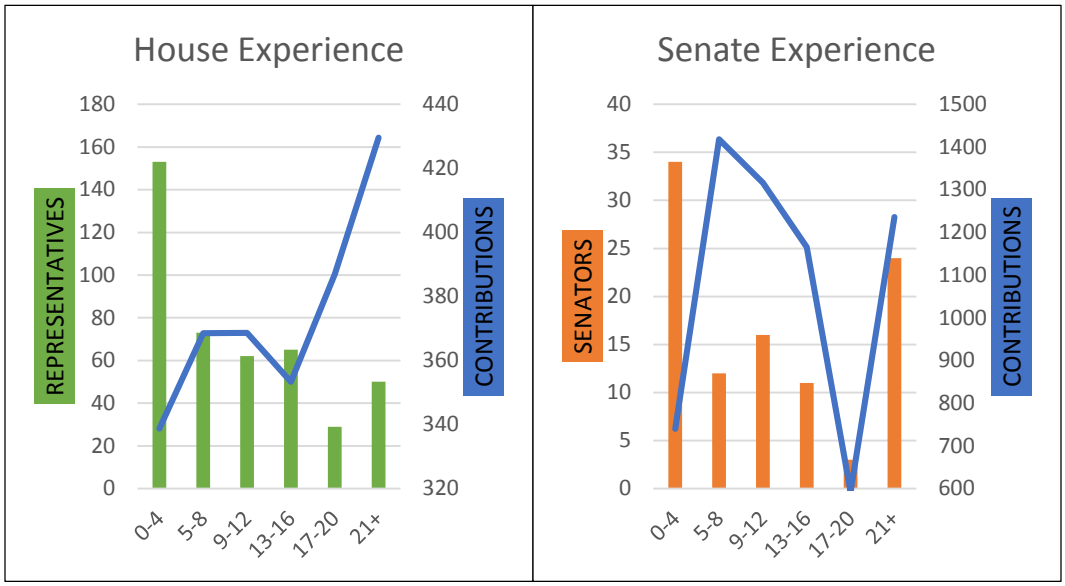
[61] It should be noted that one of Nebraska's electoral votes actually went to Obama because of how they apportion electors.

that it would be easier to focus on a few key players and members of the Kentucky congressional delegation, to whom Bates had strong ties. In fact, 93 percent of the firm's contributions in the 2003-2004 election cycle went to Kentucky candidates. Mike Merola, a former aide to Sen. Robert Torricelli (D-N.J.) started his firm, Winning Strategies, to focus on garnering appropriations that would help the economy in New Jersey (Newmyer 2006). Well-connected lobbyists like Bates and Merola often advise their clients to direct contributions and establish relationships with delegations in their own state rather than attempting to mount a national lobbying campaign, which is often prohibitively expensive. The essence of their message was "smaller is better." In addition, other dynamics, such as the preponderance of state-level unions, trade associations and lower-ballot elections, provide greater engagement for interest groups in the state. These factors are hypothesized to generate more mutual interest group supporters for members hailing from the same state delegation than members from different states.

Figure 4.5 reports the frequency distribution of legislator experience in the 111$^{th}$ Congress and the average number of contributions for each experience bloc (2007-2008 for the House, and 2003-2008 for the Senate). The 111th is characterized as having a relatively large number of newcomers. Roughly one-third of each chamber has four years of experience or less. The distribution of the next three categories is lower but somewhat even until the 17-20 category, which has a small number of incumbents relative to the other experience category. There are 50 representatives and 24 senators with more than 20 years of experience. The contribution trends tell very different stories, however. Initially, both representatives and senators accumulate a greater number of contributions. As time passes, the number of contributions levels off for representatives, before jumping upward again for the most senior House members (those with 17 or more years of experience). In the Senate, those numbers take a plunge between 8 to 20 years of experience before rebounding again. The implication is that House contributions are somewhat less volatile across time, although this could be an artifact of a smaller body where individual idiosyncrasies have more

influence over the averages. There are only 3 Senators with 17-20 years of experience.[62] Perhaps the incumbency advantage of senior senators, along with decisions about impending retirements, makes fundraising less important than for first- and second-term senators. At any rate, as noted in Chapter 1, Senators are less dependent on PACs as a form of direct contributions than are House members.

**Figure 4.5 Frequency Distribution of Legislator Experience, 111th Congress**




What the data does make clear, particularly in the House, is that time is an important aspect of lobbying and building effective relationships between members of Congress and interest groups. Veteran lawmakers have met more political operatives, employed more staffers, and engaged more issues.[63] Each campaign incumbents receive donations from new groups looking to gain their ear. Interest groups often turn to the most experienced members on Capitol Hill, as they are more

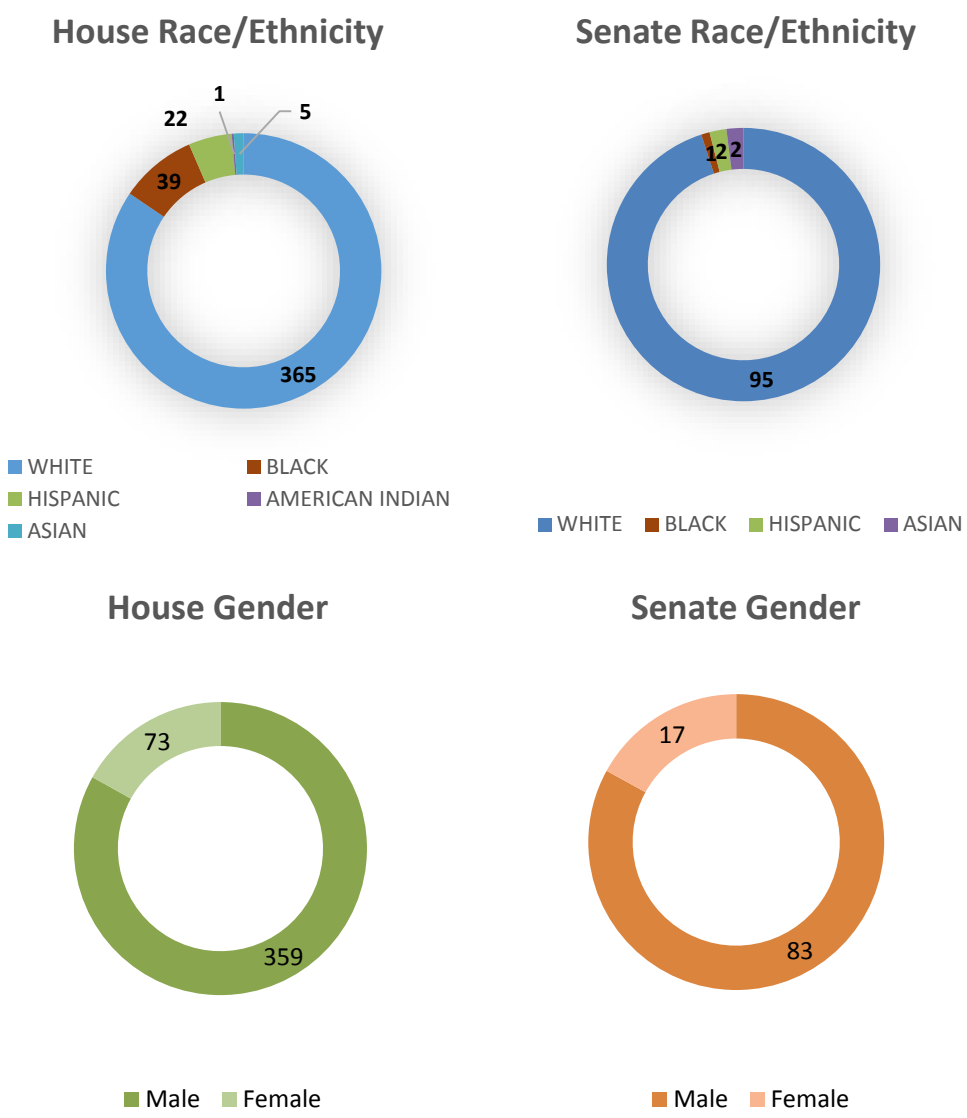
[62] Those three Senators are Daniel Akaka (D-Hawaii), Herb Kohl (D-Wisc.) and Joe Lieberman (I-Conn.). Kohl and Lieberman ended up retiring, so it is plausible that they engaged in less fundraising than their colleagues because they had privately made the decision before making anything public. Akaka was a long-time incumbent in a state considered relatively safe for Democrats, so perhaps there is less impetus to fundraise.

[63] According to the Sunlight Foundation, the number of lobbyist with previous government experience grew to 1,846 in 2012 from 482 in 1998. Former members of Congress who became lobbyists increased to 128 in 2012 from 90 in 1998.

typically have the social capitol and experience needed to guide bills through the labyrinthine legislative process. Individuals who have been in Congress for several sessions understand this process and know the people necessary to get things done. Newcomers may also have more of the same PAC ties with each other relative to their more experienced counterparts because of the tendency of some groups to lobby a cohort of newcomers to identify potential allies. Establishing access allows interests to find out how viable a candidate is as a partner moving forward. Nevertheless, these mutual interest group connections between two less-experienced legislators will not be as frequent as those between two veteran incumbents. In other words, one still expects veteran incumbents to share more contributors, all else equal.

Historically underrepresented minorities may also receive lots of attention from groups concerned with civil rights, women's issues, LGBT issues, poverty, labor protections and anti-discrimination policy. Fair or not, individuals who are members of these groups are expected to give both symbolic representation and forge coalitions to push through legislation, particularly in the following issue areas: Civil Rights, Minority Issues and Civil Liberties; Labor, Employment, and Immigration; Social Welfare; and Healthcare. Most of these groups are located in the ideology/single-issue, labor, and lawyers and lobbyists sectors. Given a unified Democratic government, these issues, which are integral for many of the party's diverse coalition, should be expected to receive more attention than usual. For example, frustration by women's lobby with the inability to pass legislation it deemed important during the administration of President George W. Bush, such as the Lilly Ledbetter Equal Pay Act, caused them to redouble their efforts (Palmer 2008). It paid off, as the legislation would be the first bill signed into law by President Obama. Written by Sen. Barbara Mikulski (D-Md.), the bill was co-sponsored by 12 other women senators, and was supported by several groups who focus on gender equality.

**Figure 4.6 Race/Ethnicity and Gender in the 111th Congress**




Certainly, such legislation typically requires the support of white male counterparts. The 111th House was 85 percent white, and the senate 95 percent white; both chambers were 83 percent male (see Figure 4.6). Still, it is plausible to hypothesize the legislators of the same racial/ethnic group and gender are more likely to have mutual contributors as a result of this shared attribute. This may also apply to white males, who are more conservative (on average) than their racial/ethnic

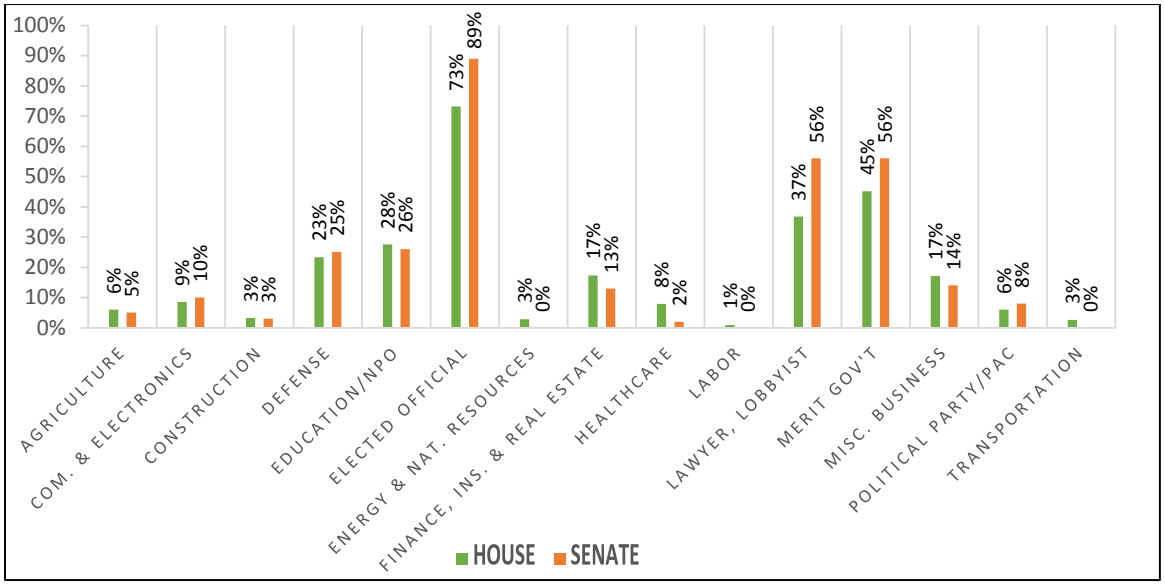
minorities in both parties. Women in both parties are also more liberal relative to the men, which may also mean they are more likely to find common ground.[64]

Figure 4.7 shows the frequency with which members of the 111th Congress have held positions in each of the PAC sectors. The House figures are represented by green bars and the Senate by orange bars. The most common occupational backgrounds for members of Congress by far were another elected office, merit government positions, lawyers (and to a lesser degree, lobbyists).[65] Elected government positions were by far the most common, with 89 of the 100 senators having previously served in a different elected office. Seventy-three percent of House members also had such a background. More than half of Senators had also been in merit or appointed government positions, along with 45 percent of House members. Lawyers are the most common occupation where a private sector application is possible. Those with military or educational backgrounds are also somewhat frequent in both Houses, with roughly a quarter of representatives in both chambers. One overarching trend is that members of Congress are significantly more likely to have experience in the public sector than in any singular private sector industry. Second, of the purely private or business sectors, the finance, insurance and real estate sector is best represented, with 17 and 13 percent of House and Senate members having some experience in the industry, respectively. Some sectors, such as Labor and Transportation, are scarcely represented by those with occupational experience at all.

[64] To make this determination, I averaged NOMINATE scores in the 111th Congress by political party and race, and political party and gender. White males are the most conservative cohort in both cross-sections.

[65] It should be noted that, at least in recent years, it is far more common for a member of Congress to become a lobbyist after leaving office than to be a lobbyist prior to attaining elected office.

**Figure 4.7 Occupational History of the 111th Congress**




Occupational backgrounds are another attribute lobbying firms are hypothesized to target via direct contributions. Although the media is replete with stories about members of Congress who go into the private sector as a lobbyist, there is much less emphasis about how previous professional experience may impact on-the-job activities. Employment history in any of the PAC sectors, as well as any public sector history, potentially makes members targets for groups who feel such professional affiliations are advantageous. For example, House members who have a background in law received an average of 19.91 contributions from PACs in the Lawyers and Lobbyists sectors. Those with no law background received only 15.68 contributions on average. Conversely, those in the finance, insurance, and real estate sector gave more contributions to House members without occupational history in that area than those with that background. Possibly, PAC officials from that industry felt it was more important to build relationships with legislators who did not have as much working knowledge of financial institutions. Either way, these contribution patterns could represent a coincidence or a preference of PAC officials for legislators with legal expertise. If such preferences are an outgrowth of strategic motivations, then contribution strategies could be even

more complex, such that groups may even target individuals based on a variety of occupational characteristics, particularly if a combination of private and public sector experience is seen as advantageous.

Committee membership is another important factor for PACs engaged in access strategies. In most policy domains, there is generally one (sometimes two or three) committee that acts as a gatekeeper for most pending legislation. The vast majority of these policy proposals will die in those committees; only those bills deemed most important by committee and subcommittee members, or those most skillfully navigated through the labyrinthine legislative process with the assistance of skilled lobbyists or policy entrepreneurs will get a floor vote.

Table 4.1 displays the committees in the 110th Congress and the number of people on each of those committees who were re-elected to (in the case of some senators continued to serve their terms) the 111th Congress. There were 28 House and 25 Senate committees during the 110th Congress. While these individuals were re-elected, they did not necessarily stay on those same committees. Nevertheless, interest groups lacking knowledge about future assignments may have no better recourse than to forge or maintain access to legislators on key committees with the assumption that those individuals will continue to sit on those committees if re-elected. Entire committees may also change from time to time (particularly select committees and joint committees), but standing committees do not frequently change. With the exception of the House Select Committee to Investigate Voting Irregularities of August 2, 2007, all of the standing committees, joint committees and select committees for the House and Senate remained the same in the 110th and 111th Congresses. Individual committee assignments did change, as they do each session. The corollary is that individuals who share one or more committee membership with each other would be more likely to attract similar donors, all else equal.

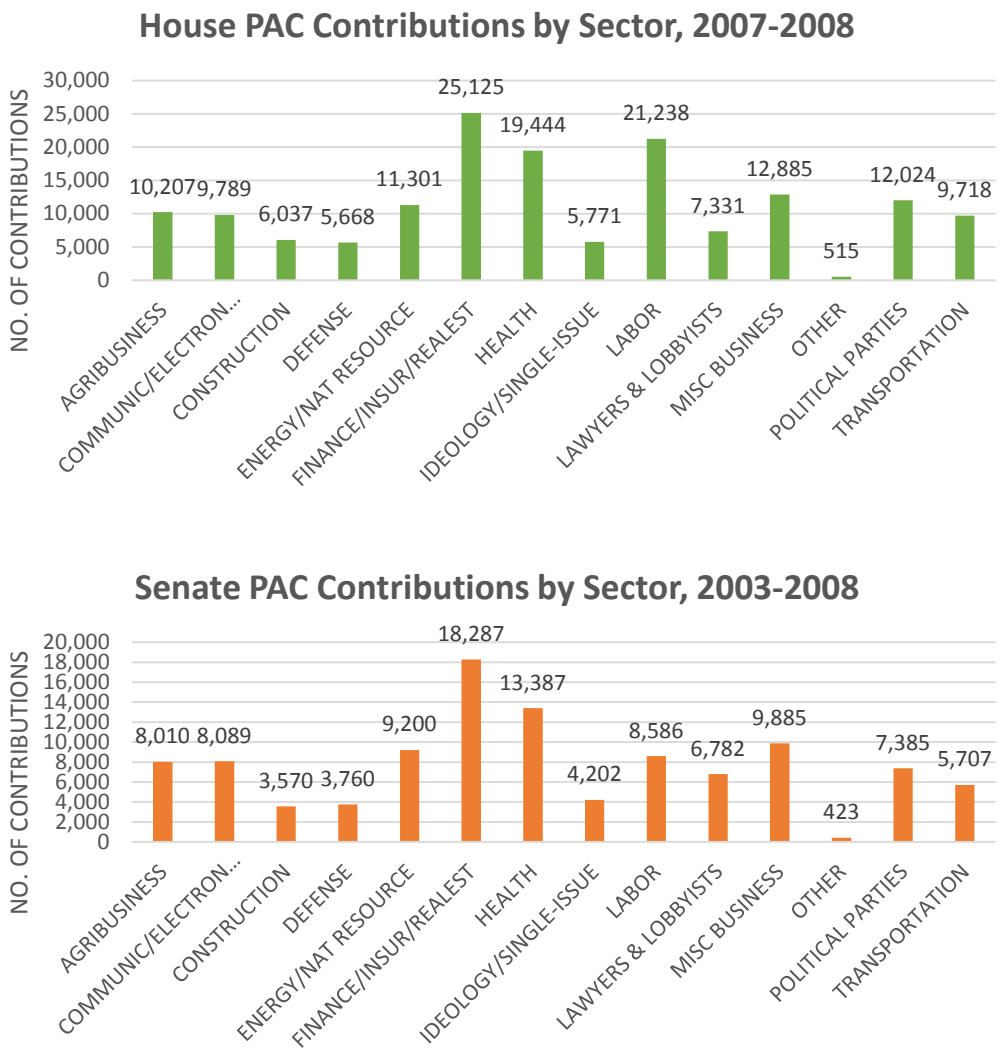
**Table 4.1 Committees in the 110th Congress and Membership Numbers in 111th**

| 110th House Committee | 111th | 110th Senate Committee | 111th |
|---|---|---|---|
| Agriculture | 39 | Aging (select) | 15 |
| Appropriations | 56 | Agriculture, Nutrition, and Forestry | 19 |
| Armed Services | 57 | Appropriations | 25 |
| Budget | 39 | Armed Services | 25 |
| Economic (joint) | 10 | Banking, Housing, and Urban Affairs | 18 |
| Energy Independence and Global Warming (select) | 14 | Budget | 21 |
| Education and Labor | 44 | Commerce, Science, and Transportation | 20 |
| Energy and Commerce | 50 | Economic (joint) | 9 |
| Financial Services | 68 | Energy and Natural Resources | 19 |
| Foreign Affairs | 47 | Environment and Public Works | 17 |
| Homeland Security | 31 | Ethics (select) | 6 |
| House Administration | 9 | Finance | 18 |
| Intelligence (select) | 19 | Foreign Relations | 17 |
| Investigate Voting Irregularities of August 2, 2007 (select) | 3 | Health, Education, Labor, and Pensions | 18 |
| Judiciary | 35 | Homeland Security & Governmental Affairs | 12 |
| Library (joint) | 3 | Indian Affairs (select) | 11 |
| Natural Resources | 40 | Intelligence (select) | 15 |
| Oversight and Government Reform | 36 | Judiciary | 18 |
| Printing (joint) | 5 | Library (joint) | 4 |
| Rules | 13 | Printing (joint) | 5 |
| Science and Technology | 45 | Rules and Administration | 17 |
| Small Business | 30 | Small Business and Entrepreneurship | 17 |
| Standards of Official Conduct | 9 | Taxation (joint) | 0 |
| Taxation (joint) | 4 | Veterans' Affairs | 14 |
| Transportation and Infrastructure | 70 | Leadership | 12 |
| Veterans Affairs | 31 | | |
| Ways and Means | 30 | | |
| Leadership | 25 | | |

All of these strategies are possible explanations for PAC contribution patterns observed in the various sectors used in the analysis. Uncovering the dynamics of contribution strategies in highly variable policy domains is one of the objectives of this analysis. Figure 4.8 displays the total contributions from PACs by sector and congressional chamber. The House totals include 2007-2008 cycle contributions, whereas the Senate totals include donations from 2003. Total contributions are represented as the number of donations made by each sector — not the total dollar

amount. These figures obscure intra-sector variation in contribution patterns and do not account for the number of groups making such contributions. Nevertheless, they represent the collective ability, or at least the collective willingness, of these groups to establish access to and between members of Congress.

**Figure 4.8 PAC Contributions to the 111th Congress**



In both the House and Senate the finance, insurance, and real estate sector made the most contributions. The health sector made the second-most contributions to members of the Senate and third-most to the House. The most substantial difference is for labor unions, which gave heavily to House members but substantially less to the Senate. Otherwise, the sectors more-or-less track consistently across both chambers. House members have more total contributions because there are more members, yet legislators in the Senate command more contributions on an individual basis due to their higher stature and because they represent more constituents than House members. On the basis of these numbers, one might expect that those sectors making the most contributions to have the most access and therefore more influence within their policy domains than groups with fewer contributions. But as later analysis will show, this is not necessarily the case.

### 4.4 PAC Strategies and Social Networks

To analyze these PAC access strategies in a social context, it is crucial to measure each in terms of the SNA methods discussed in Chapters 2 and 3. Therefore, it is necessary to turn from attributional data organization to the dyadic construction of network matrices to ascertain what the relational data says about the employment of strategic access strategies in the 111th Congress. Here I utilized a UCINET function that creates univariate statistics for each network to describe the nature of the relational data contained within each of the matrices. Table 4.2 reports the number of observations, minimum, maximum, sum, mean, and standard deviation for each of the eight PAC strategies networks.[66] Each of the House networks has 186,192 observations, and each of the Senate networks has 9,900 observations, as noted in Chapter 3. The minimum, maximum, sum, and standard deviation provide a general description of the distribution of network values, and how tie strengths are scaled for each variable.

[66] UCINET also allows one to calculate missing observations, sum of squares, variance, mean-corrected sum of scares and the Euclidean norm; however, none of those statistics were deemed to be of interested for purposes of this analysis.

The state, race, and gender networks are pretty straightforward, as the values are dichotomous for each dyad. The mean can therefore be interpreted as the percentage of dyads that share each characteristic. In the House, 72.4 percent of the dyads share the same race/ethnic group, and 71.8 percent share the same gender; in the Senate, these numbers are 92.2 and 71.5 percent, respectively. Given the greater preponderance of possibilities for state, the mean values in those networks are significantly lower (.041 for the House and .010 for the Senate). More revealing were the measures for the ideology and constituent ideology networks. The mean absolute difference for ideology and constituent ideology are larger for the House networks than the Senate, which is of little surprise, as states have less homogenous constituents than most House districts, which have become increasingly lopsided in recent years (Theriault 2008).[67] The occupation networks show slightly higher mean values for members of the Senate than the House. Senators tend to have slightly more occupational background ties than representatives. Due to the smaller size of the upper chamber and near parity in terms of active committees, it is not surprising that the mean tie strength for Senate dyads (.617) is higher than for House dyads (.194). Last, mean concurrent experience is similar for both House and Senate dyads (5.274 and 6.178, respectively).[68] In some networks, the House and Senate have more similar average tie strengths than in others. Where these central tendencies are discrepant, there may be chamber-specific impacts on the tendency of legislators to share contributors.

[67] The maximum differences are nevertheless similar for both networks. The largest absolute difference in the House networks corresponds to the dyads corresponding to Reps. Ron Paul (R-Texas) and Pete Stark (D-Calif.) — a staunch conservative and liberal, respectively. In the Senate, this distinction goes to Sens. Bernie Sanders (D-Vt.) and Jim DeMint (R-S.C.). Constituent ideology varied most widely in New York's 15th Congressional District (held by Rep. Charles Rangel) and three other staunchly conservative House districts held by Reps. Spencer Bachus (R-Ala.), Mike Conaway (R-Texas) and Mac Thornberry (R-Texas), where the difference in support for President George W. Bush varied by 69 percentage points. State ideology as expressed in the 2004 presidential election varied most significantly between Utah and Massachusetts, where Bush's percentage of the vote varied by 35 points.

[68] In the House, the largest dyad value was for fellow Michigan Democrats, Reps. Joh Conyers and John Dingell, who had served together 44 years. In the Senate, three long-term Democrats – Sens. Ted Kennedy, Robert Byrd, and Daniel Inouye of Hawaii had previously served together for 46 years.

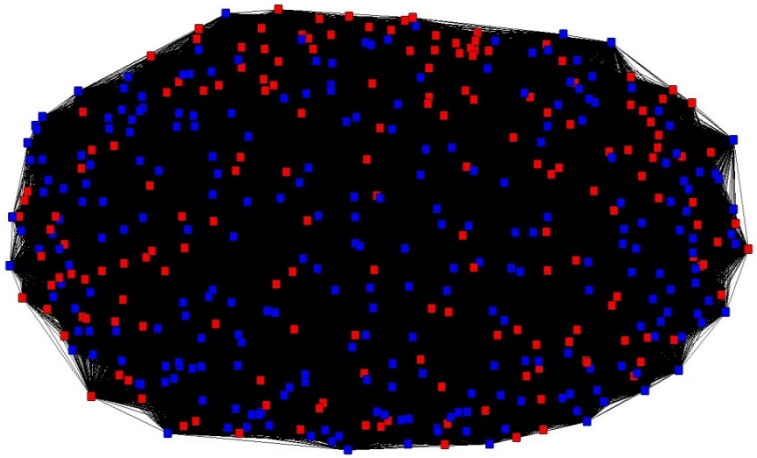
**Table 4.2 Univariate Statistics for House and Senate Networks**

| House | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **Statistic/Network** | Ideology | Constituent Ideology | State | Experience | Race/ Ethnicity | Gender | Occupation | Committee |
| **Observations** | 186192 | 186192 | 186192 | 186192 | 186192 | 186192 | 186192 | 186192 |
| **Minimum** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **Maximum** | 1.858 | 69 | 1 | 44 | 1 | 1 | 5 | 4 |
| **Sum** | 105628 | 2978522 | 7686 | 982034 | 134824 | 133778 | 198116 | 36082 |
| **Mean** | 0.567 | 15.997 | 0.041 | 5.274 | 0.724 | 0.718 | 1.064 | 0.194 |
| **Standard Deviation** | 0.454 | 12.478 | 0.199 | 5.545 | 0.447 | 0.450 | 0.785 | 0.434 |
| **Senate** | | | | | | | | |
| **Statistic/Network** | Ideology | Constituent Ideology | State | Experience | Race/ Ethnicity | Gender | Occupation | Committee |
| **Observations** | 9900 | 9900 | 9900 | 9900 | 9900 | 9900 | 9900 | 9900 |
| **Minimum** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **Maximum** | 1.543 | 35 | 1 | 46 | 1 | 1 | 4 | 4 |
| **Sum** | 4610 | 95816 | 100 | 61162 | 9124 | 7078 | 15754 | 6106 |
| **Mean** | 0.466 | 9.678 | 0.010 | 6.178 | 0.922 | 0.715 | 1.591 | 0.617 |
| **Standard Deviation** | 0.358 | 6.960 | 0.100 | 6.865 | 0.269 | 0.451 | 0.851 | 0.787 |

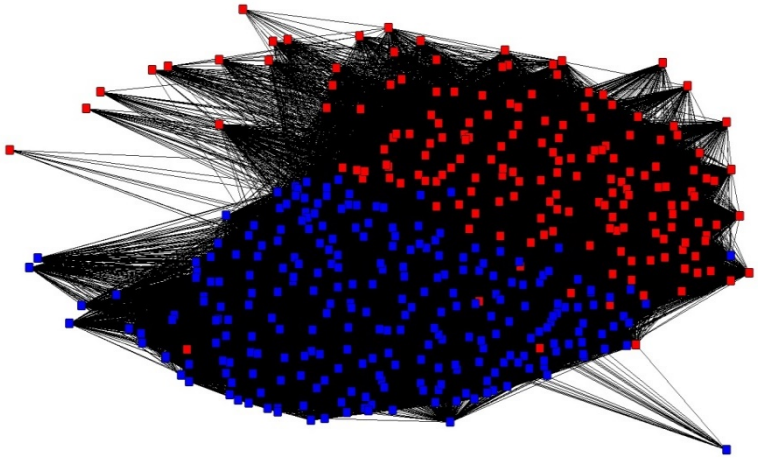
## 4.5 PAC Contribution Networks

Having explored the dynamics of the independent variables, let us now turn to the data for the various PAC sectors. The preliminary analysis focused on two primary issues. The first concerned how well connected legislators were in for each PAC sector. There are several ways to measure the connectedness of a social network, at both the network level and at the dyadic level — in essence, the macro- and micro-level dynamics of each dependent variable. To accomplish this goal, network visualizations were created and descriptive metrics calculated. The second issue corresponds to the relative partisanship of PAC sectors, which could provide some added context about the potential for partisan control to shape short-term contribution patterns in ways that belie long-term preferences. This approach is a good way to give party identification some treatment. The visualization and descriptive metrics reveal the partisanship of these access networks, even as I utilize a more precise measure (ideology) in the hypothesis tests later in the chapter.

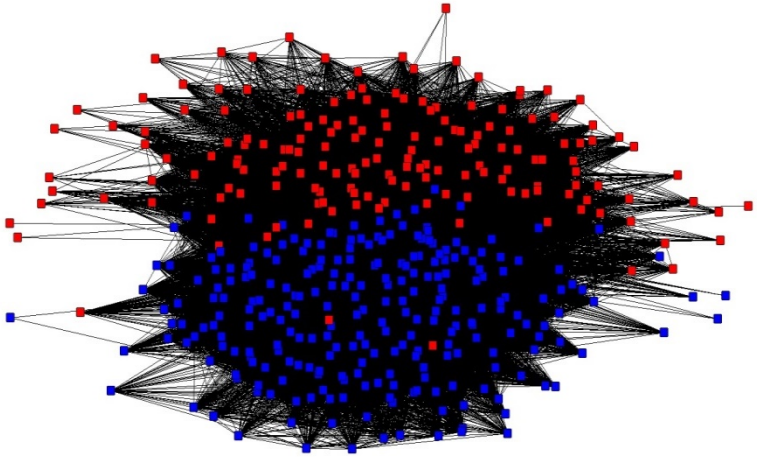
**Figure 4.9 House Interest Group Network at Various Dichotomization Levels**



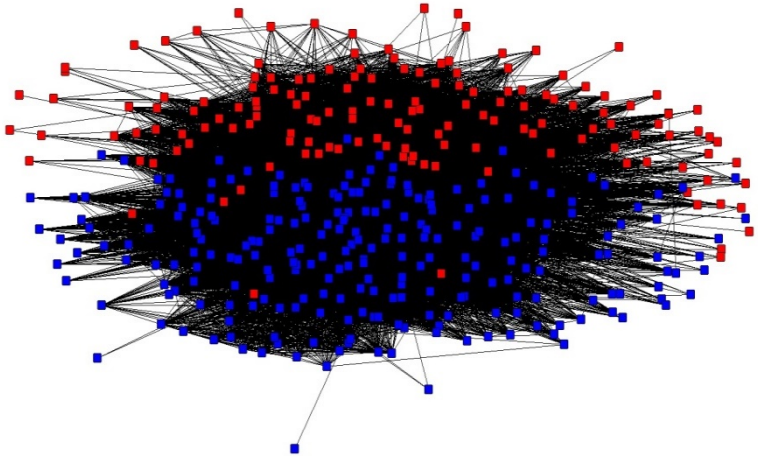
All Ties (≥1) – Density (.999)



First Quartile (≥25) – Density (.743)

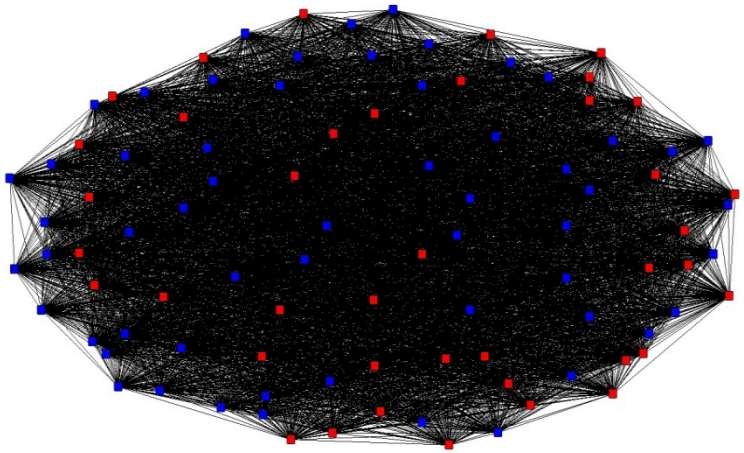


Median (≥40) – Density (.490)

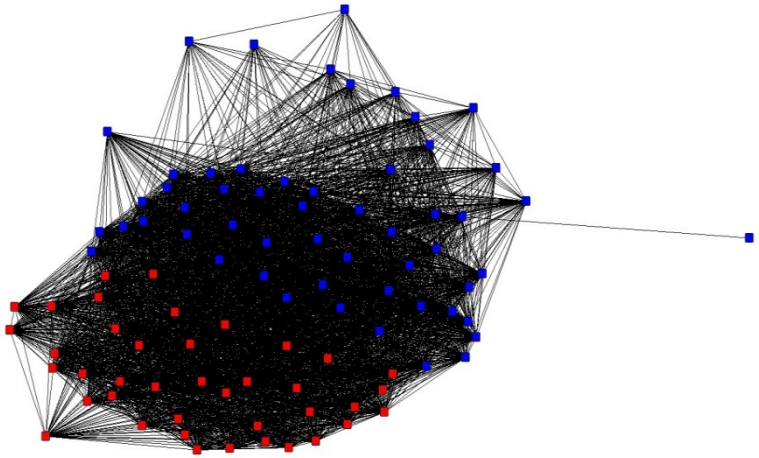


Third Quartile (≥58) – Density (.249)

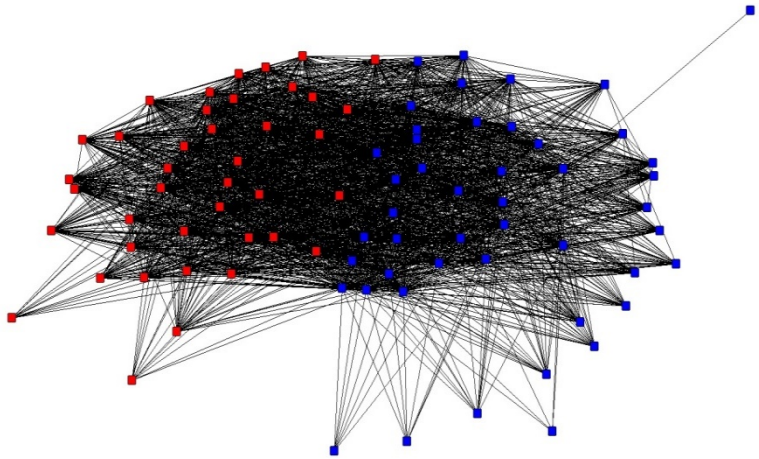
**Figure 4.10 Senate Interest Group Network at Various Dichotomization Levels**



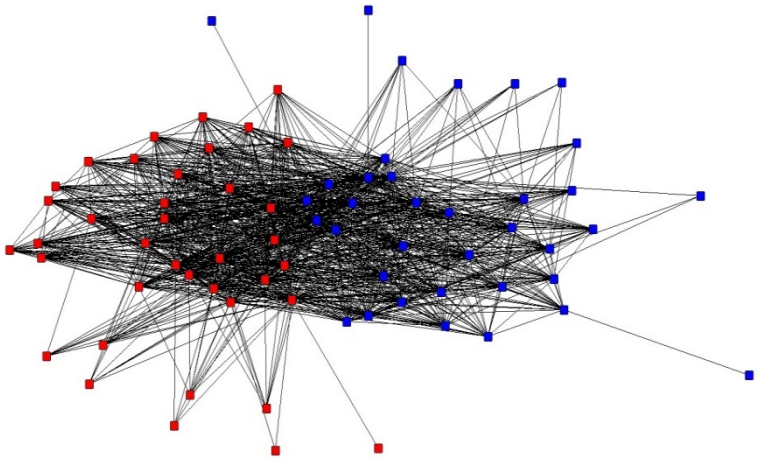
All Ties(≥1) – Density (.940)



First Quartile (≥78) – Density (.749)



Median (≥151) – Density (.496)



Third Quartile (≥230) – Density (.248)

Network visualizations in particular are great for dichotomous data because there is no judgment call necessary about how to present the network. When value data is used, the judgment requires attention to the theory and what presenting various cutpoints say about the data when strength ties are dichotomized at a specific level, particularly when the theory suggests the relationship between PAC contributions and influence on legislative behavior increases linearly with tie strength. Figure 4.9 and Figure 4.10 display the network visualization of the PAC access networks for the House and Senate, respectively.[69] In each figure is a sequence of four visualizations of the aggregate PAC network (all contributions from all sectors). The four selected cutpoints were all ties, first quartile, median, and 3rd quartile. For example, for the House first quartile visualization, values in the 25 percentile or lower were set to "0", and all other values to "1" (i.e. ties equal to or greater than 25). Isolates (those legislators with no ties to other members of the network) are dropped out at each stage, so that the overall number of nodes steadily decreases for each cutpoint. The network density is also reported for all visualizations. This metric tells the analyst how many of the network's dyads have a tie as a percentage of all theoretically possible ties. These densities approximate the intended cutpoints. As these networks demonstrate, there are interest group access points between virtually every pair of actors in the network, but the strength of these access points varies greatly.

The partisan tilt of the ties becomes increasingly apparent at higher tie strengths. The nodes in each network are colored to denote political party affiliation (Democrats are blue, and Republicans are red). In both the House and Senate, the "all ties" visualization portends a large array of bipartisan access points, which interest groups looking to maximize their influence would value. At higher levels of tie strengths, legislators begin to sort into partisan clusters, as shown in

[69] NetDraw employs a visualization algorithm that optimizes three criteria simultaneously. First is correspondence of path distance between nodes. Second is to keep the nodes spaced apart to the degree possible so they do not obscure on another. The third is a preference for equal-distance ties, or line lengths for the ties visualized. For more information, see (Borgatti, Everett and Johnson 2013).

the other three visualizations. However, there remains a cluster of extremely well-connected individuals in both parties in the center of the House and Senate networks that retain ties even at substantially higher cutpoints. If the theory espoused in Chapter 2 is correct, individuals with higher tie strengths will have the greatest susceptibility to being simultaneously (or mutually) influenced by interest groups with whom they both have relationships. Even though the preponderance of bipartisan ties are present in visualizations were lower tie strengths are included, their continued presence of bipartisan ties at higher cutoffs suggests PAC contributions are strategic but tempered by partisan or ideological differences between legislators in the network.

Data about the aggregate legislator-to-legislator access networks provides some insight into the characteristics of these networks, but additional data concerning the disaggregated, sector-specific networks will provide more nuanced insight about the strength of interest group access. Table 4.3 provides a sector-by-sector account of network density, average tie strength, average tie strength by party, and the percentage of intraparty and interparty ties. By network analysis standards all of these networks are quite dense, but there is some variation. Several sectors, including the two most prolific sectors — finance and health — have high-density networks for both the House and Senate. Other sectors have disparate density figures across chambers. Labor's density is much higher in the Senate network than in the House network. Conversely, agribusiness' reach is much better in the House network than in the Senate network. The dyad-level tie strength of these networks shows that reach is not everything. Labor reach is limited in the House relative to the Senate, but the average tie strength in those networks is greater than in any other sector. Unsurprisingly, the finance and health sectors appear to enjoy both high levels of reach and fairly strong average tie strength in both the House and Senate networks. Also worth noting is another sector on the opposite end of the spectrum — the "other" network, which consists largely of educational institutions and non-profits. Its reach and average tie strength are very small, but later

analysis will show these groups were able to overcome such a disadvantage by leveraging the relationships they had into legislative action.

**Table 4.3 House and Senate Access Network Densities and Tie Strengths, by Sector**

| House PACS | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **Network** | **Density** | **Avg.** | **R-R** | **R-D** | **D-D** | **%GOP** | **%R&D** | **%DEM** |
| **All PACs** | 0.999 | 44.1 | 42.0 | 34.8 | 58.5 | 16.3 | 38.3 | 45.4 |
| **Agribusiness** | 0.681 | 2.3 | 3.0 | 2.2 | 2.2 | 21.8 | 46.4 | 31.8 |
| **Communications & Electronics** | 0.854 | 3.0 | 3.3 | 3.0 | 2.8 | 18.8 | 48.6 | 32.5 |
| **Construction** | 0.707 | 1.7 | 2.9 | 1.6 | 1.2 | 29.0 | 45.9 | 25.0 |
| **Defense** | 0.496 | 1.2 | 1.3 | 1.2 | 1.2 | 17.7 | 48.7 | 33.7 |
| **Energy & Natural Resources** | 0.551 | 2.0 | 4.0 | 1.8 | 1.2 | 34.5 | 44.5 | 21.0 |
| **Finance/Insurance/Real Estate** | 0.980 | 7.1 | 8.0 | 7.1 | 6.8 | 19.2 | 48.4 | 32.4 |
| **Health** | 0.936 | 6.3 | 5.7 | 6.1 | 7.1 | 15.4 | 46.5 | 38.1 |
| **Ideological/Single-Issue** | 0.658 | 1.3 | 1.5 | 0.7 | 2.1 | 19.7 | 24.7 | 55.6 |
| **Labor** | 0.725 | 9.7 | 0.9 | 3.4 | 22.9 | 1.6 | 17.3 | 81.1 |
| **Lawyers & Lobbyists** | 0.722 | 1.9 | 1.1 | 1.4 | 2.8 | 10.0 | 37.8 | 52.2 |
| **Misc. Business** | 0.850 | 3.4 | 4.6 | 3.3 | 2.9 | 23.3 | 47.3 | 29.4 |
| **Other** | 0.060 | 0.1 | 0.0 | 0.0 | 0.1 | 5.2 | 32.3 | 62.5 |
| **Political Parties** | 0.202 | 1.4 | 2.0 | 0.0 | 2.9 | 25.4 | 1.4 | 73.2 |
| **Transportation** | 0.852 | 2.8 | 3.7 | 2.8 | 2.3 | 22.9 | 49.2 | 28.0 |
| **Senate PACs** | | | | | | | | |
| **Network** | **Density** | **Avg.** | **R-R** | **R-D** | **D-D** | **%GOP** | **%R&D** | **%DEM** |
| **All PACs** | 0.940 | 158.1 | 241.8 | 138.5 | 147.9 | 24.1 | 42.5 | 33.4 |
| **Agribusiness** | 0.846 | 10.0 | 20.1 | 9.3 | 6.5 | 31.5 | 45.2 | 23.3 |
| **Communications & Electronics** | 0.913 | 14.0 | 17.2 | 14.0 | 12.5 | 19.4 | 48.6 | 32.0 |
| **Construction** | 0.778 | 4.9 | 10.6 | 4.7 | 2.7 | 33.8 | 46.5 | 19.7 |
| **Defense** | 0.727 | 4.2 | 6.3 | 4.3 | 3.1 | 23.6 | 50.1 | 26.3 |
| **Energy & Natural Resources** | 0.857 | 11.6 | 24.8 | 11.0 | 6.5 | 33.7 | 46.1 | 20.2 |
| **Finance/Insurance/Real Estate** | 0.892 | 27.8 | 43.1 | 28.4 | 20.2 | 24.5 | 49.5 | 26.0 |
| **Health** | 0.916 | 21.2 | 31.1 | 21.6 | 16.5 | 23.1 | 49.2 | 27.7 |
| **Ideological/Single-Issue** | 0.850 | 6.1 | 7.2 | 4.2 | 8.2 | 18.6 | 33.6 | 47.9 |
| **Labor** | 0.900 | 14.0 | 2.3 | 5.5 | 30.8 | 2.6 | 19.0 | 78.4 |
| **Lawyers & Lobbyists** | 0.905 | 13.3 | 14.5 | 12.8 | 13.6 | 17.1 | 46.5 | 36.5 |
| **Misc. Business** | 0.861 | 14.9 | 30.5 | 14.3 | 9.0 | 32.1 | 46.3 | 21.6 |
| **Other** | 0.290 | 0.4 | 0.2 | 0.3 | 0.7 | 8.0 | 32.1 | 59.9 |
| **Political Parties** | 0.505 | 7.9 | 20.4 | 0.4 | 12.7 | 40.6 | 2.4 | 57.0 |
| **Transportation** | 0.824 | 7.7 | 13.6 | 7.8 | 5.0 | 28.0 | 49.0 | 23.0 |

The partisanship of various PAC sectors is revealed by examining the distribution of the ties between Republicans, Democrats, and the degree to which there were bipartisan ties within the network. As expected, the Democrats have a larger chunk of the intraparty contributions in most networks, exception the House construction, House energy, Senate agribusiness, Senate construction, Senate energy, Senate miscellaneous business, and Senate transportation networks. These networks standard athwart the general trend, which favored the Democrats (even in the Senate, where election fundamentals favored Democrats in two of the three election cycles used to create the data). In other networks interparty ties between Democrats were distinctly stronger, particularly in the labor network, as well as the lawyers and lobbyist sector. Purely ideological groups also favored Democrats, which corresponds to a long-term advantage Democrats have had in that sector. In spite of the obvious short-term advantage of contributing to Democrats, interest groups in most sectors contributed a significant amount to members in both parties, as demonstrated by the substantial proportion of interparty ties in all sectors aside from political parties and labor. Individual groups may heavily prefer one strategy over the other, but at the sector level, these interest groups generally evince a confluence of pragmatic and ideological motivations.

### 4.6 Aggregate PAC Strategies QAP Regression Models

The primary question in this chapter is whether shared attributes or experiences form the basis for strategic contributions by interest groups hoping to establish access or even leverage influence over legislators in Congress. Are there patterns present in the analysis of contribution data from which broader inferences may be drawn? If there are significant findings, what is the magnitude of these characteristics in terms of their predictive power and their impact on shared contributions between legislators? What are the practical advantages of the QAP models as it relates to the data used here? Do interest groups in various political contexts pursue a strategy of strategic contributions such that common social characteristics could be a basis for building legislative coalitions? What is the validity of the claims made in H1-H8, which were laid out in Chapter 2?

To answer these questions, we now turn to the QAP regressions run for each PAC sector for both the House and Senate.

**Table 4.4 Interest Group Strategies Models for House and Senate (All PACs)**

| Ind. Variable | House PACs | Senate PACs |
|---|---|---|
| Committee | 8.677 (0.893)** | 23.325 (5.519)*** |
| Con. Ideology | -0.090 (0.071) | -1.587 (0.840)* |
| Experience | 0.813 (0.168)** | 4.270 (1.149)*** |
| Gender | 1.954 (1.889) | 8. 366 (15.413) |
| Ideology | -21.888 (1.222)** | -46.404 (11.202)*** |
| Occupation | -0.009 (0.992) | 14.161 (8.296)* |
| Race | -2.054 (2.264) | 18.487 (32.371) |
| State | 7.523 (1.315)** | 15.221 (9.798) |
| Intercept | 51.789 (0.000)*** | 108.628 (0.000)*** |
| $R^2$ | 0.175 | 0.073 |
| Adj. $R^2$ | 0.175 | 0.072 |
| *p*-value | 0.001 | 0.000 |
| *N* | 186,192 | 9,900 |

**Significance**: ***$p$ <.001; **$p$ <.01; *$p$ <.05

Table 4.4 displays the PAC strategies models for both the House and Senate in the 111th Congress. These are aggregate models that include ties from all PAC sectors. In the House and Senate models, ideological difference is negative and very significantly related to the number of PAC ties between members of Congress. That ideologically disparate legislators have fewer PAC affiliation ties than ideologically similar legislators is hardly a surprising finding, though it does suggest there are macro-level limits to the lengths groups will go to when establishing access relationships.[70] Constituent ideology is only significant in the Senate model. As noted previously, there is more

[70] I ran House and Senate models where party identification was substituted for ideological difference, and in both cases the coefficients were positive and significant. Party identification functions much like ideology – those who have the same partisan affiliation tend to have more mutual interest group affiliations, even after controlling for other factors. See Appendix E.

variation on that value in the House than in the Senate, so this is at first pass a surprising finding. As the PAC sector models will show, however, both the House and Senate PAC sector networks are similar for this particular variable.

While member state is significant in the House model, it is not significant the Senate model. This underscores two important points about how the Senate contrasts with the House. The first one is that although senators from the same state share identical constituencies, House members from the same state share more common PAC affiliations. House constituents can vary substantially, even for members in the same state delegation. Despite the potential for such obstacles, House members are possibly better targets for state-level groups, or lobbyists with strong ties to a particular state delegation. These individuals often share staffers as well if they are members of the same party, which could form part of a shadow network that can only be measured by examining formal access channels. Same-state senators have less ideological and partisan diversity than House members, so it was plausible there could be more overlap in the kinds of interest group supporters they attract. The strategies models tell a different story.[71]

Experience is an attribute that has support in both the House and Senate models. The more concurrent experience in each pair of legislators, the more PAC contributions they share. Relationships between interest groups and legislators often take time to develop. The longer a member of Congress serves, the more time he or she has to make contacts with interest groups via fundraising efforts, committee hearings, public events, or informal meetings. Long-term relationships are often the most effective and fruitful for organizations attempting to build coalitions. Consider the nutritional and dietary supplement industry, which have been longtime supporters of veteran Sens. Orrin Hatch and Tom Harkin (D-Iowa). These two veteran senators –

[71] This is not to say there are not examples of strong relationships between same-state senators. In spite of different partisan affiliations, Louisiana Sens. David Vitter (R) and Mary Landrieu (D) share 291 common PAC donors, which is far above the 158.1 average for the Senate.

also the two leading recipients of campaign contributions from the industry – have co-sponsored several pieces of legislation intended to benefit the industry, including the Dietary Supplement and Education Act (1994) and Dietary Supplement Full Implementation and Enforcement Act (2010). They have also successfully prevented the Federal Drug Administration and Federal Trade Commission from implementing regulations aimed at regulating marketing standards, implementing a government supplement approval process, and ensuring that claims about supplemental health benefits have scientific validity (Byrd 2014). Long-term relationships with well-placed legislative operatives are crucial for industries or activists who need successive legislative victories, which is why they are of great strategic importance to most interest groups. Whether such relationships routinely lead to this level of influence will be explored in later chapters.

Committee membership ties in the previous Congress were significant predictors of overall campaign contributions. Members of Congress who sit on the same committee (or even multiple committees) also share more PAC contributions from the corresponding fundraising cycle. At the aggregate level groups are hedging that a sizable percentage of their campaign targets will continue to sit on key committees and subcommittees. Consequently, those with committee ties will have more PAC ties, as predicted. It is much easier to promote desirable legislation or kill undesirable legislation by forging good relationships with committee members. This is true even in the House, where in spite of fewer committee overlaps there is a stronger significance level than in the Senate model.

Occupational ties are significant in the Senate model but not the House model. As noted previously, the average Senate dyad shows a larger mean value. The result is evidence that groups target senators based on their professional experiences, specialized skills or knowledge base. Perhaps this kind of criteria is less relevant for PACs when evaluating House candidates, who tend to have less experience in public service and thus less clearly defined voting records, legislative

goals, and approaches to legislative maneuvering. Senate candidates almost always have previous experience as elected officials, and this may eliminate the uncertainty involved when groups formulate access strategies. In other words, interest groups value the political and social capital more than professional knowledge and understanding of private sector business practices or other interest group issues.

Race/ethnicity and gender are not significant in either model. From a normative perspective, this is a desirable finding. If PAC affiliations were a byproduct of network associations based on gender or racial/ethnic ties, it would potentially mean high levels of interest group and legislator fractionalization based on congenital characteristics. Such polarization is worse than partisan conflict, and has the potential to destabilize even the most institutionally robust legislatures. It could signify institutionalized or informal discrimination based on certain characteristics such that disadvantaged groups must band together to create legislative coalitions comprised primarily of individuals with these characteristics. However, as we shall see later with the analysis of the PAC sectors, gender characteristics have a significant impact on group ties between lawmakers in some issue domains.

### 4.7 Social Strategies in House and Senate PAC Networks

This section reports the results for PAC strategies in each economic sector as coded by the Center for Responsive Politics. The aggregate models supply useful analytical information but they cloak interesting variation that occurs in different social contexts. Therefore, it makes sense to disaggregate the PAC contributions by economic sector. All independent variables are the same as in the aggregate model. Table 4.5 displays the QAP regression models for each House PAC network (or sector), and Table 4.6 displays the QAP regression models for each Senate PAC network. Each model reports the unstandardized coefficient, standard error, level of statistical significance (if any), model intercept, $R^2$, adjusted $R^2$, model $p$-value and number of observations. There are 14 models for both the House and Senate corresponding to the sector breakdowns.

The most reliable variable in the PAC strategies models for the House and Senate was committee memberships (*H1*), which was significant in 12 House models and 13 Senate models. Only the House labor, Senate labor, and the House parties models had statistically insignificant findings. Other sectors, regardless of the economic clout or their true partisan leanings, pursued access strategies meant to consolidate existing social ties created by committee work. This is consistent with the findings presented in several previous political science and political sociology studies of interest group influence that examine the role of institutional factors (Bennett and Loucks 1994; Gopoian, Smith and Smith 1984; Grenzke 1989; Hersch and McDougall 2000; Magee 2002; Romer and Snyder 1994).[72] There are reasons why this particular type of tie might not be as important to political parties, who are highly partisan and generally prioritize other factors than legislative workload when allocating resources. Labor unions are the outliers. Given evidence that other liberal-leaning PAC sectors pursue committee-based access strategies, it is unclear why legislators with committee ties do not having correspondingly stronger PAC ties. The positive coefficients are in the predicted direction, suggesting some groups pursue such a strategy, but it is not prevalent enough to be significant when the entire network is considered.

Experience (*H3*) is another sought-after characteristic in the majority of House and Senate networks. The variable is positive and significant in 9 House models and 12 Senate models. The maturation effect is an important part of the story. The nexus between groups and experienced legislators is strong due to the necessity of having access to key committee members, party leaders, and key players to achieve a group or coalition's political agenda. One interesting deviation to point out, however, is that experience is negative and significant in the House single-issue/ideological model and the political parties models in both chambers. Ideological groups may have more uncertainty about how less experienced legislators tend to vote on issues of greater importance, and

[72] For more examples, refer to Chapter 1.

## Table 4.5 House PAC Strategies QAP Models, by Sector

| Ind. Variable | Agribusiness | Communications | Construction | Defense | Energy | Finance | Health |
|---|---|---|---|---|---|---|---|
| **Committee** | 0.839 (0.104)** | 0.559 (0.102)** | 0.543 (0.058)** | 0.394 (0.057)** | 0.331 (0.103)** | 3.173 (0.274)** | 0.678 (0.214)** |
| **Con. Ideology** | -0.027 (0.009)** | -0.011 (0.008) | -0.020 (0.005)** | -0.008 (0.005)* | -0.035 (0.008)** | 0.003 (0.022) | -0.006 (0.017) |
| **Experience** | 0.047 (0.020)* | 0.115 (0.019)** | 0.069 (0.011)** | 0.088 (0.011)** | 0.095 (0.020)** | 0.062 (0.052) | 0.176 (0.040)** |
| **Gender** | 0.602 (0.226)** | 0.335 (0.208) | 0.364 (0.117)** | 0.205 (0.120)* | 0.644 (0.233)** | 0.616 (0.587) | 0.091 (0.445) |
| **Ideology** | -0.360 (0.137)** | -0.080 (0.124) | -0.181 (0.071)* | -0.098 (0.074) | -0.322 (0.138)* | -0.473 (0.352) | -0.905 (0.293)** |
| **Occupation** | -0.113 (0.120) | 0.029 (0.110) | -0.083 (0.059) | -0.038 (0.065) | 0.070 (0.112) | 0.415 (0.307) | -0.055 (0.249) |
| **Race** | -0.092 (0.285) | -0.073 (0.267) | 0.193 (0.142) | 0.057 (0.145) | 0.366 (0.261) | 0.518 (0.710) | 0.628 (0.551) |
| **State** | 0.787 (0.163)** | 0.732 (0.145)** | 0.241 (0.083)** | 0.213 (0.084)* | 1.777 (0.164)** | 1.072 (0.426)* | 0.417 (0.331) |
| **Intercept** | 2.264 (0.000)*** | 2.223 (0.000)*** | 1.329 (0.000)*** | 0.723 (0.000)*** | 1.279 (0.000)*** | 5.116 (0.000)*** | 5.415 (0.000)*** |
| $R^2$ | 0.038 | 0.056 | 0.101 | 0.084 | 0.065 | 0.031 | 0.029 |
| **Adj.** $R^2$ | 0.038 | 0.055 | 0.101 | 0.084 | 0.065 | 0.031 | 0.029 |
| ***p*-value** | 0.001 | 0.001 | 0.001 | 0.001 | 0.001 | 0.001 | 0.001 |
| ***N*** | 186,192 | 186,192 | 186,192 | 186,192 | 186,192 | 186,192 | 186,192 |

| Ind. Variable | Ideological | Labor | Lawyers | Misc. Business | Other | Parties | Transportation |
|---|---|---|---|---|---|---|---|
| **Committee** | 0.178 (0.033)** | 0.293 (0.321) | 0.146 (0.053)** | 0.543 (0.105)** | 0.032 (0.006)** | -0.012 (0.106) | 0.979 (0.085)** |
| **Con. Ideology** | -0.010 (0.003) | 0.078 (0.026)** | 0.000 (0.004) | -0.027 (0.008)** | 0.000 (0.000) | -0.010 (0.008) | -0.019 (0.007)** |
| **Experience** | -0.016 (0.006)** | 0.000 (0.059) | 0.118 (0.012)** | 0.127 (0.02)** | 0.002 (0.001) | -0.157 (0.021)** | 0.087 (0.016)** |
| **Gender** | -0.050 (0.068) | -1.861 (0.723)** | 0.046 (0.121) | 0.612 (0.236)** | -0.026 (0.012)* | 0.022 (0.197) | 0.354 (0.177)* |
| **Ideology** | -1.341 (0.044)** | -14.477 (0.478)** | -0.896 (0.077)** | -0.183 (0.134) | -0.054 (0.007)** | -2.556 (0.134)** | 0.037 (0.109) |
| **Occupation** | -0.049 (0.036) | -0.059 (0.359) | 0.023 (0.064) | 0.04 (0.117) | -0.011 (0.006)* | -0.198 (0.105)* | 0.018 (0.091) |
| **Race** | -0.087 (0.080) | -3.383 (0.838)** | -0.176 (0.146) | -0.130 (0.262) | -0.006 (0.014) | 0.348 (0.245) | -0.217 (0.205) |
| **State** | 0.288 (0.050)** | 0.145 (0.483) | 0.733 (0.084)** | 0.538 (0.158)** | -0.003 (0.009) | 0.124 (0.163) | 0.457 (0.125)** |
| **Intercept** | 2.399 (0.000)*** | 20.431 (0.000)*** | 1.747 (0.000)*** | 2.724 (0.000)*** | 0.108 (0.000)*** | 3.735 (0.000)*** | 2.295 (0.000)*** |
| $R^2$ | 0.217 | 0.343 | 0.16 | 0.073 | 0.015 | 0.074 | 0.075 |
| **Adj.** $R^2$ | 0.217 | 0.343 | 0.16 | 0.073 | 0.015 | 0.074 | 0.075 |
| ***p*-value** | 0.001 | 0.001 | 0.001 | 0.001 | 0.001 | 0.001 | 0.001 |
| ***N*** | 186,192 | 186,192 | 186,192 | 186,192 | 186,192 | 186,192 | 186,192 |

**Significance**: ***$p$ <.001; **$p$ <.01; *$p$ <.05

## Table 4.6 Senate PAC Strategies QAP Models, by Sector

| Ind. Variable | Agribusiness | Communications | Construction | Defense | Energy | Finance | Health |
|---|---|---|---|---|---|---|---|
| **Committee** | 1.711 (0.553)** | 2.315 (0.532)*** | 0.530 (0.264)* | 0.813 (0.210)*** | 1.633 (0.721)* | 5.151 (1.311)*** | 2.875 (1.015)** |
| **Con. Ideology** | -0.169 (0.088)* | -0.153 (0.084)* | -0.080 (0.041)* | -0.024 (0.033) | -0.387 (0.112)** | -0.043 (0.203) | -0.117 (0.158) |
| **Experience** | 0.205 (0.113)* | 0.550 (0.118)*** | 0.155 (0.053)** | 0.230 (0.046)*** | 0.269 (0.142)* | 0.780 (0.268)** | 0.738 (0.211)** |
| **Gender** | 1.29 0(1.576) | -0.338 (1.534) | -0.149 (0.750) | 0.082 (0.599) | 2.775 (2.032) | 4.677 (3.835) | 1.506 (2.985) |
| **Ideology** | -1.721 (1.201) | 0.301 (1.161) | -0.273 (0.559) | 0.209 (0.453) | -0.230 (1.528) | -0.703 (2.792) | 0.768 (2.107) |
| **Occupation** | 1.102 (0.863) | 1.496 (0.815)* | 0.447 (0.405) | 0.877 (0.336)** | 0.334 (1.088) | 2.935 (2.020) | 1.606 (1.564) |
| **Race** | 2.649 (3.433) | 0.096 (3.161) | 0.562 (1.565) | -1.138 (1.251) | 5.515 (4.317) | 5.506 (7.922) | 8.520 (6.065) |
| **State** | 3.732 (1.113)*** | 1.111 (1.001) | 0.718 (0.494) | 0.861 (0.442)* | 1.250 (1.315) | 4.083 (2.410)* | 1.231 (1.915) |
| **Intercept** | 4.993 (0.000)*** | 8.238 (0.000)*** | 3.418 (0.000)*** | 1.989 (0.000)*** | 5.135 (0.000)*** | 7.390 (0.000)*** | 4.174 (0.000)*** |
| $R^2$ | 0.073 | 0.202 | 0.081 | 0.21 | 0.089 | 0.111 | 0.112 |
| **Adj.** $R^2$ | 0.072 | 0.201 | 0.08 | 0.209 | 0.088 | 0.11 | 0.112 |
| ***p*-Value** | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| ***N*** | 9900 | 9900 | 9900 | 9900 | 9900 | 9900 | 9900 |

| Ind. Variable | Ideological | Labor | Lawyers | Misc. Business | Other | Parties | Transportation |
|---|---|---|---|---|---|---|---|
| **Committee** | 0.538 (0.247)* | 1.026 (0.736) | 1.681 (0.458)*** | 2.609 (0.765)*** | 0.112 (0.031)*** | 1.117 (0.363)** | 1.213 (0.340)** |
| **Con. Ideology** | -0.051 (0.040) | 0.127 (0.114) | -0.157 (0.072)* | -0.334 (0.122)** | -0.001 (0.005) | -0.024 (0.053) | -0.177 (0.054)** |
| **Experience** | 0.117 (0.052)* | 0.161 (0.151) | 0.570 (0.101)*** | 0.421 (0.154)** | 0.019 (0.006)** | -0.202 (0.071)** | 0.257 (0.071)*** |
| **Gender** | -0.387 (0.700) | -4.030 (2.153)* | -0.187 (1.273) | 2.808 (2.264) | -0.126 (0.086) | 0.801 (0.964) | -0.357 (0.927) |
| **Ideology** | -4.27 (0.542)*** | -21.968 (1.778)*** | -0.760 (0.929) | -1.075 (1.643) | -0.355 (0.067)*** | -17.324 (0.682)*** | 0.998 (0.740) |
| **Occupation** | 0.643 (0.394)* | 1.453 (1.130) | 1.522 (0.710)* | 1.431 (1.139) | 0.024 (0.047) | -0.526 (0.521) | 0.819 (0.515)* |
| **Race** | -1.267 (1.473) | -4.413 (4.584) | 0.134 (2.778) | 4.107 (4.648) | -0.161 (0.179) | -0.205 (2.090) | -1.417 (1.995) |
| **State** | 0.027 (0.509) | 0.056 (1.343) | 1.097 (0.835) | 1.173 (1.444) | 0.034 (0.087) | -0.919 (1.146) | 0.768 (0.664) |
| **Intercept** | 7.944 (0.000)*** | 26.036 (0.000)*** | 8.236 (0.000)*** | 6.376 (0.000)*** | 0.596 (0.000)*** | 17.255 (0.000)*** | 6.848 (0.000)*** |
| $R^2$ | 0.167 | 0.282 | 0.258 | 0.116 | 0.097 | 0.339 | 0.151 |
| **Adj.** $R^2$ | 0.167 | 0.281 | 0.258 | 0.115 | 0.097 | 0.338 | 0.15 |
| ***p*-Value** | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| ***N*** | 9900 | 9900 | 9900 | 9900 | 9900 | 9900 | 9900 |

**Significance**: ***$p$ <.001; **$p$ <.01; *$p$ <.05

want to build those relationships as soon as possible. Political parties understandably want to help their more vulnerable members, which are generally seeking their first or second term. So these findings are not consistent with the prediction of the theory, but given the dynamics of the specific sectors, they are explainable.

The divergence between the House and Senate PAC networks on the ideological difference variable (*H5*) is notable. The House PAC network models perform largely as expected, with 9 of the 14 networks negative and significant. As ideological distance increases, there are fewer PAC ties between dyads. These findings are not exactly mirrored in the Senate models, where only five models return a significant finding. In particular, ideological impact on House PAC ties is evident in the agribusiness, construction, energy, health and lawyers and lobbyists networks but not for the Senate PACs. The only networks where ideological difference was negatively and significantly related to PAC ties were the ideological, labor, other, and political parties networks. Not significant in either the House and Senate were communications, defense, finance, and transportation. Those groups pursued contribution strategies that were less ideological, signaling a greater willingness to build bipartisan coalitions. Tie strength may be of importance here, as networks with smaller average tie strengths tended to have more significant findings on the ideological difference variable than those with larger tie strengths. Economic sectors with more resources are more willing to focus efforts on building bipartisan coalitions of legislators, even though it is less efficient. Developing bipartisan coalitions requires the relaxation of partisan position-taking, and the resources to obtain access to the majority of all members.

Tests of *H8* show that House members from the same state delegation have more interest group affiliations than those from different states at statistically significant level in 10 of the 14 models.[73] The Senate models offer a stark contrast, with significant findings only in the

[73] Only health, labor, other, and parties are statistically insignificant in the House models.

agribusiness, defense, and finance sectors. In the case of agribusiness and defense industry, which are generally clustered in particular states based on arable farmland and placement of military bases and infrastructure, state-level group activity may be driving these donations in addition to other groups with a more national focus. Finance, insurance, and real estate businesses face lots of state-specific regulations and taxes in addition to federal regulations and taxes that may be worth bringing up when meeting with senators (or representatives) in hopes they can broach the subject with state legislators. Surprisingly, labor groups are not significant actors in either model. Unions may well have more power in a grassroots, electoral context than in more elite-driven, interpersonal social networks. This could signify that state-level associations between legislators are more important to industrial sectors than labor, ideological or other groups (such as universities or non-profits).

Constituent ideology (*H2*) is negative and significant in six House and seven Senate models. This demonstrates the value of disaggregating the data, as the variable is not significant in the House model but is significant in the Senate model. An analyst who simply ran the aggregate model would reach a much different conclusion about this variable. Five sectors have significant results in both the House and Senate models: agribusiness, construction, energy, miscellaneous business and transportation. Excepting political parties, these are the five sectors where the GOP legislators in the House and Senate networks received the most group support. Interest groups, comprised of individuals with their own ideological preferences, may themselves be influenced by the ideological climate in states where they operate. Given these groups generally tend to favor Republicans, there was probably a split between those attempting to build relationships with the Democrats and other groups hoping to build obstacles to their policies by continuing to support and maintain relationships with GOP politicians. An interesting outlier is House labor PACs, whose coefficient signifies a positive and significant finding. For some reason, labor groups chose to target

legislators representing ideologically disparate constituencies to a greater degree than members with similar constituencies.

The effect of gender ties (*H4*) on PAC affiliations has three interesting dimensions. First, the variable is positive and significant in five House models, but is not positive and significant in any of the Senate models. This effect is probably stronger in the House because of the chamber's greater diversity relative to the Senate. Second, the five positive significant sectors – agribusiness, construction, defense, energy, miscellaneous business, and transportation – are all sectors that are significant and negative for constituent ideology. In the House, female Democrats do outnumber female Republicans 56-17, so women in the networks do tend to come from more liberal districts. Therefore, there could be some connection between more liberal constituencies and women in office. For this reason, it is not entirely surprising that this finding holds up, though it should be noted it is not observed in the Senate, where there are fewer women. Therefore, it appears the constituency ideology of the representatives is driving these contribution patterns to a greater degree than legislator gender. The other interesting finding is a negative and significant coefficient for gender in the House labor model. This means dyads with one man and one woman have more PAC ties than same-gender dyads, all else equal. This finding could be a statistical anomaly, but if not the interpretation is not exactly straightforward.

Race (*H7*) is the only social characteristic that does not appear positive and significant, which was the hypothesized direction of the relationship. Drawing on previous social network research concerning homophily, it was thought that immutable characteristics such as race might impact the tendency of network to share other forms of social ties. This would require the groups themselves to have criteria that would privilege this characteristic, whether directly or as a byproduct of the association with race and other social realities unaccounted for in the model. There is no evidence to support this particular hypothesis.

As with the aggregate PAC strategies model, occupational ties (*H6*) appear to have more relevance with senators than representatives for PACs leading up to the election of the 111th Congress. Five senate sectors – communications, defense, ideological, lawyers, and transportation – gave more contributions to individuals based on their occupational history than other sectors. These networks are somewhat diverse in that they are not uniformly partisan, nor do they tend to have larger or smaller average tie strengths on average. A significant number of senators have experience in the military or as lawyers, which could explain why the occupational ties are important to those sectors. The dearth of individuals from the communications, ideological and transportation industries suggest that another aspect of occupational history is valued in other context, most likely a background in public service. Prior experience as an elected individual in particular means legislators have previous experience building ties with interest groups. It is even plausible that senators who have worked their way up through the ranks as state legislators or House members might have a predilection toward forging relationships with interest groups, or those groups find such a background advantageous compared to someone from the private sector with little practical experience concerning the inner workings of government. On the other hand, similar percentages of House members have similar occupational backgrounds but none of the models pick up this trend. More exploration of the relationship between occupational background and PAC access strategies is needed.

Overall, it should be noted that the models do not perform as well as hoped in terms of explaining the variation. If the aggregate models are including, the average adjusted $R^2$ value is .107 for the House models and .164. This is not to suggest the models have no validity, but the explanatory power of the social characteristics used as the independent variables in the QAP PAC strategies models has some limitations. The addition of other social ties may enhance the model's ability to predict common PAC affiliations, such as previous contributions shared between

members. In many cases even the statistically significant variables have coefficients that are quite small, even accounting for scale, which suggests any significant findings constitute a slight effect.

In spite of this limitation, social network modeling provides some obvious advantages over traditional regression models by accounting for important variation. For example, Sen. David Vitter (R-La.) is the median Senator in the aggregate PAC network in terms of average tie strength with other senators. However, the mutual accessibility PAC donors have to him and other members of the Senate varies greatly. He has as few as zero PAC ties with appointed Sens. Michael Bennet (D-Colo.), Roland Burris (D-Ill.), and Ted Kaufman (D-Del.), and as many as 362 with Sen. Richard Burr (R-N.C.). These contingencies cannot be incorporated in a traditional attribute-based regression model. Using total receipts or contributions would also negate the fact that interest groups within a sector are not monolithic – many of the interest group sectors have highly divergent contribution strategies, particularly in the more ideologically polarized sectors. The QAP models also account for the interdependence of actors in a deliberative body – a reality denied by traditional regression, which assumes observations are independent of one another.

### 4.8 Discussion

The overall objective of this chapter was to investigate how various social ties shape the incentives for interest groups to establish or maintain access to members of Congress. Access was analyzed by scrutinizing legislative access, or PAC affiliations shared by legislators in the network. By conceptualizing the groups as the network ties, and the legislators as the actors, the strategies were evaluated to determine how social characteristics influenced the strength of PAC affiliation ties. These contributions are assumed to entitle groups to some measure of access. The corollary to that assumption is that as legislators share more of these access ties with their colleagues, they are more likely to be influenced to behave similarly in their official capacities. In other words, a similar social context in interest group networks will shape behaviors in other social contexts. In particular, legislator ideology, state, experience, race, gender, constituent ideology, occupational history, and

committee membership ties were all modeled for both the House and Senate for the election cycle that decided the composition of the 111th Congress.

**Table 4.7 PAC Strategy Model Hypothesis Tests**

| *H* No. | Variable | House Correct | Senate Correct | Total Correct | %Confirmed |
|---|---|---|---|---|---|
| **1** | Committee | 13 | 14 | 27 | 90.0 |
| **2** | Con. Ideology | 6 | 6 | 12 | 40.0 |
| **3** | Experience | 10 | 13 | 23 | 76.7 |
| **4** | Gender | 6 | 0 | 6 | 20.0 |
| **5** | Ideology | 10 | 6 | 16 | 53.3 |
| **6** | Occupation | 0 | 6 | 6 | 20.0 |
| **7** | Race/Ethnicity | 0 | 0 | 0 | 0.0 |
| **8** | State | 11 | 3 | 14 | 46.7 |

Table 4.7 displays the hypothesis tests for each of the House and Senate PAC strategies models. The committee (*H1*) and experience (*H3*) hypotheses are confirmed in more than 75 percent of the models, performing well in both chambers. Ideology (*H5*) and state (*H8*) perform similarly well in the House models but not as well in the Senate models. Constituent ideology (*H2*) is significant in just under half of the House and Senate models. Gender (*H4*) is correct in only six House models, and occupation is correct in just six Senate models. Race/ethnicity is not confirmed in any of the models.

The results of the QAP regression models show these characteristics frequently predict contribution patterns, which constitutes evidence that interest groups behave as though access relationships matter, and that they can be used to consolidate influence over important public policy decisions. Yet interest groups are not monolithic entities pursuing the same strategies. Lost in analysis which focuses only on all interest groups from a high-level view, or on a single type of group (e.g. defense contractors or banks). Differences in resources and ideology specific to different interest group sectors mean groups sometimes employ different access strategies. A few strategies do enjoy widespread support. Committee assignments and legislator experience are the

most prevalent strategies utilized, as they are indicated in the majority of PAC models for the House and Senate, as well as the aggregate PAC models. Other strategies are more contingent on sector-specific interest group dynamics or chamber-specific congressional characteristics.

Sectors that target legislators based on their ideology are generally those that previously leaned heavily toward Democrats or Republicans, which means there is some historical consistency to these group strategies. This effect is only prevalent in the House; the ideological differences measure was only significant in four Senate models. These sectors tend to have fewer resources than the larger sectors who gave similar amounts to both parties. One possible explanation is that reinforcing ideological leanings is less challenging and perhaps more efficient than building a bipartisan coalition in terms of resource allocation. Given the limits on direct contributions, making donations to 100 Senators is also less taxing on PAC resources than 432 House members. As such, bipartisan strategies that incorporate both liberal and conservative members are more common to large PAC sectors.

Constituent ideology is significant in several House and Senate models, and it tends to be a factor in sectors that generally favor Republican candidates. This reflects the tension within these PAC sectors between strategic contributions and ideological contributions that Brunell (2005) and others have addressed in previous research. The significant and negative findings for constituency ideology in the House models overlap with significant and positive relationships between gender, probably owing somewhat to the relatively liberal district ideology of women legislators and the (relatively conservative) district ideology of most male representatives. The lack of a gender effect in the Senate models leads on to conclude constituency ideology is driving these contribution differences to a greater degree. Groups know that legislators will be constrained by the preferences of their constituents, so it is not surprising that in many cases there is not a significant overlap between representatives from liberal and conservative districts and states. Only one variable – race – appears to have no impact on contribution strategies.

The differences in how interest groups approach access strategies are primarily driven by ideology, available resources, and the dynamics of each legislative chamber. Strategic contributions are tempered by both the prevailing ideology of each PAC sector, legislator ideology and constituent ideology. Groups in sectors with strong ideological predispositions are less likely to contribute to candidates with whom they largely disagree; compromise is either too costly politically (i.e. groups would be forced to make deals that are unpalatable) or economically given the extra resources typically needed to amass large bipartisan coalitions. Bipartisan coalitions are larger and more difficult to amass because they typically require relaxing rather than reinforcing ideological preferences. Given the increased levels of polarization in recent congresses, the task is even more daunting. Nevertheless, some groups realize the importance of building long-term relationships, secure in the knowledge that party fortunes can rapidly reverse from one election to the next. Different types of interest groups have different approaches, but given the contribution patterns virtually all of them are interested in establishing access with legislators they feel are well-placed and willing to consider their concerns.

The next chapter turns to legislative behavior and whether these access strategies manifest any type of systematic influence within various congressional policy domains. In what issue networks, if any, do PACs have the most influence? Specifically, its focus is on legislative co-sponsorships (*H9*) in the House and Senate. If the theory is correct – that the strength of access pathways increases the odds of cooperation – the dyadic legislator models should report statistically significant relationships between PAC ties and co-sponsorship ties.

# Chapter 5. PACS and Policy Domains: Co-Sponsorships

## 5.1 Introduction

The results of Chapter 4 confirm at least one part of the theory –interest groups establish access or relationships with members of Congress based on strategic considerations, particularly committee and experience, but also ideology and state (in the House). Examinations of legislator networks corresponding to each interest group sector show that in most cases strategic behavior of groups are constrained by legislator ideology, political party and constituent ideology. The next component of the theory suggests these strategically developed relationships will manifest in the social relationships between legislators. The affiliation networks detailing the interest group ties between legislators represent more than a common source of campaign resources. The ties are proxies for the lobbyists, activists, unofficial representatives, policy experts and other resources common to each pair of legislators. It is on the strength of these social relationships that groups can influence legislators to act on behalf of their interests. This chapter examines the impact of interest group ties on the co-sponsorship ties of legislators, or *H9* from Chapter 2. Legislators with stronger interest group ties are assumed to be more likely to co-sponsor legislation, even after controlling for other possible explanations.

For sponsors of bills, rounding up willing co-sponsors is a critical component of legislative development. To successfully transform or mold abstract ideas into concrete public policy, members of Congress need resources to help with drafting of legislation, and just as importantly, selling it to other members. Policy papers, issue framing and messaging are crucial to a bill's success. Interpersonal relationships are the crucible of new laws. Fowler's research indicates in his finding that logrolling is common in Congress. Evidence from political network models indicates legislator co-sponsorship ties are based on party (or ideology), committee membership, district proximity, logrolling (or transitivity), gender, race, and ethnicity are related to the propensity of legislators to co-sponsors. Other studies examining the physical proximity of legislators (office

locations or DC residences) have shown little impact (Bergemann and Parigi 2011; Bratton and Rouse 2011; Fowler 2005; Fowler 2006; Rogowski, Sinclair and Beck 2012).[74] All of these factors are included as possible controls in the QAP models of House and Senate co-sponsorships.

Little is known about the effect of PAC ties on co-sponsorships in specific policy domains other than sporadic studies of one or two isolated issues. There are several advantages to analyzing and comparing multiple policy domains in the same Congress. First, it facilitates a more thorough investigation of how social phenomena related to interest groups translate to congressional action in a variety of policy contexts. Second, disparate outcomes in the disaggregated statistical models make it easier to ascertain which issues groups were able to manipulate access in ways that encouraged legislators to cooperate with one another. Third, the larger number of QAP regression models can be further interpreted by considering macro-level factors that cannot be accounted for via social ties between legislators. Cooperation or conflict between interest groups, issue salience, issue complexity, and the partisan tilt of each policy sector can explain why interest group affiliations matter in some issue networks but not others.

### 5.2 Dynamics of Legislative Co-Sponsorship

As noted in the literature review, there are several reasons why legislators might decide to co-sponsor legislation. The models used in this chapter include all of the attributes included in the PAC strategies models in Chapter 4 – ideology, constituent ideology, state, race, gender, occupational history, and committee memberships. These factors will be considered again. They were included in the strategies models because PAC groups were assumed to contribute based on legislators' social characteristics, which in turn the groups believed would impact the probability that members would be drafting legislation or corralling votes on the floor. Two additional control

[74] The logistic regression model developed by the GovTrack organization has noted several factors that enhance the chance that legislation will get through committee or even get enacted. Bills that have co-sponsors from both parties, important committees, committee chairs, and congressional leaders are more likely to gain traction (Tauberer 2012).

variables not included in the strategies models are added in the co-sponsorship models: office location and in the House co-sponsorship models, caucus memberships.[75] Committee ties are from the 111th Congress rather than the 110th Congress. Constituent ideology is measured as the difference in constituent support for Obama in 2008 instead of support for Bush in 2004.

Table 5.1 displays the correlations between the dyadic measures of each control variable and the independent variable (total PAC ties) in the 111th Congress, along with the predicted direction of each variable. The strongest relationship is between ideological difference and co-sponsorship ties, with a correlation of -.559 in the House and -.508 in the Senate. Relatedly, the average dyad with two Democrats had 74.8 ties in the House and 56.1 ties in the Senate; the average tie strength for Republican-Republican dyads was 54.6 in the House and 31.6 in the Senate.

**Table 5.1 Correlation of QAP Variables with Legislative Co-Sponsorship, by Chamber**

| Variable | House | Senate | Pred. Direction |
|---|---|---|---|
| Caucus | -0.003 | - | + |
| Committee | 0.054 | 0.054 | + |
| Experience | 0.013 | -0.096 | + |
| Floor | 0.013 | 0.010 | + |
| Gender | -0.072 | -0.142 | + |
| Ideology | -0.559 | -0.508 | - |
| Con. Ideology | -0.266 | -0.271 | - |
| Occupation | 0.053 | 0.018 | + |
| Race | -0.063 | -0.004 | + |
| State | 0.114 | 0.166 | + |
| PAC | 0.146 | -0.004 | + |

Interparty co-sponsorship ties were plentiful but much less common, with average tie strength 30.8 in the House and 21.5 in the Senate. Not only do the two major political parties have competing

[75] Descriptive statistics about congressional office locations and House Caucus numbers are in Appendix C.

policies and agendas, but under conditions of unified government the majority party has less incentive than usual to work with the minority party. Whether one ascribes to the views of uni-dimensional scaling and ideal points or cartel theory to explain partisan behavior in Congress, it is unsurprising that ideological similarity and party affiliation are strong predictors of co-sponsorships.

Similarly, constituent ideology plays a role in legislators working together. The absolute difference in constituent ideology and total co-sponsorships are moderately and negatively correlated for the House (-.266) and Senate (-.271). Representatives from liberal congressional districts or states have more grassroots pressure to pursue progressive causes, and those from conservative districts and states more pressure to pursue policies that reinforce culturally conservative values or pare back the government's role in the economy. Reps. Bob Filner (D-Calif.) and Steve Cohen (D-Tenn.) are examples of how constituent politics can be crucial impetus to legislative action. Both are liberal Democrats, with Obama winning 63 percent of the vote in Filner's district and 78 percent in Cohen's district, which is in the Memphis area. Nevertheless, despite Obama's higher margins in Cohen's district, Filner's voting record is well to left of Cohen's. Both have minority-majority constituencies, which probably explain why they co-sponsored more civil rights and civil liberties legislation (15 bills) than any other pair of legislators.[76] As is demonstrated in the case of Filner and Cohen, constituency impact is more complicated than ideology – demographics matter quite a bit as well. Nevertheless, absolute value of the presidential vote difference is generally a reliable method of measuring constituent ideology.

Along the same line, state-specific factors can lead to legislative co-sponsorships as well. The measure has a small yet significant correlation for the House and Senate. Even though Alaska

[76] Whereas Filner's constituents are mostly Hispanic (59.2) percent, Cohen's are largely African-American (62.8 percent). Cohen's district is more liberal, Obama having won 78 percent there versus 63 percent in Filner's district. However, Filner (-.651) has a substantially more liberal first-dimension NOMINATE score than Cohen (-.411) in the 111th Congress.

Sens. Lisa Murkowski (R) and Mark Begich (D) are from different political parties, they co-sponsored 19 different defense bills during the 111th Congress. Both senators are in the more moderate wing of their parties, which means there are fewer ideological barriers to cooperation. However, a cursory look at the defense industry's blueprint in Alaska makes their actions more understandable. According to a 2011 report, the $4.9 billion defense spending accounted for 10.7 percent of the state's GDP in 2009, making The Last Frontier the third-highest defense spending recipient (as a share of GDP) behind Virginia and Hawaii (Levinson and Shah 2011). Much of this money goes to support the state's military bases and the service members manning those bases for the U.S. Air Force, Army and Coast Guard.[77] Protecting the infusion of federal defense money is more vital to Alaska's economy than most states. Although anecdotal, this example demonstrates the logic of the defense sector's strategy to build bipartisan access networks.

The remaining variables are not significantly correlated to co-sponsorships, at least at the aggregate level. All other coefficients are between ±.10 with two exceptions – Senate gender ties (-.142) and House PAC ties (.146). Several coefficients were signed in the direction opposite of the prediction – House caucus, Senate experience, House and Senate gender, House and Senate race, and Senate PAC ties. At the aggregate level, there may be limited support for some of the control variables. The Senate finding was initially somewhat surprising, although until the more rigorous QAP models are reviewed these results should be viewed skeptically. Additionally, they foretell a significant difference between the House and Senate, as the correlations between PAC ties and co-sponsorship ties are positive in the House and slightly negative for the Senate. The difference that PAC ties have on the social networks of these two chambers will be a recurring theme in this chapter as well as in Chapter 6.

[77] Military installations in Alaska include Elmendorf Air Force Base, Eielson Air Force Base, and Fort Wainwright Army Base.

### 5.3 How Interest Group Ties Impact Co-Sponsorships: Health Reform

The analysis in this chapter focuses primarily on a large-*n* empirical analysis of the relationship between interest group ties and legislative co-sponsorships, but a more detailed explanation will unveil how the mechanism of influence works such that interest groups, industries or sectors can move along the access-influence continuum discussed in Chapter 2. However, a more qualitative approach to how these networks operate provides additional detail that would otherwise go unreported in a purely quantitative analysis. Scholars should be careful about inferring too much from a single case, but the details concerning Senate access network in the healthcare center and its impact on the Obamacare legislation enriches the insight the theory is meant to provide.

An interesting access network story centers around the Senate Finance Committee and its role in the passage of the Patient Protection and Affordable Care Act, commonly referred to as Obamacare.[78] Although the final version of the bill would technically originate in the House, Congress basically adopted the Senate's approach to health care reform after some political setbacks – namely the death of Massachusetts Sen. Kennedy, who was subsequently replaced by Sen. Scott Brown (R), costing the Democrats a filibuster-proof senate majority. Motivated by hopes of obtaining the support of at least a few Republicans, the desire to give the bill a bipartisan sheen, and the need to assuage the anxieties of moderate Democrats about the "public option" and other features of the House bill, the Obama administration directed Democratic leaders to focus on the Senate version.

The Senate Finance and Health Committees provided substantial guidance in the policy process. At the center of the Senate process was Senate Finance Committee Chairman Max Baucus of Montana. A red-state Democrat, Baucus frequently broke ranks with his party on major

[78] Technically, Obamacare refers to two separate pieces of legislation – the Patient Protection and Affordable Care Act and the Health Care and Education Reconciliation Act of 2010.

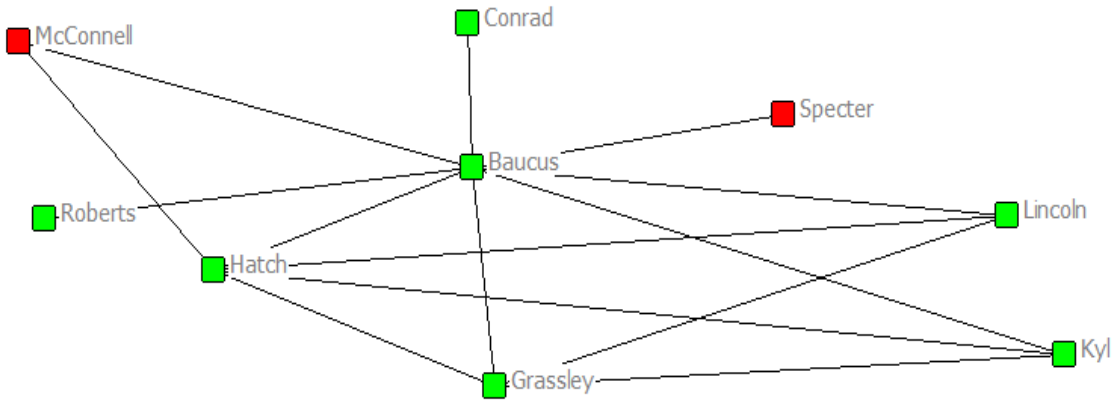
legislative issues such as the Bush tax cuts and Medicare Part D (Stolberg 2013). Further complicating his ability to go along with the more progressive wing of his party was Baucus' status one of the top recipients of contributions from health PACs among Senate Democrats. Between 2003 and 2008, Baucus received $2.8 million from groups and individuals affiliated with the industry, including 195 separate PAC organizations (Center for Responsive Politics, 2010). In the Health sector PACs network, most of the best connected through mutual interest group affiliations were members of the Senate Finance Committee. Figure 5.1 is a visualization of all Senator dyads with tie strength of 100 or more in the Health PAC network, the nodes coded according to whether they were on the Senate Finance Committee. The six Senators on the committee are represented by the lime green nodes, the non-members with red nodes. The exceptions (Sens. Mitch McConnell and Arlen Specter) are a prolific fundraiser and member of party leadership, and a moderate swing-state senator, respectively.[79] The ties at this level are generally intra-party, but Baucus' ties to both Republicans and Democrats situate him in the center of the network's core. Baucus' central location in the interest group network was hardly a coincidence given his chairmanship of the Finance Committee.

The committee strategy is clearly at play in the Health sector on this issue, as lobbyists provided key support to Baucus as he used his leadership position to facilitate several key developments that irked members of the Obama administration. He essentially killed a public option when he and a few other Democrats joined Republicans on the Senate Finance Committee in killing two competing public option proposals (Pear and Calmes 2009). Two of those Democrats were Sens. Kent Conrad (N.D.) and Blanche Lincoln (Ark.). Thus, every member of the 100-plus-tie network who was on the Senate Finance Committee voted against the public option. Baucus and his allies also pushed the legislation in a more conservative direction as he attempted to woo Sen. Olympia

[79] Sen. Specter (D-Penn.) also switched his party affiliation from Republican to Democrat in April 2009.

Snowe (R-Maine) and other GOP moderates. He conducted a bipartisan retreat and spent several months cajoling GOP senators. At one point, Snowe (who shared 68 common Healthcare PAC donors) voted for an early version of the Senate bill before ultimately voting against the final version (Stolberg 2013).[80] Other provisions that drew the ire of fellow Democrats were restrictions on the government's ability to negotiate with pharmaceutical companies over drug prices, Medicaid eligibility requirements, and insurance tax credits that were in some ways less generous than the House version of the bill (Stanton, Yourish and Kelso 2009).

**Figure 5.1 Senate Health PAC Network Visualization of Nodes with 100+ Ties**




Some advocates were upset with Baucus over his actions, which they claimed undermined crucial elements of healthcare reform. It was noted that several of Baucus' former aides left to become lobbyists. A Sunlight Foundation report showed a lobbying network with five former Baucus aides representing 27 different health industry companies and trade associations.[81]

[80] McConnell was pretty adamant than none of his Republican colleagues vote in favor of the Obamacare legislation, as he knew the political fallout could be turned to the GOP's advantage, at least in the short- to medium-term.

[81] According to the Center for Responsive Politics, 40 former Baucus staffers have gone on to work at lobbying firms, which ties him with former Senator Joe Lieberman (D/I-Conn.) as having the sixth-most staffers-turned-lobbyists in Congress since recordkeeping began.

Additionally, his chief health policy counsel and primary author of the health reform legislation, Liz Fowler, was a former vice president of WellPoint, the largest health insurance provider in the United States. Shortly after the bill's passage she tapped by the Obama administration to help implement the bill. In 2012, she left to take a job in a senior-level position at Johnson & Johnson's government affairs and public policy shop (Greenwald 2012).

Although Baucus' version of the bill did not receive any co-sponsorships, some of its provisions were included in the later version of the Senate bill. Baucus defended his actions in terms of doing that which was politically viable given the controversial nature of the legislation. In the end, no GOP members ended up supporting the final version of the bill. Nevertheless, well-connected interest groups were able to curtail some of the more objectionable features to the original bill. Their access to members facilitated by contributions and the installation of key lobbyists and aides as liaisons between Congress and industry provided very substantive results. The ties forged between members in the network correspond to these connections, which are not easily measurable in any systematic way besides contributions, which if present in substantial enough quantities, often indicates a complex, collaborative relationship that has clearly evolved beyond mere access to one where the influence over congressional behavior is quite obvious.

Another important part of this dynamic is that Baucus and his committee allies actually did not directly sponsor much in the way of significant legislation when vetting health care reform proposals. Their influence was mostly a matter of marking up legislation referred to them through the committee process, and what the QAP model of health model co-sponsorships reveals is a negative and significant relationship between contributions and co-sponsorships in the case of health reform in the Senate. This particular case is a microcosm of broader trends in Congress. Large-scale analysis will reveal interest group ties are far-reaching in several issue domains,

particularly in the House. Essentially, the behavior suggests that in many cases interest group ties are used not as leverage for new, favorable policies, but instead vigorous protection of the *status quo*. Baucus did assist in passing some version of health care reform, but it protected several valuable elements of existing policy: it preserved private health care markets, continued limits on the federal government's ability to negotiate lower drug prices, and ensured states would have the flexibility to create and operate their own exchanges.

On the other hand, PAC ties can be a useful mechanism for building a clique of co-sponsors necessary to move legislation through Congress. H.R. 4691, or the Temporary Extension Act of 2010, which extended federal unemployment benefits for people who had used up their 26-week allotment, was sponsored by a group of five veteran Democrats: Charles Rangel (N.Y.), George Miller (Calif.), John Conyers (Mich.), Jim Oberstar (Minn.), and Henry Waxman (Calif.). Social network analysts would call such a group a clique. Cliques are is defined as "a subset of actors in which every actor is adjacent to every other actor in the subset and it is impossible to add any more actors to the clique without violating this condition" (Borgatti, Everett and Johnson 2013). If one were to limit the network to co-sponsors of H.R. 4691, the definition of a clique is met. More broadly, they are an interesting subset of the labor co-sponsorship network, which deals with labor issues such as the unemployment benefits. Each of these members has an average of 26.1 labor PAC ties between them, which is substantially higher than the 7.9 ties per dyad in the labor sector PAC network, and slightly above the 22.9 ties per dyads with two Democrats.

These five co-sponsors of H.R. 4691 worked together frequently on labor issues in the 111$^{th}$ Congress. Each pair of legislators co-sponsored an average 9.4 labor bills, which is more than double the 4.6-bill average of Democrat-Democrat dyads. Thus, it has been established these co-sponsors had stronger-than-usual interest group ties and co-sponsorship ties in the labor policy domain. Although no unions took a public stance on this piece of legislation, several labor organizations – including the American Federation of State, County, and Municipal Employees,

AFL-CIO, Teamsters, and the Painters & Allied Trade Unions – lobbied Congress about H.R. 4691 specifically.[82] All five members received contributions from at least one of those organizations, and it is a safe surmise these groups were at a minimum lobbying the five individuals sponsoring the unemployment extension legislation, although individual members are not named in the LDA-required lobbying reports.

Interestingly, these legislators did not share any committee assignments like Baucus and his Senate colleagues working toward health reform. They do share party affiliation, experience (all serving a minimum 34 years), and in the case of Miller and Waxman, state affiliation. The combination of these factors, along with the labor group ties, provides a social explanation for why these individuals work together so frequently. Although labor unions PAC network did not show significant results on the experience variable in Chapter 4, the targeting of these well-placed legislators paid dividends, as this particular bill cleared Congress and was signed into law by President Obama in March 2010.

### 5.4 PAC Ties and Co-Sponsorships in Various Policy Domains

Every policy domain has a somewhat different dynamic. Figure 5.2 shows visualizations of House co-sponsorships in the agriculture policy domains. This network was created by using the House co-sponsorship network matrices and an attribute measure of PAC tie strengths.[83] As opposed to the PAC ties visualized in Figure 5.1, co-sponsorships are visualized with the nodes color-coded by average tie strengths to other legislators in the Figure 5.2 network. The scale of average PAC tie strengths for each node is in the legend. This allows the analyst to see how the strength of interest group connections is distributed within the co-sponsorship network. Those with

[82] Lots of business and trade associations lobbied Congress concerning this bill as well. A complete list of groups lobbying for H.R. 4691 available at: http://www.opensecrets.org/lobby/billsum.php?id=hr4691-111

[83] This strategy is more effective than mapping both sets of ties simultaneously because of the high density of both networks.

the lower-to-average tie strengths (the red, light red, and purple actors) form the primary cluster of co-sponsors in the upper part of the network map.

Most of the actors with higher average tie strengths (the lime green and dark green actors) are on the outskirts of the network. It seems reasonable to believe agribusiness groups looking for policy change would prefer to work with legislators with whom they enjoy the most access, or chances to influence outcomes. The byproduct of that is that in such a network one would expect the lime green and dark green actors to be in the center of the graph. Instead, they are generally concentrated in the outer cluster of the network, and are not as dense as the main cluster, which is visualized as the individual squares in the outer cluster are spaced further apart.

Those with the fewest co-sponsorship ties are on the outermost edge along the bottom of the network; many of them have among the highest average PAC tie strengths. The inverse distribution of PAC ties and co-sponsorship ties for the House agriculture policy domain indicates a situation similar to that of the Senate during the health care reform process. Legislators with the strongest industry ties are less likely to introduce new legislation, which means one of two processes is in effect. First, the industry is probably eager to maintain the *status quo* given that their ties are much stronger with GOP members than Democrats. If a group leans in the direction of one party over another, it is safe to assume they would prefer to work with members of that party more – at least on average – than members of the opposite party. It is plausible that the agribusiness sector might lobby for protection of certain *status quo* priorities and wait for the GOP to retake Congress before moving forward with a more ambitious agenda. Within the agriculture sector the House and Senate agriculture committees may be used to put the brakes on unwanted reforms and influence political outcomes as necessary; the sector utilized a committee-based contribution strategy (among others) when contributing funds to both representatives and senators.

**Figure 5.2 House Agriculture Co-Sponsorship Network**

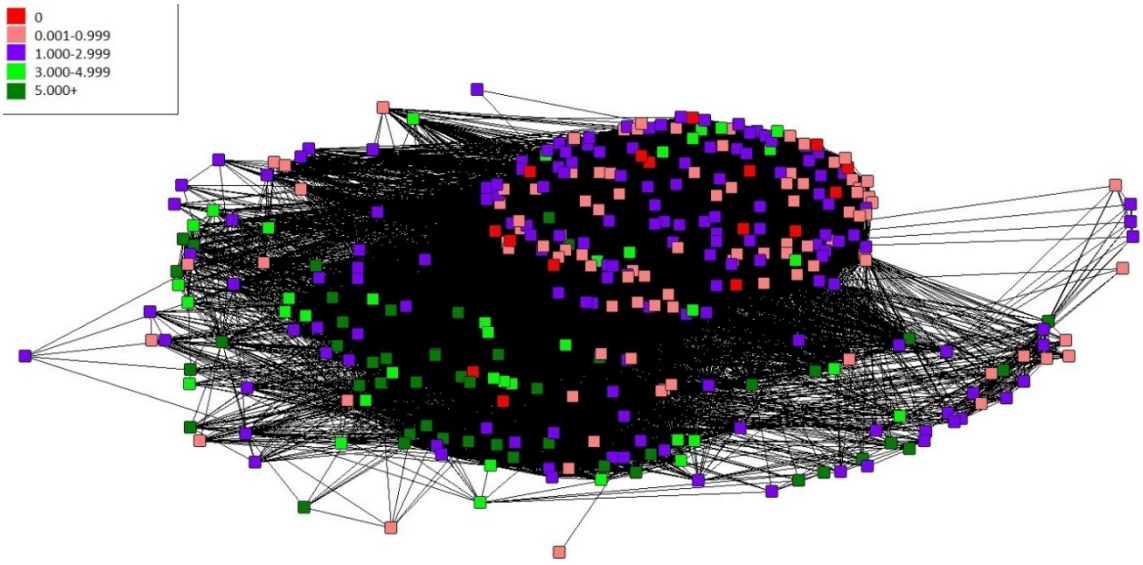
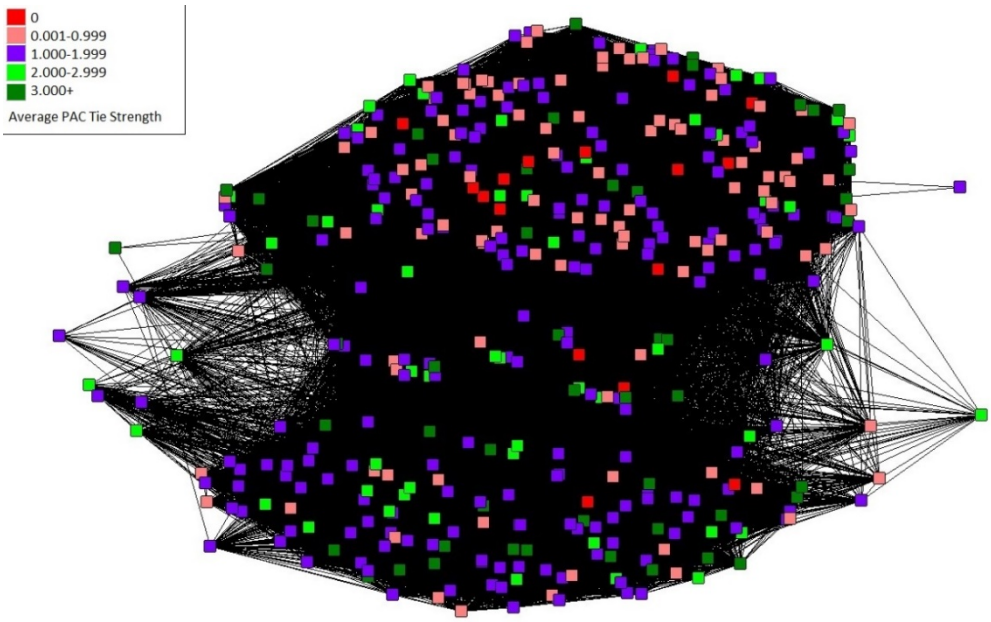



Figure 5.3 is a network visualization of the civil rights and liberties co-sponsorship network with the average PAC ties color-coded for each node. The color scale is similar to that of Figure 5.2, although the values are slightly different. Unlike the agriculture network, the nodes in the civil rights and liberty policy domain are aligned into two large clusters with a series of nodes in the middle of the network with ties to both of the primary clusters. Many of those with the highest average degree centrality in the PAC network are in both clusters, as well as in the select band of legislators positioned between the main clusters on the top and bottom of the graph. There are slightly more representatives with an average degree centrality or tie strength of one or less in the upper half of network, but they do not cluster as tightly as in the agriculture network and several of those members are distributed elsewhere in the network.

**Figure 5.3 House Civil Rights and Liberties Co-Sponsorship Network**




Members with the most PAC ties in the lawyers and lobbyists network are more willing to co-sponsor civil rights and liberties legislation than those with the most agribusiness ties in the agriculture policy network. In contrast to the agribusiness network, the members with the most PAC ties appear to be more willing to co-sponsor legislation than other members, on average. The QAP co-sponsorship models for both of these policy networks will confirm status quo activity in the agribusiness network and policy change activity in the civil rights and liberties network as the number of PAC contributions increase. But one detailed example of health care reform on the Senate Finance Committee or two House policy domains do not tell the entire story. A more comprehensive picture is available if we examine all of the co-sponsorship networks by policy domain along with a composite network with all bills in the 111$^{th}$ Congress.

Table 5.2 shows the number of House and Senate bills introduced in the 111$^{th}$ Congress with at least one additional co-sponsor. Bills with a single sponsor are not included, as they will

not have any measurable value in a social network that does not include self-ties. These bills consist only of House and Senate bills that actually carry the force of law – not simple resolutions, joint resolutions or concurrent resolutions. There were 4,786 House bills and 2,581 Senate bills introduced during the 111th Congress with at least one sponsor and one co-sponsor. In the House, the five most common topics concerned health, government operations, banking, defense, and public lands and water. These bills comprised about half of all House bills.

**Table 5.2 Number of Co-Sponsored House and Senate bills, 111th Congress**

| Issue Area | House | Senate |
|---|---|---|
| Agriculture | 58 | 44 |
| Banking | 411 | 190 |
| Civil Rights and Liberties | 82 | 32 |
| Communications | 106 | 60 |
| Defense | 406 | 170 |
| Education | 277 | 121 |
| Energy | 265 | 168 |
| Environment | 227 | 127 |
| Foreign Affairs and Aid | 132 | 67 |
| Foreign Trade | 68 | 274 |
| Gov't Operations | 538 | 220 |
| Health | 683 | 311 |
| Housing | 157 | 46 |
| Labor | 262 | 124 |
| Law, Crime and Family | 279 | 162 |
| Macroeconomics | 240 | 119 |
| Public Lands and Water | 284 | 212 |
| Social Welfare | 137 | 50 |
| Transportation | 174 | 84 |
| **Total** | **4,786** | **2,581** |

The Senate focused on foreign trade, health, government operations, banking, and public lands and water. The incoming Obama administration prioritized stabilizing the economy with a government stimulus, reforming the finance industry, and substantially restructuring health insurance markets. Therefore, it is unsurprising that health, banking, and government operations bills were a major part of the legislative agenda. Public land and water bills are also frequently introduced in both chambers. The anomaly are the foreign trade bills introduced in the Senate,

which at 274 bills accounts for the busiest policy domain in that chamber.[84] Nevertheless, the correlation between the two chambers by policy area is .976, which signifies substantial inter-chamber coordination concerning the legislative agenda.

One interesting difference, however, is that the correlation between the number of PAC contributions and the number of bills sponsored is much stronger in the House (.397) than in the Senate (.091). In conjunction with the correlations in Table 5.1, such results might cause one to suspect the House to be a more proactive body than the Senate in terms of introducing legislation at the behest of those with the most financial (and thus social) capital. But the QAP regressions for each of the issue areas reveal a more complicated narrative.

QAP regression models for legislative co-sponsorships were created for 19 distinct policy domains in the House and Senate, along with aggregate models for all bills. In these models, the issue areas or policy domains are paired with 14 PAC sectors assumed to the predominant driver of each particular issue. The matching was done primarily on the basis of substantive overlap with the interest group sector that was the primary direct target or significant stakeholder in the legislation in a particular issue area. Some issues – like government operations and macroeconomics – are too expansive for one sector to be considered the pre-eminent purveyor of influence. For those models, all PAC ties are utilized. There are of course other groups lobbying in each particular issue area, but defense groups are assumed to have less influence over a health bill than the healthcare industry because they lack the expertise and are not as vested in the legislative outcome. This is admittedly a simplifying assumption.[85] Table 5.3 presents the QAP regression

[84] Some of the bills introduced have only a single sponsor, in which case they will not end up in the QAP con-sponsorship models. The House bill total was actually 6,474; in the Senate the total was 4,005. About 25 percent of House bills and 35 percent of Senate bills had just a single sponsor. This was particularly consequential in the Senate foreign trade issue domain, where there were 863 total bills introduced but only 274 had at least one additional co-sponsor.

[85] Examination of the public positions groups take on issues shows that the primary stakeholder group (i.e. the PAC sector matched to a particular policy domain) is not always the most active lobbying sector.

results for each of the issue areas for the House; Table 5.4 presents the same results for the Senate. Each contains the unstandardized coefficients, standard error, significance level, intercept, $R^2$, adjusted $R^2$, and *p*-value. Each of the House models used 1,000 permutations of matrix rows and columns to calculate the standard errors, and 2,000 permutations for Senate models.

The results do not comport with the initial theoretical expectations that more PAC affiliation ties leads to more co-sponsorship ties between each legislative dyad. In fact, the PAC variable is significant and positive for just five of the 20 House models, and for just three of the 20 Senate models. In both chambers there was a positive, significant relationship between PAC ties and co-sponsorships for the communication, education and labor bills. Additionally, there was a positive, significant finding for health and social welfare for the House models. More pervasive is a negative and significant finding, which occurs in 10 House models and 6 Senate models. The environment, foreign aid, and public land and water issue domains are negative and significant in both chambers. Additionally, agriculture; banking; civil liberties and civil rights; foreign trade; government operations; law, crime and family; and the aggregate model containing all bills are negative and significant for the House but not significant in the Senate models. In the Senate, defense and energy models are negative and significant, but the House defense and energy models are not significant. The health issue network is most intriguing, as the relationship between PAC ties and co-sponsorships is positive and significant in the House but negative and significant in the Senate.

Several findings are apparent from the models. First, there is a significant linkage between PAC affiliation ties and co-sponsorship ties, but it is more often negative than positive in orientation. This suggests a number of possibilities. For the negative findings, the groups associated

Ideological groups and labor unions tend to make more public pronouncements of support or opposition than corporations, trade unions, and other groups included in the study.

**Table 5.3 House Co-Sponsorship QAP Models, by Issue Domain**

| Variable | All | Agriculture | Banking | Civil R & L | Communications |
|---|---|---|---|---|---|
| Caucus | -0.338 (1.316) | -0.030 (0.023) | 0.001 (0.098) | -0.013 (0.071) | -0.013 (0.048) |
| Committee | 5.091 (0.882)** | 0.066 (0.014)** | 0.412 (0.061)** | 0.133 (0.044)** | 0.059 (0.032)* |
| Experience | 0.280 (0.167) | 0.015 (0.003) | -0.011 (0.012) | 0.022 (0.009)** | -0.007 (0.006) |
| Floor | 0.970 (0.695) | -0.018 (0.013) | 0.095 (0.053)* | -0.026 (0.039) | 0.046 (0.026)* |
| Gender | -5.202 (1.896)** | -0.135 (0.034)** | -0.152 (0.135) | -0.282 (0.107)** | 0.077 (0.071) |
| Ideology | -41.524 (1.379)** | -0.271 (0.02)** | -1.660 (0.085)** | -2.628 (0.069)*** | -0.569 (0.041)** |
| Con. Ideology | -0.305 (0.068)** | -0.003 (0.001) | -0.021 (0.005)** | -0.015 (0.004)*** | -0.006 (0.003) |
| Occupation | 1.626 (0.986) | 0.041 (0.017)* | 0.104 (0.071) | 0.137 (0.055)** | -0.005 (0.037) |
| Race | -8.057 (2.340)** | -0.124 (0.040 )** | -0.275 (0.168)* | -0.564 (0.133)*** | 0.163 (0.088)* |
| State | 17.932 (1.458)** | 0.106 (0.024)** | 0.748 (0.101)** | 0.316 (0.078)*** | 0.281 (0.052)** |
| PAC | -0.096 (0.035)** | -0.009 (0.004)** | -0.029 (0.007)** | -0.045 (0.026)* | 0.045 (0.011)** |
| Intercept | 87.415 (0.000)*** | 0.609 (0.000)*** | 4.393 (0.000)*** | 3.673 (0.000)*** | 1.129 (0.000)*** |
| $R^2$ | 0.351 | 0.080 | 0.155 | 0.353 | 0.099 |
| Adj. $R^2$ | 0.351 | 0.080 | 0.155 | 0.353 | 0.099 |
| *p*-value | 0.001 | 0.001 | 0.001 | 0.000 | 0.001 |
| Variable | Defense | Education | Energy | Environment | Foreign Aid |
| Caucus | -0.152 (0.163) | -0.071 (0.112) | -0.015 (0.040) | -0.056 (0.078) | 0.047 (0.087) |
| Committee | 0.700 (0.098)** | 0.321 (0.069)** | 0.155 (0.025)** | 0.188 (0.049)** | 0.109 (0.052)* |
| Experience | -0.046 (0.021)* | -0.004 (0.014) | -0.012 (0.005)** | 0.035 (0.011)** | 0.012 (0.011) |
| Floor | 0.230 (0.086)** | -0.012 (0.064) | 0.020 (0.024) | -0.024 (0.044) | -0.004 (0.048) |
| Gender | -0.041 (0.236) | -0.376 (0.159)** | -0.082 (0.060) | -0.171 (0.113) | -0.312 (0.124)** |
| Ideology | -3.113 (0.142)** | -1.897 (0.094)** | -0.953 (0.037)** | -1.548 (0.072)** | -1.878 (0.073)** |
| Con. Ideology | -0.022 (0.009)* | -0.014 (0.006)* | -0.006 (0.002) | -0.015 (0.004)** | -0.009 (0.005)* |
| Occupation | -0.014 (0.127) | -0.005 (0.085) | -0.012 (0.031) | 0.084 (0.060) | 0.228 (0.066)** |
| Race | -0.384 (0.294) | -1.107 (0.205)** | 0.007 (0.072) | -0.128 (0.139) | -0.240 (0.152) |
| State | 0.647 (0.160)** | 0.612 (0.115)** | 0.870 (0.047)** | 1.049 (0.085)** | 0.525 (0.091)** |
| PAC | -0.041 (0.059) | 1.041 (0.166)** | 0.003 (0.007) | -0.081 (0.014)** | -0.056 (0.032)* |
| Intercept | 8.542 (0.000)*** | 3.971 (0.000)*** | 1.521 (0.000)*** | 2.769 (0.000)*** | 3.746 (0.000)*** |
| $R^2$ | 0.180 | 0.156 | 0.163 | 0.161 | 0.179 |
| Adj. $R^2$ | 0.180 | 0.156 | 0.163 | 0.161 | 0.178 |
| *p*-value | 0.001 | 0.001 | 0.001 | 0.001 | 0.001 |

**Significance:** *** $p < .001$; ** $p < .01$; * $p < .05$

**Table 5.3 House Co-Sponsorship QAP Models, by Issue Domain (Continued)**

| Variable | Foreign Trade | Gov't Operations | Health | Housing | Labor |
|---|---|---|---|---|---|
| Caucus | 0.049 (0.040) | -0.121 (0.168) | -0.134 (0.352) | 0.013 (0.039) | 0.047 (0.107) |
| Committee | 0.100 (0.025)** | 0.608 (0.108)** | 0.503 (0.229)* | 0.118 (0.024)** | 0.162 (0.066)* |
| Experience | 0.009 (0.005) | 0.020 (0.022) | 0.117 (0.046)** | -0.004 (0.005) | 0.054 (0.013)** |
| Floor | -0.011 (0.023) | 0.327 (0.095)** | 0.130 (0.192) | 0.018 (0.022) | 0.023 (0.058) |
| Gender | -0.118 (0.060)* | -0.493 (0.254)* | -1.898 (0.538)** | -0.043 (0.057) | -0.402 (0.154)** |
| Ideology | -0.692 (0.036)** | -5.185 (0.179)** | -6.926 (0.339)** | -0.670 (0.035)** | -2.303 (0.127)** |
| Con. Ideology | -0.001 (0.002) | -0.025 (0.009)** | -0.045 (0.019)** | -0.004 (0.002) | -0.032 (0.005)** |
| Occupation | -0.003 (0.032) | 0.178 (0.134) | 0.292 (0.271) | 0.012 (0.030) | 0.211 (0.080)** |
| Race | -0.163 (0.073)* | -0.700 (0.315)* | -1.789 (0.660)** | -0.195 (0.071)** | -1.073 (0.203)** |
| State | 0.241 (0.043)** | 7.414 (0.178)** | 1.159 (0.384)** | 0.419 (0.044)** | 0.898 (0.111)** |
| PAC | -0.044 (0.009)** | -0.015 (0.005)** | 0.068 (0.037)* | -0.017 (0.014) | 0.073 (0.009)** |
| Intercept | 1.344 (0.000)*** | 13.108 (0.000)*** | 14.478 (0.000)*** | 1.483 (0.000)*** | 3.809 (0.000)*** |
| $R^2$ | 0.116 | 0.373 | 0.194 | 0.101 | 0.337 |
| Adj. $R^2$ | 0.116 | 0.373 | 0.194 | 0.101 | 0.337 |
| *p*-value | 0.001 | 0.001 | 0.001 | 0.001 | 0.001 |

| Variable | Land & Water | Law & Crime | Macroeconomics | Social Welfare | Transportation |
|---|---|---|---|---|---|
| Caucus | 0.087 (0.076) | -0.059 (0.086) | 0.045 (0.077) | -0.059 (0.085) | 0.017 (0.069) |
| Committee | 0.190 (0.045)** | 0.231 (0.054)** | 0.303 (0.053)** | 0.128 (0.053)** | 0.221 (0.042)** |
| Experience | 0.044 (0.010)** | 0.036 (0.012)** | -0.028 (0.011)** | 0.013 (0.011) | -0.006 (0.009) |
| Floor | -0.022 (0.041) | 0.047 (0.051) | 0.084 (0.046)* | 0.041 (0.046) | 0.069 (0.036)* |
| Gender | -0.279 (0.107)** | 0.104 (0.131) | 0.121 (0.116) | -0.464 (0.120)** | -0.030 (0.101) |
| Ideology | -1.712 (0.069)** | -2.275 (0.075)** | -2.065 (0.076)** | -1.640 (0.078)** | -1.016 (0.064)** |
| Con. Ideology | -0.014 (0.004)** | -0.043 (0.005)** | -0.016 (0.004)** | -0.007 (0.004) | -0.010 (0.004)** |
| Occupation | 0.162 (0.055)** | 0.054 (0.069) | 0.015 (0.062) | 0.100 (0.067) | 0.102 (0.054)* |
| Race | -0.731 (0.129)** | 0.165 (0.165) | 0.352 (0.136)** | -0.478 (0.150)** | -0.331 (0.127)** |
| State | 0.961 (0.080)** | 0.505 (0.102)** | 0.576 (0.089)** | 0.324 (0.087)** | 0.250 (0.073)** |
| PAC | -0.104 (0.013)** | -0.218 (0.033)** | -0.004 (0.002) | 0.559 (0.124)** | -0.019 (0.019) |
| Intercept | 3.348 (0.000)*** | 4.775 (0.000)*** | 3.399 (0.000)*** | 3.501 (0.000)*** | 2.746 (0.000)*** |
| $R^2$ | 0.255 | 0.292 | 0.209 | 0.184 | 0.120 |
| Adj. $R^2$ | 0.255 | 0.292 | 0.209 | 0.184 | 0.120 |
| *p*-value | 0.001 | 0.001 | 0.001 | 0.001 | 0.001 |

**Significance:** *** $p < .001$; ** $p < .01$; * $p < .05$

**Table 5.4 Senate Co-Sponsorship QAP Models, by Issue Domain**

| Variable | All | Agriculture | Banking | Civil R & L | Communications |
|---|---|---|---|---|---|
| Committees | 2.860 (0.852)** | 0.081 (0.02)*** | 0.255 (0.058)*** | 0.031 (0.042) | 0.100 (0.024)*** |
| Experience | -0.288 (0.255) | 0.000 (0.005) | -0.029 (0.017)* | -0.013 (0.011) | -0.005 (0.007) |
| Floor | -0.822 (1.374) | 0.033 (0.038) | -0.132 (0.104) | 0.015 (0.070) | -0.066 (0.042) |
| Gender | -6.155 (3.397)* | -0.110 (0.076) | -0.380 (0.241) | -0.026 (0.155) | -0.104 (0.09) |
| Ideology | -36.913 (3.094)*** | -0.296 (0.063)*** | -1.828 (0.175)*** | -2.081 (0.127)*** | -0.769 (0.069)*** |
| Con. Ideology | -0.253 (0.149)* | -0.004 (0.004) | -0.029 (0.010)** | -0.020 (0.007)** | 0.002 (0.004) |
| Occupation | 0.602 (1.872) | -0.039 (0.040) | 0.203 (0.126)* | -0.033 (0.086) | 0.010 (0.048) |
| Race | -0.812 (7.285) | 0.127 (0.158) | 0.066 (0.480) | -0.378 (0.350) | 0.050 (0.184) |
| State | 37.101 (2.405)*** | 0.670 (0.088)*** | 1.884 (0.221)*** | 0.230 (0.135)* | 0.337 (0.091)*** |
| PAC | -0.025 (0.018) | 0.005 (0.003) | -0.003 (0.005) | 0.069 (0.088) | 0.008 (0.004)* |
| Intercept | 62.687 (0.000)*** | 0.442 (0.000)*** | 2.970 (0.000)*** | 2.645 (0.000)*** | 0.876 (0.000)*** |
| $R^2$ | 0.317 | 0.069 | 0.194 | 0.328 | 0.138 |
| Adj. $R^2$ | 0.316 | 0.068 | 0.193 | 0.327 | 0.137 |
| *p*-value | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |

| Variable | Defense | Education | Energy | Environment | Foreign Aid |
|---|---|---|---|---|---|
| Committees | 0.368 (0.106)*** | 0.086 (0.071) | 0.179 (0.041)*** | 0.144 (0.046)** | 0.111 (0.057)* |
| Experience | -0.014 (0.031) | -0.044 (0.020)** | -0.027 (0.011)** | -0.014 (0.012) | -0.017 (0.017) |
| Floor | 0.018 (0.173) | -0.194 (0.121)* | 0.105 (0.077) | -0.003 (0.084) | 0.033 (0.096) |
| Gender | -1.132 (0.437)** | -0.376 (0.279) | -0.338 (0.156)** | -0.234 (0.178) | -0.494 (0.240)* |
| Ideology | -2.723 (0.333)*** | -1.841 (0.232)*** | -0.977 (0.123)*** | -1.075 (0.141)*** | -1.219 (0.174)*** |
| Con. Ideology | 0.013 (0.019) | -0.013 (0.013) | -0.030 (0.007)*** | -0.028 (0.008)** | -0.002 (0.010) |
| Occupation | 0.300 (0.231) | -0.066 (0.15) | -0.061 (0.081) | -0.043 (0.094) | 0.092 (0.122) |
| Race | 0.379 (0.923) | -0.230 (0.61) | -0.025 (0.322) | 0.195 (0.377) | 0.494 (0.484) |
| State | 2.201 (0.297)*** | 1.265 (0.234)*** | 2.102 (0.171)*** | 2.746 (0.186)*** | 0.580 (0.183)** |
| PAC | -0.090 (0.050)* | 0.391 (0.156)** | -0.016 (0.006)** | -0.018 (0.007)*** | -0.048 (0.027)* |
| Intercept | 5.292 (0.000)*** | 3.217 (0.000)*** | 2.242 (0.000)*** | 1.837 (0.000)*** | 2.625 (0.000)*** |
| $R^2$ | 0.162 | 0.155 | 0.188 | 0.166 | 0.122 |
| Adj. $R^2$ | 0.161 | 0.154 | 0.187 | 0.165 | 0.121 |
| *p*-value | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |

**Table 5.4 Senate Co-Sponsorship QAP Models, by Issue Domain (Continued)**

| Variable | Foreign Trade | Gov't Operations | Health | Housing | Labor |
|---|---|---|---|---|---|
| Committees | 0.055 (0.034) | 0.305 (0.122)** | 0.224 (0.204) | 0.065 (0.026)** | 0.004 (0.072) |
| Experience | -0.003 (0.005) | -0.095 (0.037)** | -0.003 (0.061) | -0.016 (0.007)** | -0.012 (0.020) |
| Floor | -0.046 (0.088) | -0.206 (0.194) | -0.078 (0.328) | -0.052 (0.048) | -0.093 (0.117) |
| Gender | -0.005 (0.078) | -0.144 (0.482) | -1.874 (0.845)** | -0.046 (0.096) | 0.006 (0.274) |
| Ideology | -0.113 (0.086) | -5.637 (0.429)*** | -7.243 (0.654)*** | -0.661 (0.078)*** | -1.794 (0.265)*** |
| Con. Ideology | -0.003 (0.004) | 0.021 (0.021) | -0.042 (0.038) | -0.011 (0.004)** | -0.041 (0.013)** |
| Occupation | 0.024 (0.041) | 0.053 (0.264) | 0.066 (0.466) | -0.001 (0.052) | -0.021 (0.150) |
| Race | 0.101 (0.147) | 0.734 (1.046) | -1.824 (1.77) | -0.356 (0.209) | -0.520 (0.576) |
| State | 4.883 (0.253)*** | 2.940 (0.345)*** | 4.227 (0.563)*** | 0.646 (0.107)*** | 1.448 (0.237)*** |
| PAC | -0.002 (0.003) | 0.001 (0.003) | -0.037 (0.023)* | -0.002 (0.010) | 0.049 (0.012)*** |
| Intercept | 0.155 (0.000)*** | 9.279 (0.000)*** | 12.848 (0.000)*** | 1.403 (0.000)*** | 2.841 (0.000)*** |
| $R^2$ | 0.074 | 0.297 | 0.246 | 0.129 | 0.311 |
| Adj. $R^2$ | 0.073 | 0.297 | 0.245 | 0.128 | 0.310 |
| *p*-value | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |

| Variable | Land & Water | Law & Crime | Macroeconomics | Social Welfare | Transportation |
|---|---|---|---|---|---|
| Committees | 0.101 (0.051)* | 0.247 (0.073)*** | 0.174 (0.051)*** | 0.012 (0.039) | 0.134 (0.036)*** |
| Experience | -0.014 (0.014) | -0.024 (0.021) | -0.036 (0.015)** | 0.001 (0.011) | -0.001 (0.010) |
| Floor | -0.021 (0.088) | -0.019 (0.122) | -0.171 (0.088)* | -0.063 (0.067) | -0.067 (0.062) |
| Gender | -0.234 (0.199) | 0.052 (0.283) | -0.232 (0.203) | -0.133 (0.151) | -0.093 (0.140) |
| Ideology | -1.647 (0.164)*** | -2.212 (0.221)*** | -0.668 (0.169)*** | -1.157 (0.123)*** | -0.454 (0.107)*** |
| Con. Ideology | -0.018 (0.009)* | -0.019 (0.012) | -0.006 (0.010) | -0.001 (0.007) | -0.003 (0.006) |
| Occupation | -0.107 (0.104) | -0.037 (0.154) | -0.031 (0.107) | -0.026 (0.081) | 0.032 (0.074) |
| Race | -0.453 (0.417) | 0.145 (0.592) | 0.703 (0.430)* | -0.204 (0.321) | 0.578 (0.301)* |
| State | 5.197 (0.200)*** | 1.978 (0.247)*** | 1.678 (0.182)*** | 0.455 (0.137)** | 1.552 (0.131)*** |
| PAC | -0.022 (0.008)** | -0.002 (0.017) | 0.002 (0.001) | 0.099 (0.085) | -0.006 (0.011) |
| Intercept | 3.232 (0.000)*** | 2.971 (0.000)*** | 1.304 (0.000)*** | 1.601 (0.000)*** | 0.656 (0.000)*** |
| $R^2$ | 0.258 | 0.160 | 0.108 | 0.130 | 0.071 |
| Adj. $R^2$ | 0.257 | 0.159 | 0.107 | 0.130 | 0.070 |
| *p*-value | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |

**Significance:** *** $p < .001$; ** $p < .01$; * $p < .05$

with those issue domains are mostly comprised of private sector business groups, who would in most cases prefer to protect the status quo and use connections with members of powerful committees to kill or at least modify legislation before it reaches the floor. In the long run, such groups would generally prefer to work with Republicans, who at this point have no control over Congress or the administration. Rather than attempt to build a coalition of their most trusted lawmakers, they make no push for any major initiatives. Second, the areas where there is positive association between PAC ties and co-sponsorships are generally those sectors that lean toward Democrats or who give evenly to both parties (e.g. defense and health).[86] Third, there is some overlap but also substantial differences between the House and Senate, both in terms of the prevalence of the relationship between interest group ties and co-sponsorships, and the issue domains for which there are significant findings.

The performance of the control variables in the QAP models is also noteworthy. In both the House and Senate, a state tie is the best predictor of co-sponsorships – the variable is positive and significant in all 40 models. Just about as predictable is ideological difference, which is negative and significant in every issue area for both chambers except the Senate foreign trade model. After that, committee ties are positive and significant in all 20 House models and 14 Senate models. Constituent ideology was relatively consistent, with a negative, statistically significant coefficient in 14 House models and 8 Senate models. All of these variables performed as hypothesized in half or more of the issue domains analyzed.[87]

The evidence that other variables matter is somewhat lacking. Experience ties are much less important in the co-sponsorship models than in the PAC models presented in Chapter 4. They

[86] According to the Center for Responsive Politics, between 1990 and 2014 the defense industry has split contributions to all candidates for federal office 57-43 percent in favor of Republicans. The health industry split contributions to all candidates for federal office 55-44 percent in favor of Republicans during the same period. This data includes contributions from individuals and outside spending, however. During the 2008 election cycle, health leaned 55-45 percent Democrats, and defense 51-49 percent Democrats.

[87] Appendix E includes alternative QAP specifications for House and Senate co-sponsorship models.

are significant and positive in six House models, but not in any Senate models. Experience is actually negative and significant in three House models and six Senate models, which could mean that in those issue domains inexperienced legislators are more likely to co-sponsor legislation. The implication could be that experience matters differently in different policy areas, at least in the House. In some cases, veterans may be more apt to author new legislation, whereas in other issue areas newcomers looking to establish their credentials are more active. The assumption that veterans are more likely to co-sponsor bills has absolutely no support in the Senate. In the case of veteran lawmakers, the relative importance of the bill and its chances of passing probably matter more than the volume of legislation sponsored. Similarly, there are sporadic positive and significant findings for shared office floor and occupational background ties, but such findings are present only in the House models. Race and gender have virtually no impact on co-sponsorship tendencies whatsoever, nor does caucus membership. These findings are at odds with some of the previous findings in the literature concerning Caucus membership, race and gender. Evidence that office location significantly impact the decision to co-sponsor legislation with any consistency is sporadic and limited to the House. This seems to point in the same direction as the earlier studies, which do not find support for the spatial proximity hypothesis in other congressional social contexts.

The adjusted $R^2$ metric, which is used to measure how much variation the model explains, varies substantially from issue area to issue area. Unquestionably, the number of contributions and bills impacts the variance seen in the PAC and co-sponsorship variables. Consequently, social ties play a role in these disparate outcomes, which for the House ranges between .080 and .373 in the agriculture and government operations networks, with the average adjusted $R^2$ at .203. In the Senate, the adjusted $R^2$ ranges between .068 and .327, with a mean of .180. The performance of such models works better for some issue areas than others. In general, these models perform better in comparison with the PAC strategies models in Chapter 4, which reported consistently lower

adjusted $R^2$ measures. The *p*-values, which are calculated based on the *F*-test for each model, are .001 for all House models and .000 for all Senate models.[88]

### 5.5 Characteristics of Co-Sponsorship Networks

The social theory about how interest group ties influence legislator behavior is largely related to the access-influence continuum developed by John Wright and others, and that as interest group tie strengths increase, the tie strengths in the co-sponsorship networks should increase. But it was also noted that various characteristics of an issue domain, such as the partisan control of government, the degree of interest group unity on bills, the issue salience for lobbying firms, and issue complexity could impact the degree to which PAC access or influence might be in play. Without any good way to measure these network-level characteristics through individual actors, the best approach was to create a measure for each issue domain and characteristic, and to compare the characteristic measures to the standardized coefficient for PAC ties and co-sponsorship ties in each of the models.

Measures were created to measure each characteristic. Salience was measured by using lobbying data tracked by the Center for Responsive Politics. In particular, the issue was the percentage of bills in each issue domain for which there was reported lobbying activity as required by the LDA. Interest group unity was calculated as the number of public positions taken in opposition to a bill as a percentage of all public positions taken such that a smaller number would actually indicate more support. This information is tracked by MapLight, a government watchdog group also affiliated with the Center for Responsive Politics. Partisanship in this instance corresponds to the percentage of PAC ties held by dyads containing two GOP members of Congress, which comes from data in Chapter 4. Complexity is measured as the median number of specific issues lobbied on bills in introduced in each policy domain. This information also comes

[88] UCINET does not report the *F*-test statistic.

from the Center from Responsive Politics' lobbying data. Issues in this context refer to finely tuned policy questions related to a particular bill.[89]

Scatterplots were used to analyze the relationship between the PAC ties and co-sponsorship coefficients, and the salience, unity, partisanship, and issue complexity measures. Standardized coefficients were used so that issues of scale would not complicate the comparisons. The magnitude of the correlations is not so much the concern as whether there is noticeable pattern to the distributions. Coefficients with statistically significant *p*-values are displayed as green dots, while coefficients with statistically insignificant *p*-values are displayed as red dots. Figure 5.4 displays the scatterplots for the House and Figure 5.5 for the Senate. The relationship between party support in each network and the corresponding legislative behavior is pretty clear.

As one moves from the more Democrat-leaning domains to the more GOP-leaning domains, it is pretty clear that well-connected individuals are generally more likely to co-sponsor legislation in areas dominated by traditional Democratic Party allies and less likely to co-sponsor legislation in areas dominated by traditional Republican Party allies. This is the general relationship one would expect to see under unified Democratic Party governance. The correlation between the PAC-co-sponsor coefficients and GOP support is -.382 for the House and -.471 for the Senate. In both instances, lawmakers are responding to the policy preferences of these groups. Groups would rather see legislation introduced by traditional partisan allies, and rally around the status quo when less reliable political operatives are in control. Network partisanship is the only one of the four characteristics with a similar correlation with the standardized PAC-co-sponsorship coefficients for both the House and Senate policy domains.

[89] The median was used because a few bills, such as the Affordable Care Act, had thousands of such reports, which would have skewed the mean measure.

**Figure 5.4 House PAC-Co-Sponsorship Ties and Network Characteristics**

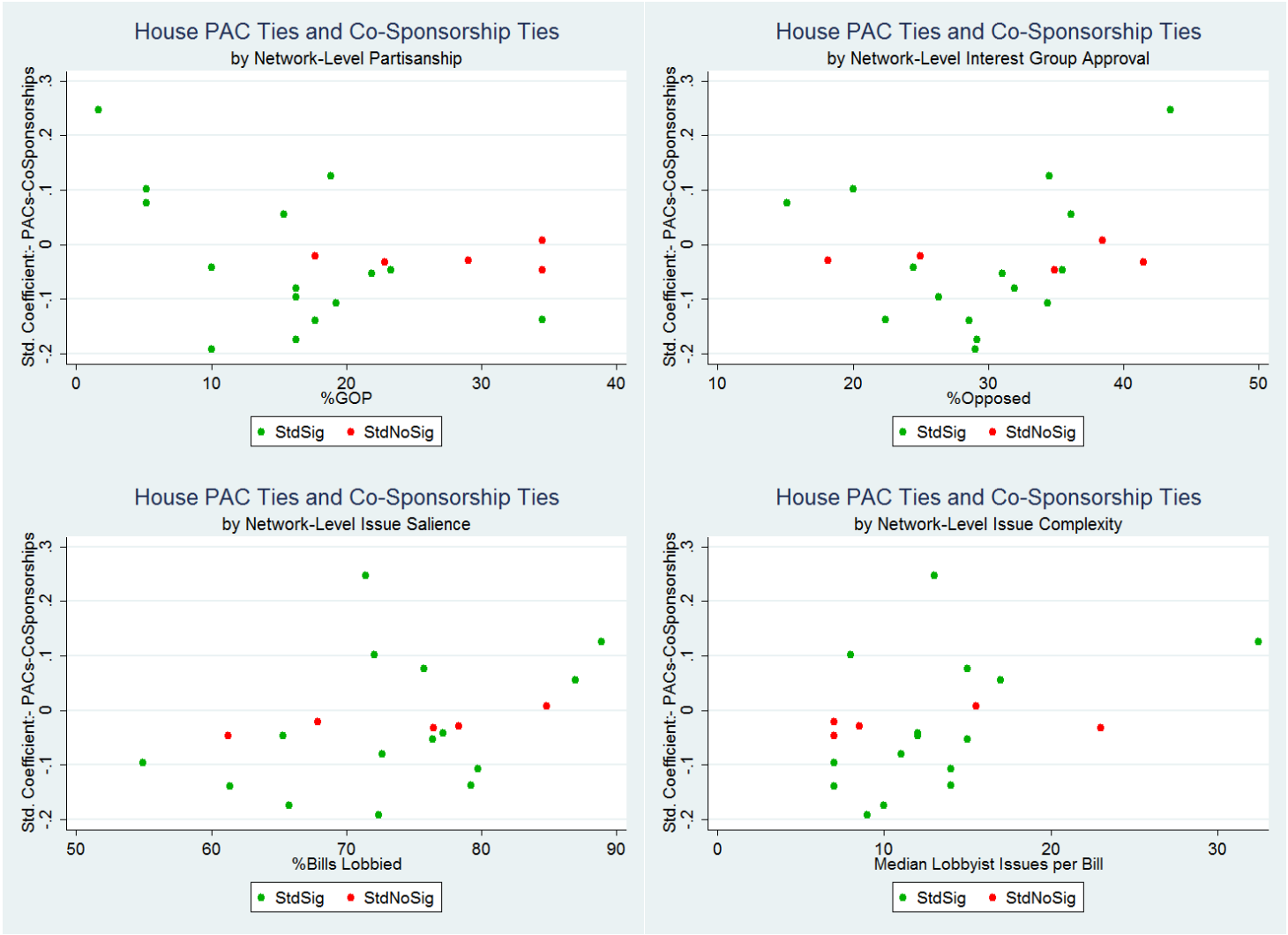


**Figure 5.5 Senate PAC-Co-Sponsorship Ties and Network Characteristics**

Interest group unity is perhaps the most puzzling of the four characteristics. In the Senate scatterplot with the standardized PAC-co-sponsorship coefficients and percentage of groups taking stances in opposition, there is a negative but modest correlation (-.151). The expectation was that this relationship would be negative because in issue domains where groups use their influence to encourage status quo behavior, most bills that are introduced will come from those who are not reliable legislative allies. Therefore, the thinking went, such groups looking to protect the status quo would tend to find legislation introduced by non-allies less palatable. However, there is a modest but positive correlation in the House scatterplot (.204). An alternative explanation for the House correlation might be that groups will only publicly endorse or oppose legislation they feel has a legitimate chance of getting a floor vote. At the very least it is clear that groups would generally prefer to publicly support legislation than oppose it.[90] In domains where there is momentum for policy change, groups may be forced to publicly oppose legislation more frequently. Furthermore, given the policies Democrats were pushing during the 111th Congress, it is quite possible that interest groups representing corporations, trade associations and conservative causes were more likely to publicly oppose such measures. At any rate, the discordant House and Senate results paired with modest correlation coefficients makes it prudent to render an inconclusive judgment on the issue of interest group unity.

Issue salience and issue complexity both have moderately strong, positive correlations for the House networks (.352 and .397 respectively). In the Senate networks, salience and complexity are positive but are much weaker, at .037 and .089, respectively. In the House, there appears to be a higher chance that any given bill is going to be lobbied in networks where interest groups desire policy change and bills are introduced by those with strong ties to the dominant sector in the domain. There is also much heavier volume of lobbying related to complex issues in issue domains

[90] MapLight data indicates 860 groups supporting a particular House measure compared to 403 opposing those measures. Likewise, 426 groups supported a particular Senate measure compared to 217 opposed.

where policy change is feasible. For example, registered lobbyists reported activity related to 8,231 unique issues related to the Affordable Care Act. The only bills receiving more attention were the American Clean Energy and Security Act of 2009 and the American Recovery and Reinvestment Act of 2009, commonly referred to as the stimulus bill. Lobbyists are more likely to act if they have strong ties to legislators in the issue network. The stronger effect for House networks vis-à-vis Senate network is further confirmation of an emerging trend, which is that interest group influence is far more prevalent in Congress' larger chamber.

### 5.6 Discussion

The central objective of this chapter was to explore the relationship between two kinds of social ties that are a ubiquitous feature of any American legislative institution. In essence, the question was how ties based on mutual interest group relationships are related to ties based on mutual sponsorship of legislation. This chapter provides significant evidence that mutual interest group affiliations do influence the behavior of Congress in a variety of policy contexts. In some instances, individuals with lots of mutual interest group relationships were more likely to introduce legislation. More common were issue networks where legislators with large numbers of mutual interest group ties co-sponsored significantly fewer bills than colleagues who were less plugged into those networks.

There were 40 tests of the *H8* hypothesis formulated in Chapter 2. Essentially, the hypothesis stated that the more interest group affiliation ties between a dyad of legislators, the more frequently they would co-sponsor legislation. This was only confirmed in five House networks and three Senate networks. In the strictest sense, there was limited support for the hypothesis as stated. However, the results nevertheless indicate that group affiliations provide pervasive influence in a variety of policy contexts, particularly in the House. Instead of PAC tie strength being a conduit of congressional action, it was more frequently shown to be a mechanism that suppressed legislative activity. The theory probably should be reformulated to account for these caveats as they relate to

co-sponsorship networks. Networks where the majority party members have stronger access ties than minority party members tend to be more favorable disposed toward introducing legislation. In networks where support for the minority party is high relative to the other networks, there appears to be far more status quo protection than policy change advocacy. Those more centrist PAC networks – health care, defense, and finance – are more difficult to predict absent more detail about the political context of the moment. They may agree to work with the majority party in some instances if the policy agenda is largely consistent with the interest-group sector's goals, and are probably best equipped to get things done during periods of divided government, although this assumption still needs to be tested.

The advantage of looking at the phenomena in this manner is pretty clear when comparing the aggregate House and Senate models to the individual policy domains. The aggregate House model was negative and significant, whereas the aggregate Senate model was negative and insignificant. Such results could have easily been interpreted as evidence that interest group ties are not used as mechanisms for the co-sponsorship of congressional legislation. But in five House policy domains and three Senate policy domains, there was a positive and significant relationship between PAC ties and co-sponsorships. Most of the groups considered to be the key players in these policy domains – labor unions, educational institutions, non-profits, legal organizations, and lobbying firms – have had historically strong ties to the Democratic Party, which had unified control of government during the 111$^{th}$ Congress. Other groups in the health sector, as well as the communications and electronics sector, are not necessarily traditional allies with the Democrats but nevertheless used their network connections to encourage the introduction of relevant legislation in the House. These groups were eager to initiate policy change either because they had a political environment in which favorable legislation could be crafted, or sensed policy change was inevitable. Thus, it was wise for these groups to use their influence to help craft the most palatable deal possible.

In several other instances, groups used their relationships with legislators to protect the status quo. In several issue domains, corporations, trade associations, and some ideological groups were opposed to key policy changes introduced during the 111th Congress. Many of these groups give to both parties, yet reserve more support for Republicans than the Democrats. Those with the strongest mutual interest group affiliations were the least likely to introduce or co-sponsor legislation in these policy domains. This outcome occurred in 10 House and 6 Senate models. These GOP-leaning groups would prefer to work with Republicans to address their policy concerns. In most cases, they decided status quo protection would be preferable. The fact that traditional members of party coalitions are more likely to work with their allies and more reticent to work with the other side is not remarkable. The most remarkable finding is that these interest groups, through their social relationships with members of Congress, are able to build or prevent the formation co-sponsor coalitions with routine success in several policy domains.

Scatterplots comparing the PAC coefficient from each of the House and Senate co-sponsor models show that GOP-leaning networks engaged in status quo protection while liberal networks engaged in policy change. In the House, there is substantial evidence that networks where well-connected legislators are predisposed toward policy change, there is more frequent lobbying activity, and such activity is more intense. Interest groups have limited resources. Given the difficulty of moving bills through a highly polarized, bicameral legislative body, groups generally need not expend as much energy on killing bills they dislike (though there are exceptions). Legislators tend not to act without social forces pushing for action. Here the evidence suggests groups use their access to lobby for policy change more often than they do to protect the status quo. Nevertheless, lobbying remains fairly commonplace even in networks where there is little momentum for change.

The implications for Congress are pretty clear. Whether protecting the status quo or implementing policy change, legislators are more likely to work together on the basis of their

mutual affiliations with various interest group supporters. The action of those working to introduce new policies by co-sponsoring the same bills is pretty clear; the legislative inaction of those working to protect the status quo is less apparent but just as consequential. The effect of group ties on both actions is more consistent in the House than in the Senate. To understand the magnitude of this phenomenon on political outcomes, it is necessary to see whether groups are also successful at building coalitions of support for votes related to passage of pending legislation. The social relationships that facilitate cooperation on the introduction and endorsement of legislation must be extended to roll call votes if interest groups are to have a truly consequential effect on legislative outcomes.

## Chapter 6. PACs and Policy Domains: Roll-Call Votes

Chapter 6 provides a study of the social dynamics of interest group ties and voting behavior in Congress. This chapter initially focuses on the relationship between interest group ties and voting patterns in various policy domains for the 111th Congress. The results of the QAP models for House and Senate policy domains show mixed support for the final hypothesis in Chapter 2 (*H10*), which more interest group ties lead to a greater coincidence in roll-call vote agreement for each dyad of legislators. The hypothesis is confirmed in 7 of 20 House networks but is only confirmed in 2 of 13 Senate networks.

### 6.1 Introduction

Roll-call votes are the final congressional hurdle for legislation that interest groups would like to see enacted or defeated. At this stage, interest groups lobbying for policy change or status quo protection must consolidate their relationships with members of Congress. The strength the relationships between pre-eminent groups within a policy domain (e.g. the primary stakeholders in the substantive policy outcomes) and legislators will be reflected in their ability to mobilize a coalition based on the strength of those relationships. Interest group impact will therefore be measured by a QAP regression that examines the causal relationship between the number of mutual interest group ties and number of roll-call vote agreements.

In some ways, co-sponsorships and roll-call votes represent similar actions. Both are in essence endorsements of a particular bill or policy. Interest groups build coalitions around the sponsorship, co-sponsorship, and introduction of the bill just as they do floor votes. Both are considered statements of principle and are used by legislators to claim credit with their constituents whether those constituents are voters or campaign contributors. The key difference is that co-sponsorships generally demand more time and effort from members, who in most cases must dedicate resources to drafting legislation or championing a specific bill. In other cases, however,

the co-sponsorships can be largely symbolic. In the 111th Congress, there were an average 253 co-sponsorships per House member and 40 co-sponsorships per Senate member.[91] These are relatively frequent, but not as frequent as roll-call votes. For bills included in the study, there were 716 House roll calls and 499 Senate roll calls.[92]

Not all roll calls are created equal. Roll calls of greatest importance are usually those related to passage of the bill, or bills with certain iterations that basically amount to passage, such as "motion to suspend rules and pass" or "motion to suspend the rules and pass, as amended." Another common question on which roll calls are cast is whether to agree to legislative amendments. In the Senate, cloture votes, or "cloture on the motion to proceed" are increasingly common when a member, usually of the minority party, filibusters a bill. In other instances, a more esoteric question is invoked, such as a motion to agree or adopt a conference report where representatives of both chambers have worked out a deal. Interest groups nevertheless have a vested interest in the outcome of virtually all of these votes, so all are included in the roll-call networks. Several bills have multiple roll calls because votes are taken on several of the roll-call questions. Consequently, those bills receive a greater weight in the models. If there are five votes on a particular piece of legislation, there is an opportunity for legislators to develop five ties. The votes, however, are all on different questions, so the information they reveal is somewhat different.[93] It is not unusual for members to vote differently on motions to pass, amend, or invoke cloture.

[91] Being the primary sponsor of legislation is less common. In the 111th Congress, the average House member sponsored 17 bills and the average Senator sponsored 5 bills.

[92] The full roll-call-vote dataset from Poole et al contains 1,698 House votes and 697 Senate votes. These full datasets include votes on joint resolutions, concurrent resolutions and simple resolutions, which are not part of the analysis. Additionally, near-unanimous and unanimous roll calls were excluded, which eliminated 11 Senate votes and 2 House votes.

[93] Roll call votes in House averaged 2.3 per bill, whereas the Senate averaged 9.2 per bill.

Bearing these differences in mind as regards theory, the manner in which interest groups can inject influence into these networks is somewhat similar. The tie strength is conceptualized as social capital not unlike Sabatier and Weible's "advocacy coalition framework" or Kingdon's "policy windows", where policy entrepreneurs couple together problems, politics, and policy streams (Kingdon 2003; Sabatier 2007; Zahariadis 2007). The strength of the social ties or access ties between legislators represents the potential for stronger advocacy coalitions to emerge – coalitions that can take advantage of policy windows. These windows depend upon the social capital of a coalition of interests within the policy domain, and whether there are clear advantages for their political allies. In the co-sponsorship models, members of Congress rewarded interest group constituents by either protecting the status quo or advocating policy change. The same is the case in the roll-call models.

The social dynamics of the acts themselves are also somewhat different. As a general rule, members vote "YEA" or "NAY" on all roll-call votes, as abstaining for reasons other than personal health or emergencies is generally looked upon by the media as a derogation of duty. There is no similar pressure to take any action on bill co-sponsorship, nor is there an expectation that every member must act unless there are extenuating circumstances. Intermittent inaction in roll-call vote networks does not have the same substantive implications as a lack of action within a co-sponsorship network. Inaction is the best indicator of a desire to effect status quo protection, whereas in roll-call networks the best approach is to vote "NAY" on the issue when it comes up for a floor vote. In the case of roll-call votes, action is required whether members wish to enact a new policy or protect the status quo. The ties are counted the same either way by UCINET. The tie strength of legislators comprising a dyad is the sum of matching votes whether those votes are "YEA" or "NAY." As a result, the expectation is a positive relationship between interest group ties and roll-call votes in all of the policy domains, even in domains where the relationships between interest group ties and co-sponsorships was negative.

As with the co-sponsorship networks, some policy domains were more active than others during the 111th Congress. Table 6.1 displays the number of roll call votes in each policy domain. In the House, government operations, public land and water, and banking were the sectors receiving the most votes, followed by defense and transportation. In the Senate, government operations, banking, macroeconomics, and health received the most votes, followed by health and defense. The relative frequencies of each policy domain differ somewhat, but are unsurprisingly pretty similar because both chambers are voting on a combination of their own bills and those which originated in the other house. Note that in the Senate there were no roll call votes held for education, energy,

**Table 6.1 House and Senate Roll-Call Votes, by Policy Domain**

| Topic | House | Senate |
|---|---|---|
| Agriculture | 21 | 16 |
| Banking, Finance, Commerce | 98 | 106 |
| Civil Rights and Liberties | 7 | 10 |
| Communications and Tech | 10 | 0 |
| Defense | 64 | 35 |
| Education | 19 | 0 |
| Energy | 25 | 0 |
| Environment | 23 | 0 |
| Foreign Affairs and Aid | 9 | 0 |
| Foreign Trade | 19 | 0 |
| Gov't Operations | 174 | 118 |
| Health | 27 | 50 |
| Housing | 15 | 0 |
| Labor | 15 | 17 |
| Law, Crime and Family Issues | 28 | 1 |
| Macroeconomics | 22 | 90 |
| Public Land & Water | 79 | 18 |
| Social Welfare | 21 | 7 |
| Transportation | 40 | 31 |
| **Total** | **716** | **499** |

environment, foreign affairs and aid, foreign trade, housing, or communications, which leaves 13 issue areas where votes took place. Votes occurred in every House issue domain. Within each chamber, the correlation between co-sponsorships and roll calls is pretty substantial (.591 for the House and .381 for the Senate), which suggests an association between the number of bills

introduced and the number of floor votes held for those bills within an issue domain.[94] It is therefore plausible that the two are linked, and interest groups in fact do have some influence over the policy agenda.

### 6.2 Visualizing PAC Ties and Roll-Call Votes

As with the co-sponsorship models, network visualization is a useful analytical approach when looking for social patterns of interest group influence over roll-call votes. The structural component of a network is different than the relational processes but there are generally clear parallels. It would not be theoretically inconsistent to argue that, in addition to being related to dyadic tie strengths that PAC influence might exert itself more in the network core than the network periphery. Cores are those network components where all nodes are connected to each other. Periphery nodes are connected to other core nodes but not to other periphery nodes. Instead of calculating the frequency of roll-call ties based on PAC ties, the PAC ties are used to create the network structure. For these individual roll calls, nodes were color-coded based on vote designation. YEA votes were coded green, NAY votes were coded red, and those who did not vote were coded black. Unlike past visualization, isolates (those without any PAC ties) were included along the leftmost edge of the visualization. The network dichotomization cutpoint was the lowest quartile.[95]

Figure 6.1 displays visualizations of House PAC ties and votes on final passage of H.R. 2 (Children's Health Insurance Program Reauthorization Act of 2009) and H.R. 4853 (Tax Relief, Unemployment Insurance Reauthorization, and Job Creation Act of 2010).[96] These bills were

[94] Even if government operations and macroeconomics are discounts because of the complex and consistent policies they encapsulate, the correlations are .482 and .371 for the House and Senate, respectively.

[95] The quartile cutpoints were as follows: "1s" were given if a dyad had 3 or ties in the House health network, 25 or more ties in the House aggregate network, and 3 or more ties in the Senate energy network. The dyad received a "0" otherwise.

[96] Both roll calls were votes to accept the conference report where the House and Senate resolved any remaining discrepancies between the two bills.

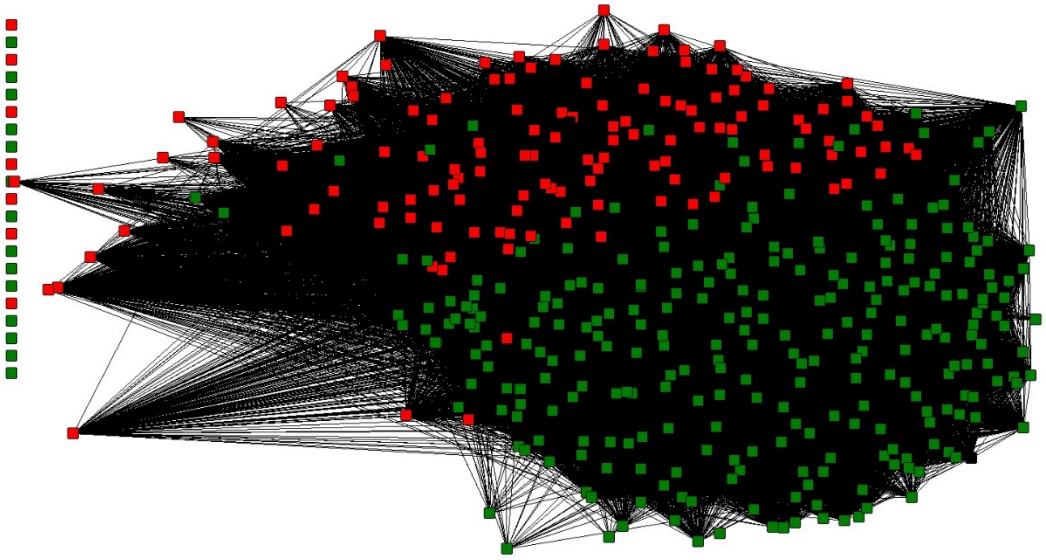
selected because they anecdotally illustrate two possible outcomes that can be assessed by examining the ties and votes for a single bill. The networks are built based on a NetDraw algorithm that arranges the network graph based on the ties in PAC sector networks. The health sector network is used in conjunction with the final roll-call vote on H.R. 2, just as the aggregate PAC model with all sectors is used in conjunction with the final roll-call vote on H.R. 4853.[97] The color-coded nodes were applied to the network graph after it was created, such that the spatial distribution of the nodes was not affected by the votes. The pattern in the health-care vote is pretty stark. Those with the closest network location tended to vote the same way, whether "YEA" or "NAY." Clearly PAC ties in the health care network are relevant to the vote. In fairness, there is a lot of overlap between political party and the vote, but this particular motion passed 288-139 with the support of 247 Democrats and 41 Republicans. Many of the Republicans voting "YEA" are located near the top of the main network cluster, although there are a few further removed from it. Given the decision to break with the party, there is a good chance the social capital generated by these connections helped to persuade these lawmakers of the political and policy benefits of voting for reauthorization – hence the large, bipartisan House coalition.

The bottom network graph in Figure 6.1 for H.R. 4853 tells a different story. Here "YEA" votes are seemingly scattered randomly throughout the network. The composite network's density indeed quite high (.742), but not significantly higher than the House health PAC network (.737). However, an analyst should expect there to be substantial noise in the House aggregate network structure because of the higher cutpoint. This vote, which pertained to multiple issues, was complex enough substantively that it was more difficult for any single interest group sector to exert influence.

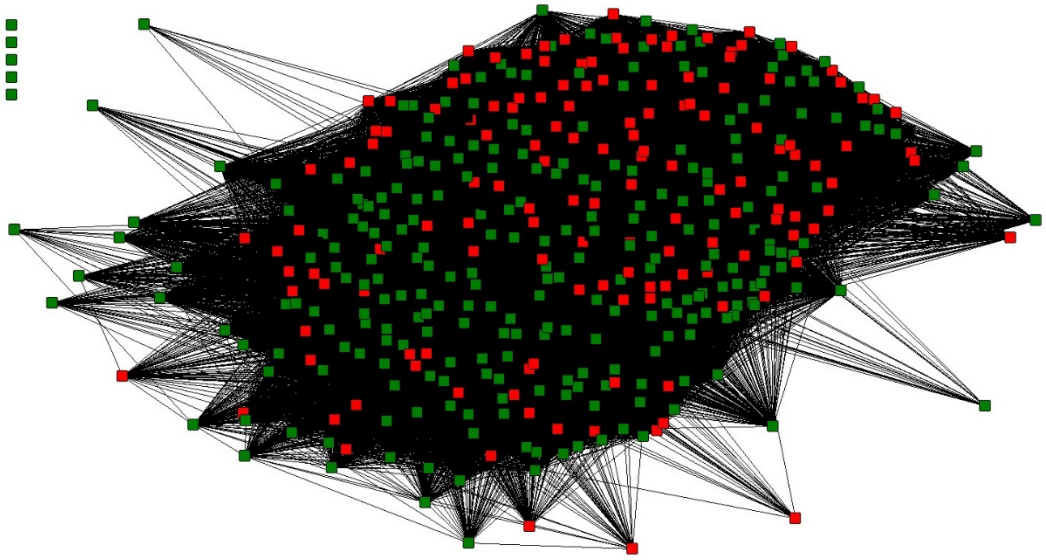
[97] The unemployment extension, tax cut extension and job creation acts started off as different bills and were combined into a single package later in the process.

**Figure 6.1 Visualization of PAC Network Ties and House Roll-Call Votes**

*H.R. 2 – Children's Health Insurance Program Reauthorization Act of 2009*



*H.R. 4853 – Tax Relief, Unemployment Insurance Reauthorization, and Job Creation Act of 2010*



Interest group ties did not have as much influence over the vote even though both parties fractured (Democrats were 134-110 in favor, and Republicans were 135-35 in favor). The occasional breakdown in party discipline is not always a harbinger of interest group influence, but in some cases it is.

Two more Senate votes demonstrate some of the intricacies of a single vote. These votes both take place on bills that originated in the House. Specifically, the bills were both energy appropriations bills primarily of interest to the energy sector. H.R. 2996 included $32.3 billion in appropriations for the Department of the Interior, the Environmental Protection Agency, and related agencies (CQ Almanac, 2009). H.R. 3183 provided nearly $34 billion in funding for energy and water development projects, $27.5 billion for the Department of Energy, $5.4 billion for the Army Corps of Engineers, and $1.1 billion for the Bureau of Reclamation, among other things (CQ Almanac, 2009). Both bills appropriate money for projects that benefit the energy industry, but they also fund agencies with regulatory authority over energy companies. No group publicly took at position on H.R. 2996; four hydro power and water resource organizations publicly supported H.R. 3183 (MapLight, 2010). There was significant lobbying associated with both bills, with 1,535 lobbying reports filed related to H.R. 2996 and 1,638 lobbying reports filed related to H.R. 3183.

Figure 6.2 displays the network graphs of the energy PAC sector ties for the Senate. Each Senator was color-coded using the same scheme as for the House votes. H.R. 2996 passed with a 72-28 vote and H.R. 3183 by an 80-17 margin. For both of these appropriations bills, most of the "NAY" votes come from Senators in the network core, meaning that many of the best-connected Senators voted against both bills. Given the flurry of lobbying activity and the large, bipartisan margins in favor of each bill, the feedback from industry in the interest group access networks must have been largely favorable. Nevertheless, several of the most central members in the network voted against both bills. Adding to the complexity, 11 Republican Senators voted against H.R. 2996

ended up voting for H.R. 3183, as did moderate Democrat Russ Feingold.[98] Most of these switch voters were also in the core of the Senate's energy interest group network.

There are several factors that explain this shift in voting. First, H.R. 2996 contained funding for the EPA, which has long been scorned by conservative politicians, activists and energy industry lobbyists who contend the agency and its regulations hamper businesses and make the U.S. less competitive globally. Second, H.R. 3183 contained water development projects favored by certain alternative energy industry players, and was not actively opposed by more traditional energy group. The water development projects included in H.R. 3183 undoubtedly pumped money into the states of every senator who switched votes from one bill to another.[99] Third, the switch by Minority Leader McConnell and Minority Whip Jon Kyl signaled to other Republican senators that it was okay to for the bill even though it was supported by the Obama administration and congressional Democrats. The confluence of constituent benefits through appropriations, the lack strong opposition by interest groups and lobbyists, the absence of the EPA funding issue in the other bill, and the absence of any new major regulations of the industry made it possible for McConnell and some of his closely affiliated colleagues to finesse the vote on H.R. 3181 in a way they would not for H.R. 2996.

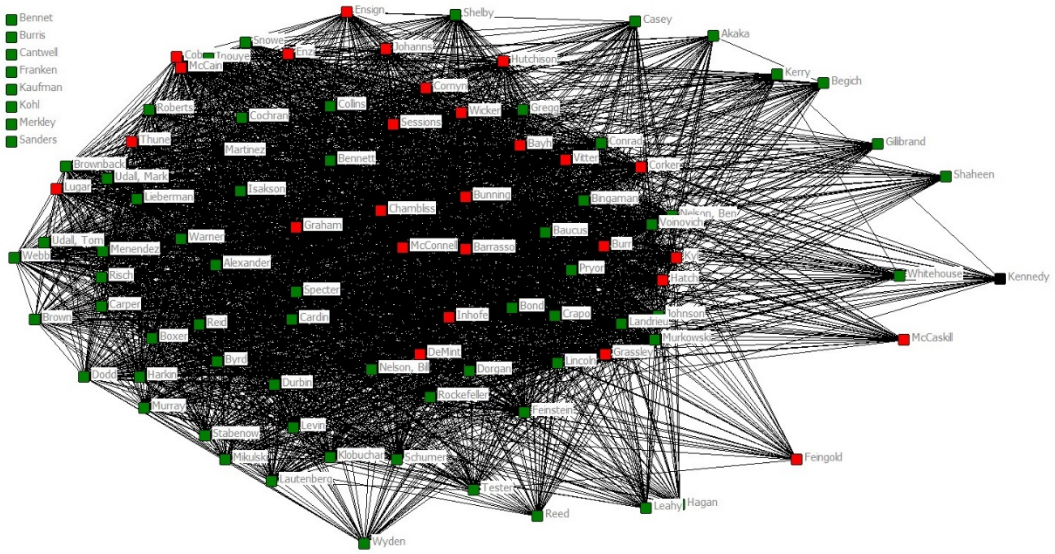
These visualizations do not comprise a direct test of the theory, as the QAP regression models are designed to do. But by visualizing the access networks, which help to define congressional issue domains, the analyst can ascertain whether social ties forged in interest group

[98] The senators voting against H.R. 2996 but for H.R. 3183 were Barrasso, Corker, Cornyn, Feingold, Enzi, Kyl, Lugar, McConnell, Thune, Vitter, and Wicker. On the other hand, Sen. Isakson voted for H.R. 2996 but for H.R. 3183.

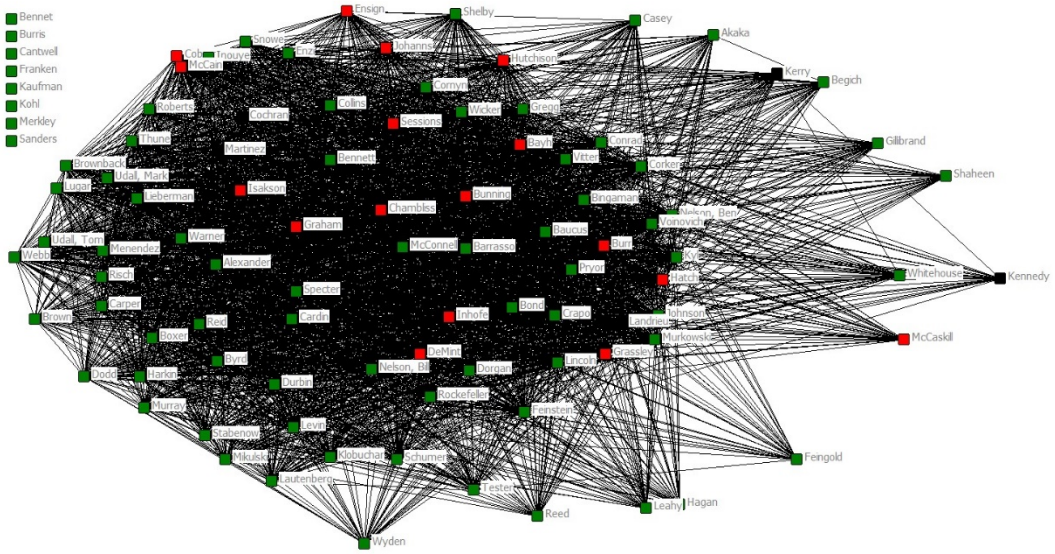
[99] On the other hand, Sen. Isakson voted against the bill despite projects being funded in his home state.

**Figure 6.2 Visualization of PAC Network Ties and Senate Roll-Call Votes**

*H.R. 2996 FY2010 Interior-Environment Appropriations*




*H.R. 3183 FY2010 Energy-Water Appropriations*




networks can explain voting patterns. In many cases visualization tells the analyst whether centrality measures or other social network metrics are warranted. Tie strength is similar to degree centrality, but has more to do with relational processes than the overall theory. Still, the

visualization techniques do allow the analyst to see whether network pathways and the flows of social goods through those networks. The allocation of campaign contributions set up pathways through which information and other resources flow. Given the right circumstances, those particular network flows appear to have significant influence over legislator behavior, although that influence is in many way more nuanced than it first appears.

The House networks provide examples where those in the network core were more likely to vote in favor of CHIP reauthorization if they were more centrally located in the network's core, whereas there appeared to be no relationship between interest group ties and voting on a larger, more complex bill that addressed multiple issues. The Senate bills showcase the popularity of appropriations bills even when those in the interest group network's core are the most predisposed to opposing the bill. Even so, energy groups still enjoyed peripheral influence, which explains why the public land and water appropriations bill got more votes than the interior-environmental appropriations bill.

### 6.3 PAC Ties and Roll-Call Votes in Various Policy Domains

The QAP models in the previous chapter demonstrate significant evidence that interest groups are able to use their access in legislative networks to leverage action in some policy contexts. To extend on this finding, it makes sense to also scrutinize whether such influence exists with respect to roll-call votes. Section 6.2 provided some anecdotal evidence that PAC tie strength is associated with voting for some bills and not others. The two Senate bills test a gradation of influence and factors that can move the dial a bit along the access-influence continuum. The previous examples provide descriptive detail, but do not account for all exogenous factors or systematically test the theory. A good starting point is to look at roll-call votes in the 111$^{th}$ Congress to see whether interest group ties matter during a period of unified government where GOP-leaning

PAC sectors (which is most business sectors) or centrist sectors are not necessarily interested in marshalling legislative coalitions in support of bills authored principally by Democrats.

QAP regression was utilized for 20 House models and 13 Senate models, the latter chamber limited because it held no roll-call votes in seven issue areas. These models were used to test *H10*: If any two legislators have more mutual interest group ties, then they will have more mutual roll-call votes. A greater number of mutual roll-call affiliations mean more common points of contact with the same lobbyists, PAC officials, policy experts, activists, and other individuals active in policy networks. These individuals are more likely to be recipients of the same information flows, grassroots lobbying input, and other resources utilized within these access networks. The question is whether these social connections and resource exchanges affect the frequency with which members vote together on specific policy issues.

There are other possible social connections that could explain these voting patterns. The same explanations for cooperation in the co-sponsorship context – caucus membership (House only), committee assignments, experience, office location, gender, ideology, constituent ideology, occupation, race, and state – are included in the roll-call vote models. Co-sponsorship ties, which were the dependent variable in Chapter 5, are also used as a control variable in these models. As previously noted, some studies support the contention that caucus ties, ideology, committee assignments, state, race/ethnicity, gender, and party ties influence co-sponsorships, which in turn influence roll-call votes (Bratton and Rouse 2011; Fowler 2005; Fowler 2006; Koger, Masket and Noel 2010; Porter et al. 2005; Ringe, Victor and Carman 2013). Other political network (as well as traditional political science) studies also look at the social nature of roll-call votes (McClurg and Philips 2011; Fleisher 1993; Saltzman 1987; Schroedel 1986; Stratmann 1991; Stratmann 1992; Witko 2006; Abler 1991; Baumgartner et al. 2009; Chappell 1982; Johnson 1985). The other controls are supposed to have possible influence – office proximity, constituent ideology, and experience – are those for which the evidence is generally lacking, or for which little research has been initiated (Koger and Victor 2009(a); Rogowski, Sinclair and Beck 2012; Bergemann and

Parigi 2011). The purpose of utilizing these models in conjunction with the co-sponsorship models and PAC strategies models is to track this influence throughout the entire electoral and legislative process.

House and Senate QAP models with roll-call vote ties as the dependent variable were run for each major issue areas as defined by the Congressional Bills Project. House models are displayed in Table 6.2, and Senate models are displayed in Table 6.3. The aggregate model containing all the roll-call votes is listed first. PACs networks are matched to issue domain votes based on the matching criteria proposed. The co-sponsorship network ties were matched to roll-call votes by issue area. Standard errors were calculated by randomly permuting the rows and columns 1000 times for the House models, and 2000 times for the Senate models. The significance levels for .05, .01, and .001 are reported with *, **, or ***, respectively.

Interest-group ties and roll-call ties are positive and significant in 7 of the 20 House models, and negative and significant in 4 models. The significant results apply to the aggregate model and 10 of the issue areas. As such, *H10* was only correct in 7 of the 20 tests for the House networks in the 111th Congress. Interest group ties correspond to a higher number of vote ties in some issue areas but not others. This does comprise qualified evidence that groups in these policy domains really are able to influence the behavior of representatives and senators on Capitol Hill. Judging from the results, bills like the CHIP reauthorization bill, which was discussed in section 6.2, was hardly an anomaly. The significant findings include diverse issue areas such as civil rights and liberties, education, healthcare, law and crime, labor and social welfare.[100] In these networks, as the strength of social ties increase, interest groups are better able to leverage the support necessary to enact

[100] These entail PAC networks with aggregate PAC ties and ties from a single sector. The aggregate networks include PAC and ideological ties, whereas the specific issue domains (all domains other than government operations or macroeconomics) only include one interest group sector, which are all business, labor, trade associations, educational institutions and non-profits.

**Table 6.2 House Roll-Call QAP Models, by Issue Domain**

| Variable | All | Agriculture | Banking | Civil RL | Communications |
|---|---|---|---|---|---|
| Caucus | -5.468 (3.711) | -0.044 (0.149) | -0.711 (0.529) | 0.052 (0.057) | -0.15 (0.085)* |
| Committee | 0.276 (2.473) | 0.046 (0.094) | 0.372 (0.343) | 0.002 (0.036) | 0.010 (0.055) |
| Experience | -1.158 (0.492)** | 0.012 (0.019) | -0.102 (0.069) | -0.016 (0.008)* | -0.013 (0.012) |
| Floor | 0.843 (2.450) | 0.115 (0.086) | -0.057 (0.335) | -0.007 (0.036) | 0.022 (0.051) |
| Gender | 3.872 (5.539) | 0.370 (0.214) | 0.313 (0.737) | -0.004 (0.080) | -0.043 (0.13) |
| Ideology | -233.506 (5.748)** | -8.270 (0.150)** | -37.216 (0.599)** | -3.529 (0.079)** | -2.702 (0.104)** |
| Con. Ideology | -0.083 (0.209) | 0.003 (0.008) | -0.064 (0.028)* | 0.007 (0.003)** | 0.000 (0.005) |
| Occupation | 4.672 (2.891) | 0.219 (0.112)* | 0.378 (0.399) | 0.019 (0.046) | 0.068 (0.066) |
| Race | -22.431 (6.753)** | -1.077 (0.267)** | -3.155 (0.923)** | -0.261 (0.102)** | -0.577 (0.165)** |
| State | -20.18 (4.544)** | -0.368 (0.166)** | -1.343 (0.622)* | -0.050 (0.063) | -0.095 (0.093) |
| Co-Sponsor | 0.705 (0.096)** | 0.591 (0.124)** | 0.841 (0.149)** | 0.105 (0.019)** | -0.187 (0.054)** |
| PAC | 0.227 (0.101)* | -0.011 (0.026) | -0.013 (0.040) | 0.078 (0.019)** | -0.012 (0.020) |
| Intercept | 529.482 (0.00)*** | 16.882 (0.000)*** | 79.57 (0.000)*** | 5.776 (0.000)*** | 8.735 (0.000)*** |
| $R^2$ | 0.498 | 0.416 | 0.477 | 0.458 | 0.267 |
| Adj. $R^2$ | 0.498 | 0.416 | 0.477 | 0.458 | 0.267 |
| *p*-value | 0.001 | 0.001 | 0.001 | 0.001 | 0.001 |
| Variable | Defense | Education | Energy | Environment | Foreign Aid |
| Caucus | -1.588 (0.870)* | -0.129 (0.131) | -0.349 (0.207)* | -0.084 (0.180) | -0.213 (0.112)* |
| Committee | 1.539 (0.539)** | 0.036 (0.087) | 0.160 (0.135) | 0.188 (0.110)* | 0.009 (0.065) |
| Experience | -0.251 (0.110)** | -0.046 (0.017)** | -0.015 (0.027) | -0.009 (0.022) | -0.035 (0.015)** |
| Floor | 0.305 (0.485) | 0.096 (0.078) | 0.000 (0.122) | -0.050 (0.107) | -0.048 (0.059) |
| Gender | 0.409 (1.228) | 0.100 (0.205) | 0.214 (0.319) | -0.089 (0.266) | 0.076 (0.163) |
| Ideology | -16.828 (0.884)** | -6.573 (0.136)** | -8.789 (0.235)** | -8.112 (0.194)** | -1.973 (0.116)** |
| Con. Ideology | -0.021 (0.048) | 0.006 (0.007) | 0.000 (0.012) | -0.027 (0.009)** | 0.008 (0.006) |
| Occupation | 0.950 (0.668) | 0.107 (0.102) | 0.228 (0.165) | 0.346 (0.135)** | -0.078 (0.084) |
| Race | -1.561 (1.531) | -0.320 (0.243) | -1.179 (0.378)** | -1.352 (0.325)** | -0.475 (0.189)** |
| State | -1.130 (0.941) | -0.442 (0.139)** | -0.401 (0.253)* | -0.569 (0.215)** | 0.036 (0.112) |
| Co-Sponsor | 0.278 (0.177) | 0.192 (0.031)** | 0.507 (0.089)** | 0.486 (0.076)** | 0.062 (0.033)* |
| PAC | 0.034 (0.311) | 0.491 (0.200)** | -0.124 (0.037)** | -0.135 (0.032)** | -0.024 (0.039) |
| Intercept | 52.18 (0.000)*** | 15.663 (0.000)*** | 20.299 (0.000)*** | 18.104 (0.000)*** | 8.367 (0.000)*** |
| $R^2$ | 0.125 | 0.414 | 0.384 | 0.388 | 0.150 |
| Adj. $R^2$ | 0.125 | 0.413 | 0.384 | 0.388 | 0.150 |
| *p*-value | 0.001 | 0.001 | 0.001 | 0.001 | 0.001 |

**Significance**: *** p < .001; **p < .01; *p<.05

**Table 6.2 House Roll-Call QAP Models, by Issue Domain (Continued)**

| Variable | Foreign Trade | Gov't Operations | Health | Housing | Labor |
|---|---|---|---|---|---|
| Caucus | -0.19 (0.161) | -0.068 (1.033) | -0.173 (0.151) | -0.174 (0.147) | -0.105 (0.104) |
| Committee | 0.141 (0.100) | -0.084 (0.663) | -0.026 (0.095) | 0.059 (0.088) | 0.100 (0.068) |
| Experience | -0.049 (0.022)** | -0.023 (0.128) | -0.032 (0.020)* | -0.05 (0.018)** | -0.008 (0.013) |
| Floor | 0.006 (0.090) | 0.191 (0.651) | -0.068 (0.090) | 0.073 (0.077) | -0.064 (0.068) |
| Gender | -0.032 (0.237) | 0.688 (1.471) | -0.048 (0.214) | 0.022 (0.204) | 0.136 (0.145) |
| Ideology | -7.449 (0.156)** | -69.187 (1.534)** | -8.342 (0.164)** | -3.805 (0.142)** | -5.793 (0.142)** |
| Con. Ideology | -0.007 (0.009) | -0.005 (0.053) | -0.024 (0.008)** | -0.009 (0.007) | -0.017 (0.006)** |
| Occupation | 0.103 (0.123) | 1.173 (0.748) | 0.146 (0.108) | 0.25 (0.107)* | 0.150 (0.079)* |
| Race | -0.646 (0.298)** | -5.516 (1.819)** | -1.084 (0.259)** | -0.598 (0.256)* | -0.414 (0.183)** |
| State | -0.324 (0.182)* | -9.072 (1.711)** | -0.357 (0.158)* | -0.036 (0.143) | -0.125 (0.112) |
| Co-Sponsor | 0.377 (0.095)** | 1.125 (0.179)** | 0.096 (0.014)** | 0.074 (0.075) | 0.166 (0.022)** |
| PAC | -0.017 (0.035) | 0.028 (0.028) | 0.031 (0.015)* | 0.225 (0.206) | 0.050 (0.009)** |
| Intercept | 15.519 (0.000)*** | 126.646 (0.000)*** | 22.244 (0.000)*** | 12.263 (0.000)*** | 10.411 (0.000)*** |
| $R^2$ | 0.400 | 0.489 | 0.471 | 0.265 | 0.447 |
| Adj. $R^2$ | 0.400 | 0.489 | 0.471 | 0.265 | 0.447 |
| *p*-value | 0.001 | 0.001 | 0.001 | 0.001 | 0.001 |
| Variable | Land &Water | Law & Crime | Macroeconomics | Social Welfare | Transportation |
| Caucus | -6.769 (3.862)* | -0.668 (0.236)** | -0.078 (0.114) | -0.240 (0.139)* | -0.332 (0.269) |
| Committee | 2.585 (2.342) | 0.056 (0.145) | 0.033 (0.077) | 0.117 (0.085) | 0.088 (0.162) |
| Experience | -1.130 (0.500)* | -0.110 (0.032)** | -0.011 (0.014) | -0.011 (0.018) | 0.016 (0.035) |
| Floor | 1.492 (2.369) | 0.054 (0.125) | -0.052 (0.081) | -0.035 (0.084) | 0.129 (0.152) |
| Gender | 5.609 (5.640) | -0.010 (0.345) | 0.218 (0.161) | -0.030 (0.202) | 0.202 (0.378) |
| Ideology | -246.264 (4.087)** | -4.316 (0.301)** | -9.894 (0.178)** | -7.807 (0.148)** | -13.084 (0.257)** |
| Con. Ideology | -0.188 (0.202) | -0.032 (0.014)* | -0.010 (0.006)* | -0.014 (0.007)* | -0.004 (0.014) |
| Occupation | 3.958 (2.835) | 0.220 (0.185) | 0.080 (0.084) | 0.217 (0.103)* | 0.352 (0.200)* |
| Race | -18.298 (6.823)** | -0.932 (0.420)* | -0.553 (0.195)** | -0.886 (0.241)** | -1.846 (0.454)** |
| State | -13.929 (4.347)** | -0.808 (0.256)** | -0.191 (0.142) | -0.282 (0.153)* | -0.409 (0.277) |
| Co-Sponsor | -1.1480 (0.650)* | 0.011 (0.072) | -0.002 (0.003) | 0.269 (0.051)** | 0.821 (0.118)*** |
| PAC | 12.378 (1.324)** | 0.238 (0.085)** | -0.002 (0.003) | 0.867 (0.207)** | -0.169 (0.070)** |
| Intercept | 560.795 (0.000)*** | 23.908 (0.000)*** | 18.016 (0.000)*** | 17.268 (0.000)*** | 31.48 (0.000)*** |
| $R^2$ | 0.502 | 0.209 | 0.476 | 0.453 | 0.431 |
| Adj. $R^2$ | 0.502 | 0.209 | 0.476 | 0.453 | 0.431 |
| *p*-value | 0.001 | 0.001 | 0.001 | 0.001 | 0.001 |

**Significance**: *** p < .001; **p < .01; *p<.05

**Table 6.3 Senate Roll-Call QAP Models, by Issue Domain**

| Variable | All | Agriculture | Banking | Civil R & L | Defense |
|---|---|---|---|---|---|
| Committee | -4.532 (2.477)* | 0.075 (0.120) | -0.713 (0.561) | -0.012 (0.070) | -0.188 (0.217) |
| Experience | -1.003 (0.700) | -0.029 (0.033) | -0.275 (0.162)* | -0.018 (0.020) | -0.038 (0.063) |
| Floor | 2.362 (4.551) | 0.155 (0.206) | 0.187 (1.007) | 0.026 (0.128) | 0.355 (0.351) |
| Gender | 9.028 (9.746) | -0.304 (0.450) | 1.732 (2.157) | 0.299 (0.264) | -0.082 (0.845) |
| Ideology | -336.723 (14.467)*** | -9.108 (0.400)*** | -70.178 (2.285)*** | -8.626 (0.362)*** | -20.681 (0.838)*** |
| Con. Ideology | 0.524 (0.460) | 0.020 (0.022) | -0.050 (0.100) | 0.034 (0.013)** | 0.006 (0.038) |
| Occupation | -1.928 (5.134) | 0.230 (0.250) | -0.987 (1.215) | -0.035 (0.145) | -0.029 (0.464) |
| Race | 25.506 (19.841) | 0.678 (0.979) | 6.023 (4.616) | 0.234 (0.578) | 1.440 (1.778) |
| State | -34.472 (11.697)** | 0.549 (0.445) | -1.722 (2.170) | -0.161 (0.275) | 0.483 (0.703) |
| Co-sponsor | 1.385 (0.232)*** | 0.834 (0.229)*** | 2.683 (0.493)*** | 0.597 (0.104)*** | 0.604 (0.148)*** |
| PAC | 0.080 (0.060) | -0.018 (0.022) | 0.025 (0.046) | 0.049 (0.017)** | -0.123 (0.100) |
| Intercept | 325.769 (0.000)*** | 11.353 (0.000)*** | 78.586 (0.000)*** | 6.929 (0.000)*** | 25.641 (0.000)*** |
| $R^2$ | 0.759 | 0.717 | 0.710 | 0.646 | 0.755 |
| Adj. $R^2$ | 0.759 | 0.716 | 0.710 | 0.646 | 0.754 |
| *p*-value | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| Variable | Gov't Operations | Health | Labor | Law & Crime | Macroeconomics |
| Committee | -0.818 (0.605) | -0.188 (0.285) | -0.087 (0.106) | -0.006 (0.011) | -0.720 (0.611) |
| Experience | -0.155 (0.169) | -0.109 (0.078) | -0.046 (0.027)* | -0.001 (0.003) | -0.308 (0.173)* |
| Floor | -0.126 (1.125) | 0.574 (0.521) | 0.073 (0.185) | 0.041 (0.021)* | 0.973 (1.134) |
| Gender | 1.524 (2.256) | 1.546 (1.107) | 0.357 (0.386) | -0.022 (0.037) | 1.639 (2.378) |
| Ideology | -79.742 (3.478)*** | -42.186 (1.229)*** | -12.381 (0.500)*** | -0.637 (0.038)*** | -80.636 (2.847)*** |
| Con. Ideology | 0.126 (0.109) | 0.083 (0.050)* | 0.025 (0.019) | -0.002 (0.002) | 0.005 (0.108) |
| Occupation | 0.243 (1.288) | -0.195 (0.584) | -0.319 (0.209) | 0.014 (0.02) | -1.058 (1.329) |
| Race | 2.470 (4.880) | 3.967 (2.341) | 2.170 (0.837)* | 0.041 (0.077) | 5.904 (5.022) |
| State | -9.438 (2.828)** | 0.129 (1.246) | 0.145 (0.418) | 0.015 (0.055) | 0.496 (2.678) |
| Co-sponsor | 0.351 (0.055)*** | 0.494 (0.107)*** | 0.326 (0.086)*** | 0.036 (0.008)*** | 1.104 (0.631)* |
| PAC | 0.015 (0.013) | 0.008 (0.029) | 0.040 (0.015)** | 0.001 (0.002) | 0.011 (0.013) |
| Intercept | 79.640 (0.000)*** | 37.036 (0.000)*** | 11.291 (0.000)*** | 0.624 (0.000)*** | 75.227 (0.000)*** |
| $R^2$ | 0.740 | 0.703 | 0.320 | 0.662 | 0.485 |
| Adj. $R^2$ | 0.740 | 0.702 | 0.319 | 0.661 | 0.484 |
| *p*-value | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |

**Significance**: *** p < .001; **p < .01; *p<.05

**Table 6.3 Senate Roll-Call QAP Models, by Issue Domain (Continued)**

| Variable | Land & Water | Social Welfare | Transportation |
|---|---|---|---|
| Committee | 0.045 (0.141) | -0.033 (0.043) | -0.015 (0.180) |
| Experience | 0.026 (0.039) | -0.004 (0.011) | -0.061 (0.053) |
| Floor | -0.110 (0.247) | -0.152 (0.083)* | -0.031 (0.333) |
| Gender | -0.315 (0.521) | -0.012 (0.164) | 0.077 (0.722) |
| Ideology | -9.997 (0.486)*** | -5.522 (0.176)*** | -20.379 (0.692)*** |
| Con. Ideology | 0.097 (0.027)*** | -0.011 (0.007) | 0.010 (0.032) |
| Occupation | 0.543 (0.295)* | 0.018 (0.089) | 0.018 (0.392) |
| Race | 0.411 (1.128) | 0.036 (0.355) | 1.932 (1.586) |
| State | -2.761 (0.800)*** | -0.084 (0.193) | 0.379 (0.800) |
| Co-sponsor | 0.804 (0.150)*** | 0.102 (0.057)* | 0.320 (0.268) |
| PAC | -0.026 (0.022) | -0.018 (0.092) | 0.027 (0.059) |
| Intercept | 11.844 (0.000)*** | 6.196 (0.000)*** | 22.846 (0.000)*** |
| $R^2$ | 0.654 | 0.608 | 0.761 |
| Adj. $R^2$ | 0.653 | 0.607 | 0.761 |
| *p*-value | 0.000 | 0.000 | 0.000 |

**Significance:** *** $p < .001$; ** $p < .01$; * $p < .05$

policy change or protect the status quo. Empirical support for the theory in the House models is less consistent than it is in the co-sponsorship models.

The only issue domains where there were no significant findings were agriculture, banking, communications, defense, and housing.[101] In three of these instances where the hypothesis was incorrect, the coefficient was actually signed in a negative direction, albeit the finding was not statistically significant. A negative coefficient indicates those with more interest group affiliations were actually less likely to vote together as frequently, which means other social factors take precedence over interest group affiliations. Ideological distance is the only variable that was significant for all models where interest group ties were insignificant. If groups in a particular sector attempted to target leaders of both parties, and the parties are particularly polarized within that issue domain, there could be a slightly negative (if insignificant) association. At any rate, negative findings are less common than positive and significant findings for the House roll-call models.

The Senate results tell a very different story. The PAC variable is only significant in 2 of the 13 models. Specifically, there is only a significant finding in the civil rights and liberties, and labor issue domains. These two issue-specific networks lean heavily Democrat, with 78.4 percent of all ties shared between two Democrats. The lawyers and lobbyists PAC network, which is assumed to be the predominant stakeholder for civil rights and liberties issues, leans slightly Democrat because of their large Senate majority. But the average interparty tie strength is stronger between GOP members (14.5) than Democrats (13.6), whereas interparty ties are only slightly lower (12.8). These two networks have different structures.[102] The aggregate Senate network, it should be noted, came quite close to reaching a level of statistical significance on the interest group

[101] An alternative specification of the housing model that used the PAC ties from the social welfare network instead of the construction network generated a positive, statistically significant result.

[102] Part of the reason the Democrats have lower mean interparty tie strength in some interest group networks is because there are several appointed Senators who replaced Sens. Biden, Clinton, and Salazar, who each resigned to take part in the Obama administration. Appointed senators are usually isolates because there is usually no campaign finance data available unless the individual was elevated to the seat from a House seat (e.g. Sen. Gillibrand).

variable (*p*-value .060). These three interest-group networks are all somewhat different, so there is a small diversity in these significant findings, which includes the aggregate network.

Nevertheless, the lack of significant findings in 11 of 13 networks casts significant doubt on whether interest groups are consistently or systematically able to leverage their access in such a way that it influences Senate roll-call behavior as reliably as it does in the House. There are two possible explanations for the difference. First, the Senate PAC networks were based on contributions from three election cycles – 2003-04, 2005-06, and 2007-08. The electoral fortunes of major political parties shifts each election, and therefore the resulting networks may not have been as representative of the groups actively trying to access and influence senators at the time of the 111th Congress, particularly those senators whose cohort was elected in 2004 or 2006. Those ties forged in the earlier cycles may have less weight as subsequent elections go by, or conversely the additional time may help to cement the relationships created through PAC networks. In addition to that, PAC contributions comprise a larger percentage of overall fundraising for House candidates (33 percent) than Senate candidates (19.7 percent) during the 2008 election cycle.

Second, the Republican leadership in the Senate resorted heavily to using the filibuster as a way to block Democratic legislative initiatives. Even though the Democrats had a filibuster-proof majority on paper for the first six months of the Obama administration, the failing health of Sens. Kennedy and Byrd made it difficult for Democratic leadership to organize an override of GOP filibusters. This inter-chamber difference is reflected in the percentage of party unity votes in the 111th Congress. The House had a much lower proportion of party unity votes (.465) than the Senate (.751). High levels of Senate polarization created a scenario where partisan and ideological concerns frequently overrode other social influences. The unique institutional structure of the Senate – its staggered elections and *de facto* supermajority requirements for passage of most bills – makes it harder for groups to organize voting coalitions than with House members, particularly when party polarization spikes. The growing preponderance of cloture votes may make pattern

detection more challenging for legislative scholars who study the influence of interest groups over roll-call votes in Congress.

Turning to the control variables for the House and Senate, the most consistent predictor of roll-call votes is ideological difference ties, which was based on the DW-MONINATE scores derived from roll-call votes in the previous congressional session. The variable was significant in every House and Senate model. The results can be interpreted as the mixed effect of ideology and party in the sense that both influences are picked up because of the manner in which NOMINATE data is scaled based on prior roll-call votes.

Co-sponsorship ties perform well in the Senate models (significant for each model except transportation) and well in 16 of the House models. Legislators who seek colleagues for legislative development or co-sponsorships would naturally be good candidates with whom to discuss pending floor votes. Legislators virtually always vote "Yea" on bills they co-sponsor, unless political events require them to withdrawal sponsorship or change their vote at the last minute. Furthermore, it gives them an opportunity to discuss other bills or votes developing within that particular issue domain.

Constituent ideology difference is negative and significant in seven House models, so the prediction was correct in some cases but more frequently was not confirmed. Constituent ideology was not negative and significant in any of the Senate models, and was even positive and significant in three models.[103] More analysis is needed to determine if the cause of that particular outcome is a statistical aberration or if there is some explanation, such as the tendency of Senators with very liberal or very conservative constituents to oppose the same legislation, albeit for different reasons.

Experience is negative and significant in half of the 20 House models. In the Senate, only three such models are negative and significant, with nine others signed in that direction but not

[103] There was a moderately high correlation between legislator ideology difference and constituent ideology difference for these two Senate attribute matrices (.395), so it is possible this variable would perform differently if the legislator ideology difference variable were excluded.

reaching a high level of significance. Party leaders tend to have more experience than average members, and would be more likely to vote differently than leaders in the opposite party because of the need to enforce party discipline on party unity votes. Given that party votes are more prevalent in the Senate, it is surprising to see fewer significant results. Strong party discipline in the Senate, regardless of dyadic levels of experience, overrode the traditional collegiality that long-time Senators often tout as why the Senate is a unique legislative body. At any rate, the variable generally performs in the expected direction despite inconsistent levels of significance.

Occupational ties are significant in the House agriculture, environment, housing, labor, social welfare, and transportation issue networks. In 13 other instances it is positive but not significant. Individuals with more occupational history ties tend to have more overlapping roll-call votes. The similarity of a representative's career path with a fellow member of Congress means both share common experiences, perspectives common to their chosen field of work, and for those with previous legislative experience the importance of cultivating and maintaining relationships with colleagues. In some of the House networks, this translates into a relationship between occupational history and roll-call votes. Occupational ties do not have the same importance for individuals in the Senate networks, where it is only significant in the public land and water issue domain. This is likely a statistical anomaly given the performance of the variable in the other models.

While overlapping committee memberships, or committee ties, were critical factors for explaining PAC affiliations and co-sponsorships, they have little influence over roll-call votes. Only 2 of 20 House roll-call network models, and none of the Senate network models, report positive and significant results. These relationships might be meaningful in context of a specific committee and a specific issue, but the measure is total committee ties and all votes in a particular issue domain. Furthermore, once bills get to the floor, these relationships are less consequential because the committee work has concluded.

There is little evidence to suggest gender or race play an important role in roll-call networks. Gender is not significant in a single roll-call vote network for either the House or Senate. While women are still underrepresented in these institutions, there are not any social differences in voting behavior that cannot be explained by some other intervening social factor. Race is somewhat different. In the House models it is actually negative and significant in 18 of the 20 issue domains. The implication is that people who share a race are significantly less likely to vote the same way than those of an opposite race. This finding is basically an artifact of a supermajority of white legislators in both parties, which means there are more dyads with white legislators in opposite parties than there are dyads with nonwhite legislators in the same party. This is likely the cause of the negative coefficient. In the Senate, there are only five non-white members, which translate to 8,950 same-race/ethnicity dyads, and 950 different-race/ethnicity dyads. In other words, there is simply not much variation.

Spatial proximity is not significant either. It is only statistically significant in two Senate models, and not significant in any of the House models.[104] In general, there is not relationship between representatives and senators sharing offices on the same floor and voting behavior. This is consistent with most other extant studies of this phenomenon in a social context. The spatial proximity argument may be useful in some instances, but as it pertains to U.S. Congress there is not any substantiation of the theory. No one is entirely sure just how much time the average member of Congress even spends in his or her office. Given the declining length of the legislative calendars during recent sessions of Congress and the importance of constituency work in home districts or states, this social characteristic may be of little importance aside from the proximity of House and Senate leadership to one another.

[104] Office floor ties are positive and significant in the law, crime, and family network, and negative and significant in the social welfare network.

Caucus ties were negative and significant in seven of the House roll-call models. This is opposite the direction predicted, based on findings in recent studies of House caucuses as mediators of conflict and instigators of compromise. Given the negative association between caucus ties and roll-call vote ties, there is little evidence on its face to suggest such factors are at work during the 111th Congress. This finding would be less surprising were caucuses part of the highly polarized Senate. It could be explained that party factions are effective in bridging conflict and encouraging partisan and ideological cohesion. Given that partisanship in the House is less strident, it is unclear what mechanism is at work in the House. Belonging to several caucuses might dilute their influence, and those with several memberships could be more likely to vote differently because they have conflicting social forces working for their votes. More investigation of these findings is merited.

Overall, the roll-call vote model metrics reported in the UCINET output indicate the models perform reasonably well – better, in fact, than the PAC strategies or co-sponsorship models. Each of the House models has a *p*-value of .001, while the Senate models has a *p*-value of .000, which is the same value that UCINET reports for the PAC strategies and co-sponsorship models. The difference is seen in the adjusted $R^2$ metrics, which are much higher than the previous sets of models. The average adjusted $R^2$ value is .386 for the 20 House roll-call models and .633 for the 13 Senate roll-call models.[105] The roll-call models explain a greater proportion of the variance than the PAC strategies and co-sponsorship models. However, the models only confirmed *H10* in 7 of 20 instances for the House issue domains, and were only conclusive in 2 of 13 Senate issue domains.

[105] As noted in Chapter 5, the average adjusted $R^2$ values for House models was .203, and the average $R^2$ values for the Senate models was .180.

## 6.4 Characteristics of Roll-Call Vote Networks

As noted in the previous section, the differences between the efficacy of interest group ties in House and Senate policy networks may be the related to differences in the legislative institutions, but it also can be a product of how groups react to pending legislation. In Chapter 5, the distinction between the House and Senate co-sponsorship networks was pretty clear because all bills are introduced in the House or Senate. However, the House and Senate both take roll-call votes on the other chamber's legislation, such that there is overlap on the legislation considered in the corresponding policy domains in each chamber. In fact, House bills tend to drive roll-call votes to a greater degree than Senate bills in the 111th Congress, with even the Senate voting more frequently on bills originating in the House than in the Senate. Issue salience, interest group unity, partisanship and issue complexity were compared with standardized coefficients for the interest group variable in the roll-call models to determine if there was a correlation between these factors and the coefficient direction or magnitude.[106]

Table 6.4 reports the correlation coefficients between the 20 House and 13 Senate roll-call models and each of the factors. In particular, the correlation is between the PAC variable coefficient in each roll-call model and the four factors discussed in Chapter 5. Issue complexity, issue salience, and interest group partisanship were calculated the same way as in Chapter 5, except only bills for which there were roll-calls are included.[107] In response to difficulty with the initial measure, interest group unity was tabulated as the percentage of bills that were uncontested for all roll-call votes in each policy domain where groups publicly took a position on a bill. In other words, all groups taking a public position were either in support or opposition to the bill, and there was no

[106] While there are no negative and significant findings, several models report negative and insignificant coefficients.

[107] There were 407 House and Senate bills that got at least one roll-call vote in the House; there were only 58 House and Senate bills that got at least one roll-call in the Senate.

split in group support.[108] In addition to the correlation between the standardized roll-call model coefficients for the PAC variable and the four interest group factors, the correlation between model significance (a dichotomous "0" or "1") on the PAC variable and each of the four factors is also reported. The former indicates the relationship between magnitude of the interest group effect in the QAP models and each of the factors, whereas the latter indicates whether the PAC variable's being significant in the roll-call models coincides with the presence of issue complexity, salience, interest group unity, or interest group partisanship.

**Table 6.4 Roll-Call Model Coefficient, Significance and Correlation with Issue Factors**

| | **House** | | **Senate** | |
|---|---|---|---|---|
| Characteristic | *Model* | *Sig* | *Model* | *Sig* |
| Complex | -0.179 | -0.361 | -0.558 | 0.226 |
| Salience | 0.064 | 0.093 | — | — |
| Unity | 0.199 | 0.604 | -0.103 | -0.353 |
| Partisanship | -0.811 | -0.132 | -0.597 | 0.135 |

In the case of the House roll-call models, issue complexity has a moderate, negative correlation with model coefficient magnitude and significance. Both measures indicate that as issue complexity encourages more lobbying activity, PAC ties have less impact. Senate model correlations follow the same patterns with respect to coefficients and issue complexity, with a strong and negative correlation. The size of the coefficient is inversely related to the complexity of the issue. However, it is positively related to model significance, which in fairness could be an artifact of only two significant findings in the Senate models. Even if the Senate models are discarded because of their inconsistencies, issue complexity at first blush does appear to dampen the ability of interest group networks to use their access to influence legislative voting patterns in House voting networks. Increased complexity could lead to a greater potential for conflict between

groups for attention or over policy specifics, which may dilute the influence of the interest group sector assumed to be the primary stakeholder.[109]

Interest group salience has small, positive relationship between the House roll-call model coefficients and between House roll-call-model significance. These correlations are too slight to reveal anything very conclusive. If the correlations were a bit larger, one could conclude that issue salience means that when interest groups are more engaged in a specific policy area, PAC ties become more important in the legislator roll-call network. In context of the complexity findings, interest group engagement is necessary for access ties to prove influential, but too much interest may neutralize the effectiveness of primary stakeholders. The issue salience measure is not included because all of the bills considered by the Senate were subject to lobbying activity, and so there was no variation to measure between issue domains.

Interest group unity, measured as the percentage of bills where interest groups were publicly united in support or opposition to a bill, reveals a strong association between PAC ties, votes and interest group unity in general – at least in the House. The relationship between the standardized PAC variable coefficient and interest group unity (.199) and PAC variable significance and interest group unity (.604) is pretty robust. When various interest groups or factions coalesce around a particular piece of House legislation, their affiliations with legislators will have more effect because these legislators are getting the same input from all of their group contacts. In particular, the positive correlation between the House roll-call model coefficients and House roll-call model significance (on the PAC variable) mean that in instances where there is more interest group unity within a policy domain, group ties appear to have more influence than when there is disagreement. As Kingdon observed long ago, there is little net cost to ignoring

[109] In this context it should be remembered that all group positions are taken into account here, not just those assumed to be the primary policyholder within each policy domain. For example, if a defense group takes a position on a health care bill, those ties are not taken into account in the actual models, but they are taken into account in the measure.

interest groups when there are in conflict, but significant costs in crossing them when united (Kingdon 1989).

The narrative is complicated if one gives the Senate correlations much weight. In the case of the Senate, unity is somewhat negatively correlated (-.103) with the PAC coefficient in Senate roll-call models and somewhat strongly correlated (-.353) that coefficient's significance. These results suggest the opposite is true – that interest group ties are more influential in these networks when interest groups are divided. This could conceivably be true if all of the legislative group networks were extremely polarized, but the contribution patterns in each of the PAC networks suggest groups are pretty bipartisan at the sector level. There is also the difference in the bills considered by the House and Senate. The House took roll calls on 127 distinct bills on which lobbyists took public positions, compared to Senate roll calls on only 40 bills. The small number could mean there is more noise in the measures. Given the unreliability of the PAC variables in the Senate models, it is probably wise not to give the result too much weight, even as the discrepancy between the two chambers is noted.

Partisanship, which is measured as the percentage of network ties belonging to a dyad that includes to GOP legislators, is meant to capture the strength of the minority party's place in the issue domain. It is expected that as the minority party's strength increases in a given issue domain, the less likely it is that interest group ties will be effective in building coalitions to pass legislation via floor votes. This is observed in both of the House partisanship measures and one of the Senate partisanship measures; the two correlations between the standardized PAC variable coefficient from the roll-call models and the partisanship measure are very strong. Interest groups in those sectors might be practical enough to support majority party incumbents in the interest of self-preservation, but it does not mean they like making deals with them. The only contradictory element related to the partisanship measures is the correlation of the PAC variable significance in each of the Senate roll-call models with the partisanship measure, which was slightly positive. But as previously discussed, this measure has limited value in context of the Senate model outcomes.

The interplay between these four factor measures and the co-sponsorship and roll-call models is interesting as well. Issue complexity is negatively related to PAC variable coefficient size in the House and Senate roll-call models but positively related to the House and Senate PAC variable coefficient size in the co-sponsorship models. Issue complexity could have different impacts at different stages of the legislative process. Issue complexity could spawn more legislation and alternative measures in the early stages of the legislative process, and the PAC ties between legislators in the issue domain networks may be activated in that way, whereas at later stages complexity is used to slow down legislation. Issue salience is positively related to model coefficient size in the House for both co-sponsorships and roll-call measures, and for the Senate co-sponsorship measures, meaning that when groups are active on a higher percentage of the bills in an issue domain, their influence tends to be augmented provided the issues do not become complex.

Interest group unity measures were expected to be negative at the co-sponsorship stage and positive at the roll-call stage given differences in the measure. The Senate performed as expected in both instances, whereas the House performed opposite of expectations in the co-sponsorship phase. Interest group unity appears to augment the influence of groups in roll-call vote networks, but does not have a consistent effect in co-sponsorship networks. Differences in the partisanship (or polarization) or the legislation considered might explain the disparate results, but a clear explanation is elusive at this time. Of all the measures, partisanship was pretty consistent and easy to explain (with the exception of the Senate PAC variable significance in the roll-call models). The other five correlations of the House and Senate roll-call and co-sponsorship networks with partisanship comported with expectations.

### 6.5 Discussion

As noted at the beginning of this chapter, the final hypothesis *(H10)* concerned the relationship between PAC affiliation ties and roll-call votes. The prediction was that as legislators developed more PAC ties, the number of roll-call vote ties would increase, all else equal. The hypothesis was

subjected to 20 tests with the House QAP models and 13 tests with the Senate QAP models. It was confirmed in 7 of the 20 House models and 2 of the 13 Senate models. As such, there was limited support for the theory in the House and very little support for the theory respecting the Senate models. In short, the theory here has some validity in the House context, but not in the Senate context. More investigation is required to be sure as to why the results did not better support the theory.

The seven significant findings in the House roll-call models should not be dismissed altogether, especially given that there was a significant finding in the aggregate model. The assumption throughout the study was that primary stakeholders would be assumed to have primacy in their respective issue areas, but this approach is possibly too constricting. Given the aggregate results, it may be better to use all PAC affiliations instead of a small, targeted economic or political sector. This is an important consideration for future political network research of interest group influence. Other approaches to measurement, such as using contribution amounts to weight affiliations instead of a simple count, or other conceptualizations of interest group ties, may yield more consistent results.

The significant findings were in the House issue networks where the primary stakeholders were traditional Democratic Party supporters – labor, lawyers and lobbyists, and education and non-profits. One exception is the health policy network, where health interests are bellwethers of changing political fortunes for the two major U.S. parties from election to election. The 111$^{th}$ Congress is arguably a tougher test for the theory because most of the PAC sectors are prongs of the business community, and generally disagree with Democrats concerning issues of regulation and taxation. Interest group influence, especially corporate interest group influence, over roll-call votes via access networks may flow more steadily during periods of divided government or unified GOP government.

Also, one cannot rule out the possibility of indirect group influence in the Senate either, where leaders managed to avoid scheduling any roll-call votes pertaining to communication, education, energy, environment, foreign aid and international affairs, foreign trade, or housing. Most of the primary stakeholder groups for those Senate issue networks (particularly the energy, defense, and construction industries) used access or attempted to use access to prevent changes to the status quo in the co-sponsorship networks. Given the absence of votes by which to assess the impact of these ties in such contexts, it is not easy to determine whether or not the lack of roll-call significance means interest groups rarely have an impact in the Senate networks.

The Senate does differ from the House in some meaningful ways that might account for these inter-chamber differences. The Senate is somewhat more reactive to the House's legislative agenda than vice-versa, holding roll-call votes on more House bills than Senate bills. Given the median vote in the House is well to the left of the needed cloture vote to break Senate filibusters, it is not surprising that GOP leaders strategically used the device to protect status quo policies in issue areas where they enjoy greater support, generally from business groups. Consequently, polarization was higher in the Senate than in the House during the 111$^{th}$ Congress (more about this in Chapter 7). Another stalling tactic is the introduction of amendments, which is much more frequent in the Senate than in the House. These amendments are generally introduced with the hope of vote-trading, or to create a poison pill that will sink pending legislation. So much Senate business is consumed with amendment votes that the upper chamber actually votes on significantly fewer bills than the House. Senators also receive a smaller share of overall campaign contributions from PACs relative to the House, and often Senators do not receive such contributions simultaneously unless they are in the same electoral cohort.

Of the four network-level factors, minority party partisanship has the strongest association, followed by issue complexity, which tends to be associated with a weaker interest group effect in access networks. Interest group unity has an effect on House votes, but not Senate votes. Issue

salience has a very modest effect in the House, and in the Senate there is not any variation with which to assess any association. There is more information about these factors, and how these findings relate to the correlation of the four network-level factors with PAC ties and co-sponsorships, in Chapter 7. The next chapter provides a review of the project purpose and goals, reviews the findings of the hypothesis tests laid out in Chapter 2 (and assessed in Chapters 4-6), recaps the major findings of the study, provides some caveats and qualifications, and provides direction for future research.

# Chapter 7. Major Findings, and Suggestions for Future Research

## 7.1 Introduction

This chapter is a basic summary of the research findings and provides future direction for the research agenda developed herein. Section 7.2 reviews the broader implications of the study based on the results reported in Chapters 4-6 by taking a high-level look at the PAC strategies, co-sponsorship models and roll-call models simultaneously. Section 7.3 reviews major findings, with an emphasis on the factors associated with networks where PAC ties are levers of legislative action, the limitations of the theory, and how it might be improved and expanded in future studies. Section 7.4 concludes with implications for political science and political sociology approaches to the study of interest group influence in Congress, and provides guidelines for future research.

## 7.2 Recap of Hypotheses and Results in Chapters 4-6

This study grew out of one overarching question: If special interests are truly responsible for crippling American political institutions, why is the political science and political sociology literature theoretically and empirically inconclusive about the impact on legislative behavior? To those motivated by elite theory, power structure research, or ethical concerns about how interest groups distort legislative outcomes, the arguments typically focus on anecdotal evidence of backroom deals, interviews with lobbyists, associations between interest groups and elected officials, or empirical analysis of the substantive content of laws passed by Congress, particularly beginning in the late 1970s and early 1980s. Pluralists and empirical scholars have been more focused on the mechanics of the legislative process cite inconsistent linkages between campaign contributions and legislative co-sponsorships, or contributions and roll-call votes. More recently, political network scholars have attempted to bridge some of the divides between the disparate approaches between pluralists and elitists, inconsistent empirical studies, and broadly speaking the divergence between how political scientists and political sociologists approach the study of interest group influence in American politics.

In particular, SNA is quite fruitful for understanding the dynamics of how interest groups use access to influence members of Congress through their mutual affiliations, or ties. Whereas most previous scholarship focused on legislator attributes and atomistic assumptions about congressional decision-making, this investigation focuses on how social connectedness can influence legislative outcomes, particularly interest group ties. Social network models are better approximations of political realities because they do not assume that which is functionally impossible – that political decisions are made *interdependently* rather than *independently*. The results of the study show that interest groups ties influence legislative behavior in several contexts, though not always in the way predicted by the theory set forth in Chapter 2.

Relational variables are also beneficial as a measurement strategy. Older studies typically measured interest group contributions in dollars and assumed that receiving more dollars meant the individual was more likely to co-sponsor or vote consistent with the preferences of an interest group sector. SNA allows one to escape the assumption that all groups want the same thing, or that money received from a particular industry is all used as leverage for the same action. Furthermore, it allowed me to operationalize Lessig's characterization of these networks as gift economies where relationships are more important than contribution amounts (Lessig 2011). The mutual relationships that legislators have with interest groups in a particular policy domain can therefore be thought of as mutual constituency obligations, and these obligations come up when legislators consult with colleagues about creating or authorizing legislation. Another advantage is that categorical variables, which present a host of measurement challenges, can easily be converted into dichotomous measures for each dyad based on a shared attribute.

The main goal was to trace how eight distinct social characteristics impacted the formation of relationships in congressional access networks, and how those relationships in turn impacted legislative co-sponsorships and roll-call votes during the 111$^{th}$ Congress. The investigation was designed to provide insight into how interest groups in distinct policy domains establish relationships with congress and how much influence they amass. In context of social networks that

result, how do those groups act as conduits of resources and therefore influence as evidenced by interpersonal cooperation between legislators? What kinds of social traits attract interest group attention, and how strong are the social ties that result? In what issue domains do we observe a causal relationship between contributions, co-sponsorships, and roll-call votes? What other social traits might also explain these patterns of behavior? Are these effects disparate or similar in the House and Senate? Are there network-level conditions that augment or depress interest group effects on legislative social behavior?

Theoretically, interest groups are assumed to be strategic actors – to prefer access strategies over electoral strategies. These groups are generally assumed to target legislators that might be more disposed to working with each other because of some social tie they share, such as committee memberships, constituent ideology, experience, gender, legislator ideology/party, occupation, race, or state. These factors mean members will be working together frequently (as is the case with committee ties), have a shared social trait (race/ethnicity or gender), have known each other for some time (experience), are responsible for similar geographic areas or constituencies (state and constituent ideology), have similar professional backgrounds, or share a political party. These characteristics are all reasons why members might be more likely to work together, or cooperate. Interest groups, being rational actors, would prefer to build access conduits between legislators with those predispositions.

Forging these networks will be interest group operatives and legislators, who use resources at their disposal to continually strengthen ties to legislative targets. Those resources could include campaign contributions, strategic information, cooperation of an unlikely legislative ally, or grassroots pressure to sponsor or vote for specific legislation. The exact distribution of these interest group actors and resources is unknown, so the number of relationships established by campaign contributions is used as a proxy for these actors and resources. The underlying assumption is that as the number of these relationships increase, so do the incentives for cooperation among legislators who share these social connections. When the number of access ties between legislators increases,

so do the odds that one or more of those groups will be making use of that access to influence legislators as they decide which bills to sponsor or support. As the social incentives for cooperation increase, legislators are expected to cooperate more frequently, all else equal.

An assumption of most previous research is that interest groups are monolithic and do not behave differently or are not any more-or-less effective in various contexts. To assess this assumption, interest groups and issue domains were categorized according to group types or specific legislative issues. Interest group categories correspond to the PAC sector definitions created by the Center for Responsive Politics, which curates some of the most comprehensive campaign finance data available. The Congressional Bills Project data was used to code each of the issue areas for all introduced House and Senate bills and roll-call votes. There were 19 distinct issue groups and an aggregate model for all bills and votes. A comprehensive analysis of all issue areas was conducted to provide a broader perspective on how interest group influence operates in various contexts.

QAP regression models were used to model the variables, which were dyadic instead of nodal. This means each variable was a joint, pairwise measure of legislators in the network as opposed to a nodal value pertaining to an individual. These models included 186,192 observations for the House 9,900 observations for the Senate, although the number of unique records is half that in each case because the data was symmetrical. The advantage to this modeling is that it accounts for the interdependence of the network actors and allows for analysis of relational data.

Figure 7.1 and Figure 7.2 show all of the theoretically relevant variables from the PAC strategies, co-sponsorship, and roll-call models for the House and Senate in Chapters 4-6. Each of the hypotheses discussed in Chapter 2 is displayed in sequential columns. The eight variables in the PAC strategies models test *H1-H8,* with PAC ties as the dependent variable. In contrast, PAC ties are the independent variable in the co-sponsorship and roll-call models, which are named for their respective dependent variables. Each set of models is bracketed to distinguish them, and variables that are not primary theoretical variables of interest (i.e. control variables) are not

**Figure 7.1 House PAC Strategies, Co-Sponsorships, and Roll-Call Models**

| | | PAC Strategies Models | | | | | | | | Co-Sponsor Models | Roll Call Models |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | *H1* | *H2* | *H3* | *H4* | *H5* | *H6* | *H7* | *H8* | *H9* | *H10* |
| **Issue Domain** | **PAC Sector** | **Committee** | **Constituent** | **Experience** | **Gender** | **Ideology** | **Occupation** | **Race** | **State** | **Co-Sponsor** | **Roll Calls** |
| All | All | + | – | + | + | – | – | – | + | – | + |
| Agriculture | Agribusiness | + | – | + | + | – | – | – | + | – | – |
| Banking | Finance | + | + | + | + | – | + | + | + | – | – |
| Civil R & L | Lawyers | + | + | + | + | – | + | – | + | – | + |
| Communications | Communications | + | – | + | + | – | + | – | + | + | – |
| Defense | Defense | + | – | + | + | – | – | + | + | – | + |
| Education | Other | + | + | + | – | – | – | – | – | + | + |
| Energy | Energy | + | – | + | + | – | + | + | + | + | – |
| Environment | Energy | + | – | + | + | – | + | + | + | – | – |
| Foreign Aid | Defense | + | – | + | + | – | – | + | + | – | – |
| Foreign Trade | Misc. Business | + | – | + | + | – | + | – | + | – | – |
| Gov't Operations | All | + | – | + | + | – | – | – | + | – | + |
| Health | Health | + | – | + | + | – | – | + | + | + | + |
| Housing | Construction | + | – | + | + | – | – | + | + | – | + |
| Labor | Labor | + | – | + | + | – | – | + | + | + | + |
| Land & Water | Energy | + | – | + | + | – | + | + | + | – | – |
| Law & Crime | Lawyers | + | + | + | + | – | + | – | + | – | + |
| Macroeconomics | All | + | – | + | + | – | – | – | + | – | – |
| Social Welfare | Other | + | + | + | – | – | – | – | – | + | + |
| Transportation | Transportation | + | – | + | + | + | + | – | + | – | – |
| **Totals** | | 20 | 9 | 17 | 9(2) | 15 | (2) | 0 | 16 | 5(10) | 7(4) |

**Figure 7.2 Senate PAC Strategies, Co-Sponsorships, and Roll-Call Models**

| | | PAC Strategies Models | | | | | | | | Co-Sponsor Models | Roll Call Models |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | *H1* | *H2* | *H3* | *H4* | *H5* | *H6* | *H7* | *H8* | *H9* | *H10* |
| **Issue Domain** | **PAC Sector** | **Committee** | **Constituent** | **Experience** | **Gender** | **Ideology** | **Occupation** | **Race** | **State** | **Co-Sponsor** | **Roll Calls** |
| All | All | + | – | + | + | – | + | + | + | – | + |
| Agriculture | Agribusiness | + | – | + | + | – | + | + | + | + | – |
| Banking | Finance | + | – | + | + | – | + | + | + | – | + |
| Civil R & L | Lawyers | + | – | + | – | – | + | + | + | + | + |
| Communications | Communications | + | – | + | – | + | + | + | + | + | |
| Defense | Defense | + | – | + | + | + | + | – | + | – | – |
| Education | Other | + | – | + | – | – | + | – | + | + | |
| Energy | Energy | + | – | + | + | – | + | + | + | – | |
| Environment | Energy | + | – | + | + | – | + | + | + | – | |
| Foreign Aid | Defense | + | – | + | + | + | + | – | + | – | |
| Foreign Trade | Misc. Business | + | – | + | + | – | + | + | + | – | |
| Gov't Operations | All | + | – | + | + | – | + | + | + | + | + |
| Health | Health | + | – | + | + | + | + | + | + | – | + |
| Housing | Construction | + | – | + | – | – | + | + | + | – | |
| Labor | Labor | + | + | + | – | – | + | – | + | + | + |
| Land & Water | Energy | + | – | + | + | – | + | + | + | – | – |
| Law & Crime | Lawyers | + | – | + | – | – | + | + | + | – | + |
| Macroeconomics | All | + | – | + | + | – | + | + | + | + | + |
| Social Welfare | Other | + | – | + | – | – | + | – | + | + | – |
| Transportation | Transportation | + | – | + | – | + | + | – | + | – | + |
| | | 19 | 13 | 19 | 1 | 6 | 9 | 0 | 4 | 3 (6) | 2 |

included. The predicted direction of association for each variable is positive except for constituent ideology and ideology, because they are measured as the difference between the measures for each dyad. A "+" or "–" sign is used to denote whether the coefficient is positively or negatively signed, and green or red shading is used to denote whether the variable was statistically significant at the .05, .01, or .001 level. Green cells are positive and significant, while red cells are negative and significant. For the Senate issue domains for which no roll-call votes were taken, black and yellow stripes void the cells. Correct predictions are tallied at the bottom of each chart, and total number of models that are significant and opposite of the predicted direction are in parentheses.

Concerning the PAC strategies, by far the most consistent strategies that interest groups pursue involve ties between members on the same committee and experienced lawmakers (*H1* and *H3*). These two hypotheses are correct in nearly all issue domains, spanning a variety of interest group sectors. Formal institutional structures dictate that groups focus on legislative gatekeepers who vet policies within a substantive area and decide which bills move out of committee and on to a possible floor vote. Maturation processes allow legislators to develop professional relationships or even friendships with colleagues, and interest groups evidently attempt to assist in facilitating such relationships or take advantage of those which have organically developed for other reasons. Legislators with more experience also tend to be in leadership positions, and are typically more valuable to interest groups and lobbyists than backbenchers. These findings are generally consistent with previous research (Ainsworth 2002; Brewer and Deering 2005; Witko 2006; Witko 2011; Wright 1995).

However, groups do try to balance these considerations by taking legislator ideology (*H5*) and constituent ideology (*H2*) into account as well. Some groups engage in these strategies because they have strong ideological orientations and wish to support candidates or candidates with constituents who are agree with their issue positions. Other groups may make similar calculations from a more pragmatic perspective, ultimately deciding that cobbling together coalitions of ideologically dissimilar legislators is too risky and resource-intensive. The legislator ideology

effects are less pronounced in the Senate models, which may be the result of staggered electoral contests, the result of which is cycles where sectors may be more or less active depending on the dynamics of the election. House races by contrast have more diverse constituencies, and are typically safer seats than the Senate. Given that Senators usually have to appeal to a broader electorate, interest groups may find them more willing to collaborate with other lawmakers representing diverse constituencies. Only labor, non-profits and educational institutions were differentiated by constituency ideology for Senate networks.

Concerning *H8*, Groups were more likely to target state House delegations than same-state Senators, as the state ties were significant in 16 House issue domains but only 4 Senate domains. State-level organizations probably explain some of the discrepancy. Senators are typically able to raise lots of funds from out-of-state contacts due to the prestige of their office, whereas House candidates are more dependent on PAC contributions from in-state business, labor, education, and non-profit organizations that do not have the resources for national outreach. Two of the issue areas significant in both industries – agriculture and defense – pertain to industries that are regional or state-based in many cases because of the availability of farmland or the politics of defense appropriations. Groups are sensitive to situations where state delegations may be more receptive to their lobbying efforts if they can sell an issue based on its merits for the state as a whole, and at least in the case of House issue networks are willing to target contributions on that basis.

Occupation (*H6*) is significant and positive for nine Senate networks but not the House. Senators do have slightly more occupational history ties (1.591) compared to the House (1.064). The ties are not measured specific to each network – rather, they are a cumulative count of ties from all PAC sectors. Senate issue networks that include lawyers and lobbyists, defense, and aggregate contributions are those where occupational history matters most. The substantial number of lawyers and former military members serving in the Senate might this relationship. Unlike the House, nearly all Senators have previously been elected to a lower office, which means the variation is unlikely to be explained by an almost universally shared experience. Those with professionally

similar backgrounds should be expected to have more similar interest group contacts, and such groups, at least in the case of Senators, appear to value specific knowledge and skills.

Gender ties (*H4*) are a sometimes-accurate predictor of PAC contribution strategies in the House but not in the Senate. In neither case do the results paint a flattering picture of American democracy. A deeper dig into the network data reveals that gender-positive results are a function of the vast overrepresentation of men in Congress, and the fact that any two male legislators are more likely to have mutual ties with the agribusiness, defense, energy, construction and transportation industry than two women or a man-woman pair. The non-profit and educational institutions in the House education and social welfare issue networks actually show greater average tie strength for male-female pairs instead of male-male pairs. But two women are still far less likely to share as many interest group ties as men. In the Senate, there are scarcely enough women to even test the hypothesis. Social networks that include members of Congress and/or interest groups are still very much dominated by men.

Race (*H7*) is not significant in a single House or Senate issue domain. The lack of a significant finding could owe to the lack of ethnic diversity within Congress. Another possible interpretation is that racial factors, while an important source of solidarity in many social contexts, is not crucial in congressional access networks. More investigation is necessary before any definitive conclusions can be drawn, however.

Overall, for the PAC strategies models committee assignments and experience are the best predictors of PAC ties in both chambers. Legislator ideology and state are strong predictors in the House but perform modestly at best for the Senate models. Constituent ideology has a mixed performance in the House and Senate models. Occupation performs moderately well in the Senate models but not in the House models. Gender is significant in several House models but is essentially an artifact of gender bias in those networks. Race is not significant in any of the PAC strategies models.

In the legislative co-sponsorships and roll-call models, the number of PAC ties between legislative dyads becomes the independent variable rather than the dependent variable. Concerning co-sponsorships, the models do not exactly perform as expected. The co-sponsorship models are only significant and in the predicted direction for five House models and three Senate models. The communications, education, and labor policy networks are the only three networks significant in both the House and Senate. More common are significant and negative findings, which are interpreted as interest groups having influence, but using their influence to maintain the status quo. These findings extend to 10 House issue domains and 6 Senate issue domains. In both the House and Senate, group affiliations with the energy industry were associated with status quo protection (i.e. fewer co-sponsorship ties) in the environmental and public land and water issue domains; defense group affiliations had the same effect in the House and Senate foreign aid and affairs issue domain; and miscellaneous business affiliations in the foreign trade issue network.

The evidence for *H9* is mixed, although the negative and significant results are not necessarily inconsistent with the theory. The theory can be modified to include the possibility that more influence leads to more cooperation, which can also include a sort of coordinated inaction. There is a strong preference for status quo protection, all of which emanates from business and corporate PACs. A unified Democratic Party government is viewed most skeptically by the business community because of its stances on taxation, regulations and environmental issues, so the result is not entirely surprising. Conversely, the labor unions, non-profits and educational interest groups have been historically aligned with the party, and moved to consolidate their advantage in a politically friendly environment. The coefficient direction is the same in the House and Senate for 14 issue domains, though only 6 issue domains have the same sign accompanied by a statistically significant finding in both the House and Senate.

In the strictest sense, there is not much evidence for the original supposition that increased affiliation ties lead to more co-sponsorships given that the finding is only confirmed in 8 of 40 tests; however, inclusion of negative, significant findings increases this number to 24 of 40 tests,

which makes it possible to conclude that interest groups are shaping legislative co-sponsorship in these issue domains when the conditions for influence are present. In both the House and Senate, issue complexity and salience are positively related to the interest-group/co-sponsorship coefficients, such that greater complexity and salience appear to be associated with policy change. Groups are capable of parsing when the opportunity for political success is best, and acting on that basis. When primary stakeholder groups are not united around the policies being developed within a policy domain, members are less likely to co-sponsor legislation if they have more PAC ties – at least for the House models. In both the House and Senate models, more loyal the primary interest group sector is to the minority party, the less likely policy change is to occur.

The effects observed in the roll-call models are not as consistent as with the co-sponsorship models. The politics of legislative authorization are much different than that of legislative creation. The roll-call vote hypothesis (*H10*) is only correct in 7 of 20 House issue domains and 2 of 13 Senate issue domains. The only issue areas where the hypothesis was correct in both chambers were civil rights and liberties, and labor. Only eight models even contained coefficients signed in the same direction. This number may have been higher had any roll-call votes been taken in the Senate communications, education, environment, energy, defense, housing issue networks. The act of taking no roll-call votes on any of these issues itself could be interpreted as having some relationship to the interest group dynamics within the network, but there is not really a way to measure this supposition at present.

Further complicating matters are the negative and significant results for four House roll-call models. In three instances – energy, environment, and public land and water – energy groups are the primary stakeholders. The fourth issue area is transportation. In these networks, members who share the most interest group affiliations are significantly less likely to share as many roll-call ties. The reasons for such results are not entirely clear; however, both the energy and transportation sectors did engage in experience- and committee membership-based access strategies in the House and Senate networks. In fact, the transportation groups did not make legislator ideology a priority.

In both cases, the strongest ties were probably among party leaders and experienced lawmakers with a proven record of assisting the energy and transportation sectors. However, those individuals ended up on opposite sides of the roll-call votes due to the polarizing nature of the Obama administration's energy policy and some of the priorities Democrats emphasized in the stimulus bill, including high-speed rail and other investments Republicans generally consider wasteful.

There are several reasons why the support for these hypotheses (specifically, *H9* and *H10*) were not as great as originally argued. In terms of the co-sponsorship models, the theory did not fully account for the possible range of likely outcomes, and the fact that PAC ties would just as frequently be a predictor of coordinated inaction as coordinated action in co-sponsorship policy networks. Generally, the networks where status quo protection occurs are those who generally favor Republicans and are reluctant to work with Democrats to achieve policy goals during a period of unified Democratic government. The network-level effects – partisanship, interest group unity, salience and complexity – all had clearer explanatory effects for the House. The House was generally much more active in most policy areas than the Senate. Given that there were more members, and certain constitutional requirements that certain legislation begins with the House networks, and higher levels of partisanship of the Senate, such developments are hardly surprising.

The mixed findings for House roll-call models and the lack of significant findings in the Senate models may mean that interest groups attempt to exert their greatest influence at the prior stage of the legislative process. Once legislation gains enough momentum to reach the House floor, other social factors may well matter more. However, there are a variety of instances in the House models where PAC affiliations do influence roll-call votes. Interestingly, these significant findings come in a variety of networks, with primary stakeholders who expend relatively few resources (education groups and non-profits) to groups who invest substantial resources (health and labor groups). At this stage, interest group unity was important in those House models. The Senate's unique institutional structure – staggered elections, the increasing prevalence of the filibuster, and the 60-40 split between Democrats and Republican seats appears to dilute the power of interest groups and

augment institutional conflict that overrode other social factors traditionally thought to shape members' decision-making process.

Nevertheless, these ties matter in the right contexts. To clarify how much these relationships matter in practical terms, it is also important to know how co-sponsorships and roll-call votes are impacted by interest group ties. Table 7.1 shows the average legislator tie strength, minimum tie strength, maximum strength, PAC/co-sponsorship coefficient, and the average, minimum, and maximum impact for interest group affiliations in every House issue network. It also includes the PAC/roll-call coefficient, and the average, minimum, and maximum impact in every issue network for roll calls. Table 7.2 shows the same for the Senate networks, for both the co-sponsorship and roll-call models. In this instance, all of the coefficients are unstandardized. The tables provide information about the predicted impact interest group affiliations have at the dyadic level. For most House and Senate issue networks, the average impact on roll-call votes and co-sponsorships is slight, even in networks where there is a significant relationship between interest group ties and co-sponsorship (roll-call vote) ties. For example, the aggregate House model show something more substantial – an average impact of roughly 4 co-sponsorships and 10 roll-call votes per dyad, while an actual issue-specific network (say labor) shows an average impact of less than 1 co-sponsorship or roll-call vote.

This may lead one to erroneously conclude that interest groups have a very slight impact in the grand scheme of things. The problem with that assessment is that interest groups generally only need to change a few minds – not a significant number of sponsorships or vote changes are required to pass most legislation. In each instance, the minimum impact is zero because there are isolates in every issue network. However, as shown in the maximum column, those dyads with the strongest tie strength have substantially stronger impacts. In the House health network, for example, the impact is more than six co-sponsorships and nearly four roll-call votes for the two legislators with 94 ties in the health interest sector. Lobbyists and interest group operatives may or may not have

**Table 7.1 House Co-Sponsorship, and Roll-Call Vote Impacts, by Issue Domain**

| Issue Domain | IG Avg. | IG Min | IG Max | CS (β) | Co Avg. | CO Min | Co Max | RC (β) | RC Avg. | RC Min | RC Max |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **All** | 44.1 | 0 | 344 | -0.096 | -4.238 | 0 | -33.030 | 0.227 | 10.036 | 0.000 | 78.211 |
| **Agriculture** | 2.3 | 0 | 76 | -0.009 | -0.022 | 0 | -0.714 | -0.011 | -0.025 | 0.000 | -0.823 |
| **Banking** | 7.1 | 0 | 122 | -0.029 | -0.210 | 0 | -3.586 | -0.013 | -0.092 | 0.000 | -1.570 |
| **Civil R & L** | 1.9 | 0 | 25 | -0.045 | -0.084 | 0 | -1.135 | 0.078 | 0.145 | 0.000 | 1.952 |
| **Communications** | 3.0 | 0 | 45 | 0.045 | 0.134 | 0 | 2.022 | -0.012 | -0.036 | 0.000 | -0.539 |
| **Defense** | 1.2 | 0 | 21 | -0.041 | -0.051 | 0 | -0.859 | 0.034 | 0.042 | 0.000 | 0.711 |
| **Education** | 0.1 | 0 | 5 | 1.041 | 0.070 | 0 | 5.203 | 0.491 | 0.033 | 0.000 | 2.453 |
| **Energy** | 2.0 | 0 | 82 | 0.003 | 0.005 | 0 | 0.221 | -0.124 | -0.245 | 0.000 | -10.135 |
| **Environment** | 2.0 | 0 | 82 | -0.081 | -0.161 | 0 | -6.630 | -0.135 | -0.269 | 0.000 | -11.108 |
| **Foreign Aid** | 1.2 | 0 | 21 | -0.056 | -0.069 | 0 | -1.168 | -0.024 | -0.030 | 0.000 | -0.511 |
| **Foreign Trade** | 3.4 | 0 | 46 | -0.044 | -0.150 | 0 | -2.044 | -0.017 | -0.059 | 0.000 | -0.799 |
| **Gov't Operations** | 44.1 | 0 | 344 | -0.015 | -0.677 | 0 | -5.276 | 0.028 | 1.240 | 0.000 | 9.665 |
| **Health** | 6.3 | 0 | 94 | 0.068 | 0.430 | 0 | 6.377 | 0.031 | 0.198 | 0.000 | 2.940 |
| **Housing** | 1.7 | 0 | 24 | -0.017 | -0.029 | 0 | -0.409 | 0.225 | 0.383 | 0.000 | 5.395 |
| **Labor** | 9.7 | 0 | 46 | 0.073 | 0.710 | 0 | 3.375 | 0.050 | 0.486 | 0.000 | 2.309 |
| **Land & Water** | 2.0 | 0 | 82 | -0.104 | -0.207 | 0 | -8.549 | -1.148 | -2.280 | 0.000 | -94.109 |
| **Law & Crime** | 1.9 | 0 | 25 | -0.218 | -0.405 | 0 | -5.447 | 0.238 | 0.442 | 0.000 | 5.949 |
| **Macroeconomics** | 44.1 | 0 | 344 | -0.004 | -0.166 | 0 | -1.290 | -0.002 | -0.075 | 0.000 | -0.585 |
| **Social Welfare** | 0.1 | 0 | 5 | 0.559 | 0.038 | 0 | 2.795 | 0.867 | 0.058 | 0.000 | 4.337 |
| **Transportation** | 2.8 | 0 | 56 | -0.019 | -0.054 | 0 | -1.090 | -0.169 | -0.472 | 0.000 | -9.440 |

**Table 7.2 Senate Co-Sponsorship, and Roll-Call Vote Impacts, by Issue Domain**

| Issue Domain | Senate | IG Min | IG Max | CS (β) | SCO Avg. | SCO Min | SCO Max | RC (β) | RC Avg. | RC Min | RC Max |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **All** | 158.1 | 0 | 637 | -0.025 | -4.013 | 0 | -16.164 | 0.227 | 35.896 | 0.000 | 144.599 |
| **Agriculture** | 10.0 | 0 | 98 | 0.005 | 0.053 | 0 | 0.522 | -0.018 | -0.180 | 0.000 | -1.755 |
| **Banking** | 27.8 | 0 | 139 | -0.003 | -0.076 | 0 | -0.383 | 0.025 | 0.693 | 0.000 | 3.468 |
| **Civil R & L** | 13.3 | 0 | 51 | 0.069 | 0.921 | 0 | 3.518 | 0.049 | 0.654 | 0.000 | 2.498 |
| **Communications** | 14.0 | 0 | 63 | 0.008 | 0.109 | 0 | 0.491 | — | — | — | — |
| **Defense** | 4.2 | 0 | 29 | -0.090 | -0.379 | 0 | -2.621 | -0.123 | -0.517 | 0.000 | -3.578 |
| **Education** | 0.4 | 0 | 6 | 0.391 | 0.160 | 0 | 2.346 | — | — | — | — |
| **Energy** | 11.6 | 0 | 77 | -0.016 | -0.182 | 0 | -1.211 | — | — | — | — |
| **Environment** | 11.6 | 0 | 77 | -0.018 | -0.211 | 0 | -1.408 | — | — | — | — |
| **Foreign Aid** | 4.2 | 0 | 29 | -0.048 | -0.203 | 0 | -1.404 | — | — | — | — |
| **Foreign Trade** | 14.9 | 0 | 83 | -0.002 | -0.029 | 0 | -0.163 | — | — | — | — |
| **Gov't Operations** | 158.1 | 0 | 637 | 0.001 | 0.192 | 0 | 0.775 | 0.015 | 2.316 | 0.000 | 9.328 |
| **Health** | 21.2 | 0 | 130 | -0.037 | -0.789 | 0 | -4.833 | 0.008 | 0.178 | 0.000 | 1.092 |
| **Housing** | 4.9 | 0 | 27 | -0.002 | -0.010 | 0 | -0.054 | — | — | — | — |
| **Labor** | 14.0 | 0 | 54 | 0.049 | 0.689 | 0 | 2.653 | 0.040 | 0.567 | 0.000 | 2.182 |
| **Land & Water** | 11.6 | 0 | 77 | -0.022 | -0.258 | 0 | -1.721 | -0.026 | -0.300 | 0.000 | -2.000 |
| **Law & Crime** | 13.3 | 0 | 51 | -0.002 | -0.029 | 0 | -0.112 | 0.001 | 0.020 | 0.000 | 0.076 |
| **Macroeconomics** | 158.1 | 0 | 637 | 0.002 | 0.354 | 0 | 1.426 | 0.011 | 1.730 | 0.000 | 6.969 |
| **Social Welfare** | 0.4 | 0 | 6 | 0.099 | 0.041 | 0 | 0.595 | -0.018 | -0.007 | 0.000 | -0.110 |
| **Transportation** | 7.7 | 0 | 39 | -0.006 | -0.048 | 0 | -0.244 | 0.027 | 0.208 | 0.000 | 1.054 |

an easy time cobbling together majorities depending on how many of those individuals toward the maximum end of the spectrum are undecided or swayable.

Relative to most other variables, the interest group ties have a relatively strong effect. To compare the average magnitude of the standardized coefficients, the absolute value of each variable was taken for the four model sets where PAC ties are the primary independent variable of interest: House co-sponsorships, Senate co-sponsorships, House roll-call votes, and Senate roll-call votes. For each set, the absolute value of each variable's standardized was averaged across the 19 interest group domains and the aggregate model (or 13 interest group domains and the aggregate model in the case of Senate roll-call models). PAC ties had the second largest effect in the House co-sponsorship models after ideological difference. In the Senate co-sponsorship models, interest group ties were third behind ideological difference and state ties. Only ideological difference, co-sponsorship ties, and race had a larger average coefficient in the House roll-call models; for the Senate roll-call models the average magnitude for interest groups was the third highest behind ideological difference and co-sponsorship ties. Granted, these variables are not statistically significant in many cases, but on average PAC ties are more consequential than originally believed in Kingdon's analysis. The average effect for interest group ties is larger than constituency, gender, experience, caucus, occupation, committee, spatial proximity, race (with one exception), and state (with one exception).

### 7.3 Social Capital at the Capital: A Review of Major Findings

Do interest group affiliations between members of Congress impact their willingness cooperate when developing or authorizing legislation? The answer, unfortunately, is somewhat complicated. In this study, there is some evidence these ties matter, but not in every context. There is a stronger case that interest group affiliations between legislator dyads matter more in the case of co-sponsorships than in the roll-call models. In particular, the networks where the primary stakeholder or interest group sector traditionally lean toward the majority party (in this case, Democrats) are

more likely to show a significant, positive linkage between interest group ties and co-sponsorships, or interest group ties and roll-call votes. Labor, non-profits and education groups had success in the labor, social welfare and education policy areas, respectively. Meanwhile, groups who typically favor Republican candidates and policies – which is most business sectors other than communications and electronics, and lawyers – are using whatever influence they have to convince lawmakers to engage in status quo protection. Such behavior is easy to spot in the co-sponsorship models, but is more difficult to detect in the roll-call models because the ties are based on vote agreement whether the vote was YEA or NAY.

Interest group strategies also reveal a complex dynamic where groups must balance ideological and strategic goals. Analysis of each sector shows the factors by which interest group sectors decide is similar in many cases. Experience and committee membership attract donors in all sectors, but the emphasis on ideology, constituent ideology, and other social factors depends on the sector. Political party loyalty works in much the same way, with labor, non-profits, legal institutions, and educational institutions favoring Democrats, and most business and trade associations favoring Republicans. These contribution strategies obviously have an effect on co-sponsorship and roll-call vote patterns in various issue networks, but they manifest themselves in ways difficult to predict without more information about the group's goals, opportunities, as well as dynamics beyond interest group control.

PAC ties were more consequential in the co-sponsorship models than in the roll-call models, and the findings suggest one of two possibilities. The first is that interest groups would rather use access networks to influence legislators at the earliest stages of the legislative process, to ensure any policy change is correctly framed and to prevent unwanted status quo changes from gaining momentum. The second is that as legislation moves beyond its formative stages and draws public scrutiny, media coverage, political party strategy, grassroots mobilization, the executive branch and public opinion may compete with interest group lobbying efforts. Finding suitable co-sponsors for a bill requires fewer resources than flipping votes or reinforcing lukewarm supporters. Co-sponsors

are typically those enthusiastic or especially interested in a particular issue, whereas at the voting stage lobbyists more frequently have to work legislators who may not be particularly interested in such issues. Insignificant findings are more prevalent in the roll-call models for these reasons. The merits of assessing both stages of the process are clear, however. Relying solely on co-sponsorships or roll-call votes instead of including both stages would provide a misleading picture of these social dynamics.

Compared to the other variables in the model, the average effect size is stronger for interest group ties than most other variables. Isolating the average standardized coefficient size by variable category across House and Senate issue domains shows that in the roll-call and co-sponsorship networks, interest group ties have a larger effect size than most other variables. Only ideological difference ties and co-sponsorship ties (in the roll-call models) are consistently stronger than interest group ties in the 111th Congress. In Kingdon's survey of the 91st Congress, constituents and colleagues were ranked ahead of interest groups as the social factors most likely to influence roll-call decisions. This study is consistent in its finding that colleagues, especially those with whom legislators work on drafting legislation, are influential in determining roll-call votes. Constituent opinion ranks higher in Kingdon's study as a factor that influences congressional decision-making. Ideological and party effects are also much stronger in this study, which is not surprising given the rising levels of polarization in Congress and in the electorate.

House members are more susceptible to interest group influences than members of the Senate. In both the co-sponsorship and roll-call models, there are more significant findings for the lower chamber than the upper chamber. There are several reasons this outcome is plausible. First, the PAC share of all House contributions is larger than Senate contributions. Second, staggered elections mean that PAC contributions only trickle in for most Senators until their cohort is up for re-election. When this phenomenon is considered in tandem with the changing political fortunes of parties and coalitions from election to election, it is clear that short-term political momentum is less likely to develop in the Senate. Interest groups may have more difficulty mobilizing senators who

are not up for re-election, raising funds, and therefore providing access opportunities. Third, the 60-40 Democrat-Republican configuration of Senate increased pressure for polarization in the Senate. Senate Minority Leader Mitch McConnell tested Democratic Party resolve by frequently utilizing the filibuster and enforcing strict party discipline from his colleagues to prevent the Democratic Senate leadership from passing any major initiatives with GOP support.

Network-level characteristics can augment or dampen the effect of interest group affiliations on co-sponsorships and roll-call votes. The best, most consistent example is partisanship, which is measured as the percentage of minority party ties in each of the interest group networks. As the minority party's share of the contributions increases, the less likely legislators are to co-sponsor legislation with members with whom they have strong affiliation or access ties. Given that interest groups in such networks are less apt to agree with proposals coming from the majority party, they use their resources to discourage legislative activity. A similar effect is noticed in the roll-call vote networks. Legislators with lots of interest group affiliations are less likely to vote based on those affiliations in issue networks where the minority share access ties are higher. This is evidence that interest groups in those networks are not actively trying to forge coalitions around legislation.

Issue salience is positively correlated to larger standardized coefficients in House co-sponsorship and roll-call models, as well as the Senate co-sponsorship models. As more lobbying activity occurs within an issue domain, it is assumed more information and other resources are circulated by interest groups to legislators in the network. The larger the interest group affiliation tie strength, the more similarity in the resources transferred to any two legislators. Therefore, cooperation on the basis of those ties becomes more likely. In most cases, the effect is modest, except in the House co-sponsorship model, where the correlation is moderately high. There is no measure of correlation in the Senate roll-call networks because every bill considered received lobbying activity, and thus no variation was possible.

Issue complexity has a positive impact in the co-sponsorship networks and a negative impact in the roll-call vote networks. Given that the sets of bills look very different, this is hardly

surprising. Co-sponsorships apply to a much broader swath of bills, as the majority of legislation never reaches the House or Senate floor. Issue complexity tends to engender a variety of approaches or solutions to a specific public policy problem, and one might expect complex issues to invite several competing bills with different approaches to resolving the issue. Once all of the alternatives have been weeded out, increased lobbying intensity at the roll-call vote stage increases the possibility that a bill will get bogged down with unpopular amendments or procedural delays. Additionally, groups pushing to get legislation introduced are typically a coalition of those wanting policy changes. With the passage of time, the bill engender increased opposition. Complex issues are usually major policy changes, and the confluence of increased impact or salience for a single bill (as opposed to the issue salience measure used here, which is for all bills in an issue area) may complicate issue framing as media, constituents and political parties jump into the fray.

When interest groups are unified around the legislative agenda in a particular issue area, and there is little to no opposition, interest group ties between legislators have a stronger effect on their propensity to vote for (or against) it. The relationship between interest group unity and co-sponsorships is more complicated. In the House networks there is a modest, positive correlation with the interest group unity measure (which in its original form was actually a measure of disunity). The Senate network relationship was negative as expected. Nevertheless, in most contexts interest group opposition or disunity weakens the effects of PAC ties on co-sponsorships or roll-call votes. The cost of ignoring interest group constituents is low if interest groups are divided. Members of Congress will alienate some of them either way, so other considerations are more likely to influence their course of action. Conversely, unified interest groups make the cost of ignoring those operatives within an issue domain less strategically viable.

As far as the 111$^{th}$ Congress is concerned, interest groups are quite influential over legislators' social behavior, but not in all contexts, and that magnitude of influence ranges from non-existent to quite substantial depending on the number of ties between network actors, the network-level dynamics of the issue domain, and the configuration of government institutions with

decision-making authority. These groups do not have systematic control over every House and issue domain. Though interest groups do exert a statistically significant influence via mutual legislator relationships in most House co-sponsorship networks and approximately half of all Senate networks, the effect is much less pronounced in roll-call vote networks. Even less common is an interest group sector obtaining a significant influence in the House and Senate networks simultaneously, and at both stages of the legislative process, which further dilutes the ability of interest group sectors to ensure political outcomes routinely match their preferences. This was only achieved by the labor sector in the House and Senate labor issue networks.

On the other hand, the fact that groups enjoy systematic influence in any of these networks could be construed as confirmation of the problems that Domhoff, Lessig and other critics of privately financed elections have discussed. Several of these networks show evidence of the gift economies that Lessig described. Even when the Democrats are in complete control of both chambers of Congress and the White House, interest groups representing several economic sectors were able to successfully protect the status quo against changes that the business community did not want. And in the case of the House, such outcomes depended on the cooperation of the Democrats, for there are no supermajority levers for the minority party to trigger, as is the case in the Senate. The difficulty of enacting legislation that is anathema to the business community, even under unified Democratic government, is well demonstrated, particularly in the case of the energy industry.

Given the complexity of navigating policy changes through Congress, the appearance of a *functionally* pluralistic system is in a sense by design. There are party factions, interest group factions, and voters all vying for control of the federal government's resources or policymaking mechanisms. Interest group unity across a policy domain enhances the social capital of interest group, as evidenced by the behavior of legislators with strong affiliation ties in those policy networks. This finding does not speak to whether the system is *substantively* pluralistic, in that different factions share an equal share of government resources based on needs more than access

and resources. The concerns raised by Gilens and Page about policy substance are worthy of further investigation, but the onus is on scholars to define the precise mechanisms responsible for these outcomes, and quantitatively measure it so the literature can move beyond qualitative, anecdotal evidence of interest group dominance.

Not all interest groups designated as the prime stakeholder were able to wield influence in those issue-specific access networks. Those interest group sectors pursuing status quo protection in the co-sponsorship networks had the most influence, and public policy already more closely corresponds to their preferences than any alternative the congressional majority is likely to approve. The conclusion is tentative and needs more study, but policy change is unlikely to happen except when circumstances are ideal, whereas status quo protection routinely occurs for several business sectors even when the least sympathetic politicians control Congress and the presidency, as was the case with the 111$^{th}$ Congress. A longitudinal study which tallies the leger of policy change and protection by issue domain would clarify whether this advantage is only sporadic or if it indeed occurs with such regularity that some groups dominate policy areas to the exclusion of other groups or social factors over time.

Campaign finance critics and reformers may take solace in additional barriers to influence thrown up by the institutional design of the U.S. Senate. Though it is often blamed for its inaction and its *de facto* supermajority requirements for legislation due to the increased use of filibusters, the institution is less sensitive to campaign contributions from interest group PACs. Staggered elections are another reason for this phenomenon, because most senators only fundraise in the cycle immediately prior to their election, meaning the relationships and access network creation happens more slowly and is less comprehensive. That coupled with less dependence on contributions from PACs makes the institution better able to withstand the onslaught of private money and the social pressures created by the U.S. campaign finance system.

### 7.4 Qualifications, Limitations, and Suggested Direction of Future Research

As with any political science investigation, there are some qualifications and limitations to this study that should be noted. The study itself is for a single session of Congress – the 111th session. Clearly, one should be careful about generalizing too much based on a single session of Congress. The objective was to conduct a more detailed analysis of social factors influencing congressional behavior that was more detailed than previous investigations, and provided assessment of how issue-specific factors and network dynamics operate in a variety of policy networks. The choice of the 111th Congress was made for two reasons. First, it represented a more difficult set of institutional barriers for policy sectors mostly dominated by corporate groups and trade groups, as Democrats are well-known for being less friendly to business interests than the GOP. Second, the 111th Congress was the last session before the Supreme Court's *Citizens United* decision and subsequent rulings, where the Supreme Court has removed caps from outside money that does not go directly to members of Congress, and direct contribution caps to party committees have also been removed. These changes may fundamentally alter the pre-*Citizens United* dynamics.

Future studies should attempt to account for changes in party control of Congress and campaign finance law. Do the same interest group sectors have influence when there is divided government or unified GOP government? If not, what is different? Do the same network-level characteristics (partisanship, interest group unity, complexity, and salience) have a role, and is their impact different other under governments than for the unified Democratic government of the 111th Congress? Also, does the influence of interest group ties in access networks decrease over time as hard money become increasingly less prevalent relative to soft or outside money? The emergence of 527 groups, Super PACs, mega-donors, and dark money may also permanently alter the landscape of access networks. In what capacity do these access networks influence executive actions, negotiations with Congress, and regulatory agencies? These partisan and legal dynamics provide fertile ground for new investigations that incorporate social network methods and institutional processes.

Another limitation is the measurement of interest group access and involvement within an access network. Access was measure by the number of mutual interest group affiliations between any two legislators (or legislator dyad). Mutual contributions are not necessarily indicative of relationships, though obviously in many cases they are. Unfortunately, it is difficult to systematically document other forms of a relationship with these members without significantly more information about group lobbying, communication efforts, the flow of policy studies and industry information, and the flow of other resources throughout the network. As more non-profits concerned with government transparency and accountability emerge, the hope is that better, more systematic measures of these interactions will be available with the passage of time, or that other scholars can devise better measurements based on an existing data source.

Related to interest groups and policy domains, the bill data from the Congressional Bills Project and the interest group sector data maintained by the Center for Responsive politics do not always match. When making the assumption that one interest group sector is the primary stakeholder in each policy domain, I was not only simplifying but assuming there was a good, clean-cut comparison. In several policy domains (e.g. healthcare, defense, energy, and banking) the PAC sector and policy areas overlap cleanly. In others, such as foreign trade, they do not. Working with more sophisticated combinations of this data makes sense. Although groups with only passing or occasional interest in a policy domain do not meet the criteria set forth for interest group inclusion in an issue or policy domain, these secondary stakeholders do have some influence. To account for that, the network level lobbying measures (unity, salience, and complexity) include activity from any interest group – not just the designated stakeholder whose access is accounted for in the QAP regression models.

Last, additional SNA measures and methods that incorporate the overall network structure in addition to the largely relational processes in this study would be a nice enhancement to existing scholarship. Centrality measures were initially used, but they were difficult to utilize with these high-density interest group access networks. There was not enough variation in the resulting

variables to conduct a largely node-based analysis of these networks, which is why dyadic measures with valued data and QAP models were used instead. However, there are other avenues that could be pursued. Two-mode analysis of interest group organizations and members of Congress would provide some insight as to how interest groups look in networks where they are conceptualized and measured as actors instead of ties. Networks where groups are actors and legislators are ties might also be constructed to better analyze group behavior from one policy domain to another. Other social network methods, such structural equivalence (roles), core-periphery measures, and cliques could be used to identify which legislators or groups are pivotal actors upon which major policy outcomes hinge because of their unique location within the network.

## Appendix A. House Network Actors

| Name | Party | District |
|---|---|---|
| Abercrombie, Neil | D | HI01 |
| Ackerman, Gary | D | NY05 |
| Aderholt, Robert B | R | AL04 |
| Adler, John H | D | NJ03 |
| Akin, Todd | R | MO02 |
| Alexander, Rodney | R | LA05 |
| Altmire, Jason | D | PA04 |
| Andrews, Robert E | D | NJ01 |
| Arcuri, Michael | D | NY24 |
| Austria, Steve C | R | OH07 |
| Baca, Joe | D | CA43 |
| Bachmann, Michele | R | MN06 |
| Bachus, Spencer | R | AL06 |
| Baird, Brian | D | WA03 |
| Baldwin, Tammy | D | WI02 |
| Barrett, Gresham | R | SC03 |
| Barrow, John | D | GA12 |
| Bartlett, Roscoe G | R | MD06 |
| Barton, Joe | R | TX06 |
| Bean, Melissa | D | IL08 |
| Becerra, Xavier | D | CA31 |
| Berkley, Shelley | D | NV01 |
| Berman, Howard L | D | CA28 |
| Berry, Marion | D | AR01 |
| Biggert, Judy | R | IL13 |
| Bilbray, Brian P | R | CA50 |
| Bilirakis, Gus | R | FL09 |
| Bishop, Rob | R | UT01 |
| Bishop, Sanford D Jr | D | GA02 |
| Bishop, Timothy H | D | NY01 |
| Blackburn, Marsha | R | TN07 |
| Blumenauer, Earl | D | OR03 |
| Blunt, Roy | R | MO07 |
| Boccieri, John A | D | OH16 |
| Boehner, John | R | OH08 |
| Bonner, Jo | R | AL01 |
| Bono Mack, Mary | R | CA45 |
| Boozman, John | R | AR03 |
| Boren, Dan | D | OK02 |
| Boswell, Leonard L | D | IA03 |
| Boucher, Rick | D | VA09 |
| Boustany, Charles W Jr | R | LA07 |
| Boyd, Allen | D | FL02 |
| Brady, Kevin | R | TX08 |
| Brady, Robert A | D | PA01 |
| Braley, Bruce | D | IA01 |
| Bright, Bobby | D | AL02 |
| Broun, Paul Jr | R | GA10 |
| Brown, Corrine | D | FL03 |
| Brown, Henry | R | SC01 |
| Brown-Waite, Ginny | R | FL05 |
| Buchanan, Vernon | R | FL13 |
| Burgess, Michael | R | TX26 |
| Burton, Dan | R | IN05 |
| Butterfield, G K | D | NC01 |
| Buyer, Steve | R | IN04 |
| Calvert, Ken | R | CA44 |
| Camp, Dave | R | MI04 |
| Campbell, John | R | CA48 |
| Cantor, Eric | R | VA07 |
| Cao, Joseph | R | LA02 |
| Capito, Shelley Moore | R | WV02 |
| Capps, Lois | D | CA23 |
| Capuano, Michael E | D | MA08 |
| Cardoza, Dennis | D | CA18 |
| Carnahan, Russ | D | MO03 |
| Carney, Chris | D | PA10 |
| Carson, Andre | D | IN07 |
| Carter, John | R | TX31 |
| Cassidy, Bill | R | LA06 |
| Castle, Michael N | R | DE01 |
| Castor, Kathy | D | FL11 |
| Chaffetz, Jason | R | UT03 |
| Chandler, Ben | D | KY06 |
| Childers, Travis W | D | MS01 |
| Clarke, Yvette D | D | NY11 |
| Clay, William L Jr | D | MO01 |
| Cleaver, Emanuel | D | MO05 |
| Clyburn, James E | D | SC06 |
| Coble, Howard | R | NC06 |
| Coffman, Mike | R | CO06 |

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|---|---|---|---|---|---|
| Cohen, Stephen Ira | D | TN09 | Eshoo, Anna | D | CA14 |
| Cole, Tom | R | OK04 | Etheridge, Bob | D | NC02 |
| Conaway, Mike | R | TX11 | Fallin, Mary | R | OK05 |
| Connolly, Gerry | D | VA11 | Farr, Sam | D | CA17 |
| Conyers, John Jr | D | MI14 | Fattah, Chaka | D | PA02 |
| Cooper, Jim | D | TN05 | Filner, Bob | D | CA51 |
| Costa, Jim | D | CA20 | Flake, Jeff | R | AZ06 |
| Costello, Jerry F | D | IL12 | Fleming, John | R | LA04 |
| Courtney, Joe | D | CT02 | Forbes, J Randy | R | VA04 |
| Crenshaw, Ander | R | FL04 | Fortenberry, Jeffrey Lane | R | NE01 |
| Crowley, Joseph | D | NY07 | Foster, Bill | D | IL14 |
| Cuellar, Henry | D | TX28 | Foxx, Virginia | R | NC05 |
| Culberson, John | R | TX07 | Frank, Barney | D | MA04 |
| Cummings, Elijah E | D | MD07 | Franks, Trent | R | AZ02 |
| Dahlkemper, Kathleen | D | PA03 | Frelinghuysen, Rodney | R | NJ11 |
| Davis, Artur | D | AL07 | Fudge, Marcia L | D | OH11 |
| Davis, Danny K | D | IL07 | Gallegly, Elton | R | CA24 |
| Davis, Geoff | R | KY04 | Garrett, Scott | R | NJ05 |
| Davis, Lincoln | D | TN04 | Gerlach, Jim | R | PA06 |
| Davis, Susan A | D | CA53 | Giffords, Gabrielle | D | AZ08 |
| Deal, Nathan | R | GA09 | Gingrey, Phil | R | GA11 |
| DeFazio, Peter | D | OR04 | Gohmert, Louis B Jr | R | TX01 |
| DeGette, Diana | D | CO01 | Gonzalez, Charlie A | D | TX20 |
| Delahunt, Bill | D | MA10 | Goodlatte, Bob | R | VA06 |
| DeLauro, Rosa L | D | CT03 | Gordon, Bart | D | TN06 |
| Dent, Charlie | R | PA15 | Granger, Kay | R | TX12 |
| Diaz-Balart, Lincoln | R | FL21 | Graves, Sam | R | MO06 |
| Diaz-Balart, Mario | R | FL25 | Grayson, Alan | D | FL08 |
| Dicks, Norm | D | WA06 | Green, Al | D | TX09 |
| Dingell, John D | D | MI15 | Green, Gene | D | TX29 |
| Doggett, Lloyd | D | TX25 | Griffith, Parker | R | AL05 |
| Donnelly, Joe | D | IN02 | Grijalva, Raul M | D | AZ07 |
| Doyle, Mike | D | PA14 | Guthrie, Steven Brett | R | KY02 |
| Dreier, David | R | CA26 | Gutierrez, Luis V | D | IL04 |
| Driehaus, Steve | D | OH01 | Hall, John | D | NY19 |
| Duncan, John J (Jimmy) Jr | R | TN02 | Hall, Ralph M | R | TX04 |
| Edwards, Chet | D | TX17 | Halvorson, Deborah | D | IL11 |
| Edwards, Donna | D | MD04 | Hare, Phil | D | IL17 |
| Ehlers, Vernon J | R | MI03 | Harman, Jane | D | CA36 |
| Ellison, Keith | D | MN05 | Harper, Gregg | R | MS03 |
| Ellsworth, Brad | D | IN08 | Hastings, Alcee L | D | FL23 |
| Emerson, Jo Ann | R | MO08 | Hastings, Doc | R | WA04 |
| Engel, Eliot L | D | NY17 | Heinrich, Martin | D | NM01 |

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|---|---|---|
| Heller, Dean | R | NV02 |
| Hensarling, Jeb | R | TX05 |
| Herger, Wally | R | CA02 |
| Herseth Sandlin, Stephanie | D | SD01 |
| Higgins, Brian M | D | NY27 |
| Hill, Baron | D | IN09 |
| Himes, Jim | D | CT04 |
| Hinchey, Maurice | D | NY22 |
| Hinojosa, Ruben | D | TX15 |
| Hirono, Mazie K | D | HI02 |
| Hodes, Paul W | D | NH02 |
| Hoekstra, Peter | R | MI02 |
| Holden, Tim | D | PA17 |
| Holt, Rush | D | NJ12 |
| Honda, Mike | D | CA15 |
| Hoyer, Steny H | D | MD05 |
| Hunter, Duncan D | R | CA52 |
| Inglis, Bob | R | SC04 |
| Inslee, Jay R | D | WA01 |
| Israel, Steve | D | NY02 |
| Issa, Darrell | R | CA49 |
| Jackson Lee, Sheila | D | TX18 |
| Jackson, Jesse Jr | D | IL02 |
| Jenkins, Lynn | R | KS02 |
| Johnson, Eddie Bernice | D | TX30 |
| Johnson, Hank | D | GA04 |
| Johnson, Sam | R | TX03 |
| Johnson, Timothy V | R | IL15 |
| Jones, Walter B Jr | R | NC03 |
| Jordan, James D | R | OH04 |
| Kagen, Steve | D | WI08 |
| Kanjorski, Paul E | D | PA11 |
| Kaptur, Marcy | D | OH09 |
| Kennedy, Patrick J | D | RI01 |
| Kildee, Dale E | D | MI05 |
| Kilpatrick, Carolyn Cheeks | D | MI13 |
| Kilroy, Mary Jo | D | OH15 |
| Kind, Ron | D | WI03 |
| King, Pete | R | NY03 |
| King, Steven A | R | IA05 |
| Kingston, Jack | R | GA01 |
| Kirk, Mark | R | IL10 |
| Kirkpatrick, Ann | D | AZ01 |
| Kissell, Larry | D | NC08 |
| Klein, Ron | D | FL22 |
| Kline, John | R | MN02 |
| Kosmas, Suzanne | D | FL24 |
| Kratovil, Frank M Jr | D | MD01 |
| Kucinich, Dennis J | D | OH10 |
| Lamborn, Douglas L | R | CO05 |
| Lance, Leonard | R | NJ07 |
| Langevin, Jim | D | RI02 |
| Larsen, Rick | D | WA02 |
| Larson, John B | D | CT01 |
| Latham, Tom | R | IA04 |
| LaTourette, Steven C | R | OH14 |
| Latta, Robert E | R | OH05 |
| Lee, Barbara | D | CA09 |
| Lee, Christopher J | R | NY26 |
| Levin, Sander | D | MI12 |
| Lewis, Jerry | R | CA41 |
| Lewis, John | D | GA05 |
| Linder, John | R | GA07 |
| Lipinski, Daniel | D | IL03 |
| LoBiondo, Frank A | R | NJ02 |
| Loebsack, David | D | IA02 |
| Lofgren, Zoe | D | CA16 |
| Lowey, Nita M | D | NY18 |
| Lucas, Frank D | R | OK03 |
| Luetkemeyer, Blaine | R | MO09 |
| Lujan, Ben R | D | NM03 |
| Lummis, Cynthia Marie | R | WY01 |
| Lungren, Dan | R | CA03 |
| Lynch, Stephen F | D | MA09 |
| Mack, Connie | R | FL14 |
| Maffei, Dan | D | NY25 |
| Maloney, Carolyn B | D | NY14 |
| Manzullo, Don | R | IL16 |
| Marchant, Kenny | R | TX24 |
| Markey, Betsy | D | CO04 |
| Markey, Edward J | D | MA07 |
| Marshall, Jim | D | GA08 |
| Massa, Eric | D | NY29 |
| Matheson, Jim | D | UT02 |
| Matsui, Doris O | D | CA05 |

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|---|---|---|
| McCarthy, Carolyn | D | NY04 |
| McCarthy, Kevin | R | CA22 |
| McCaul, Michael | R | TX10 |
| McClintock, Tom | R | CA04 |
| McCollum, Betty | D | MN04 |
| McCotter, Thad | R | MI11 |
| McDermott, Jim | D | WA07 |
| McGovern, James P | D | MA03 |
| McHenry, Patrick | R | NC10 |
| McHugh, John | R | NY23 |
| McIntyre, Mike | D | NC07 |
| McKeon, Howard P (Buck) | R | CA25 |
| McMahon, Michael E | D | NY13 |
| McMorris Rodgers, Cathy | R | WA05 |
| McNerney, Jerry | D | CA11 |
| Meek, Kendrick B | D | FL17 |
| Meeks, Gregory W | D | NY06 |
| Melancon, Charles | D | LA03 |
| Mica, John L | R | FL07 |
| Michaud, Mike | D | ME02 |
| Miller, Brad | D | NC13 |
| Miller, Candice S | R | MI10 |
| Miller, Gary | R | CA42 |
| Miller, George | D | CA07 |
| Miller, Jeff | R | FL01 |
| Minnick, Walt | D | ID01 |
| Mitchell, Harry E | D | AZ05 |
| Mollohan, Alan B | D | WV01 |
| Moore, Dennis | D | KS03 |
| Moore, Gwen | D | WI04 |
| Moran, Jerry | R | KS01 |
| Moran, Jim | D | VA08 |
| Murphy, Chris | D | CT05 |
| Murphy, Patrick J | D | PA08 |
| Murphy, Tim | R | PA18 |
| Murtha, John | D | PA12 |
| Myrick, Sue | R | NC09 |
| Nadler, Jerrold | D | NY08 |
| Napolitano, Grace | D | CA38 |
| Neal, Richard E | D | MA02 |
| Neugebauer, Randy | R | TX19 |
| Nunes, Devin Gerald | R | CA21 |
| Nye, Glenn | D | VA02 |
| Oberstar, James L | D | MN08 |
| Obey, David R | D | WI07 |
| Olson, Pete | R | TX22 |
| Olver, John W | D | MA01 |
| Ortiz, Solomon P | D | TX27 |
| Pallone, Frank Jr | D | NJ06 |
| Pascrell, Bill Jr | D | NJ08 |
| Pastor, Ed | D | AZ04 |
| Paul, Ron | R | TX14 |
| Paulsen, Erik | R | MN03 |
| Payne, Donald M | D | NJ10 |
| Pelosi, Nancy | D | CA08 |
| Pence, Mike | R | IN06 |
| Perlmutter, Edwin G | D | CO07 |
| Perriello, Tom | D | VA05 |
| Peters, Gary | D | MI09 |
| Peterson, Collin C | D | MN07 |
| Petri, Tom | R | WI06 |
| Pingree, Chellie | D | ME01 |
| Pitts, Joe | R | PA16 |
| Platts, Todd | R | PA19 |
| Poe, Ted | R | TX02 |
| Polis, Jared | D | CO02 |
| Pomeroy, Earl | D | ND01 |
| Posey, Bill | R | FL15 |
| Price, David | D | NC04 |
| Price, Tom | R | GA06 |
| Putnam, Adam H | R | FL12 |
| Radanovich, George | R | CA19 |
| Rahall, Nick | D | WV03 |
| Rangel, Charles B | D | NY15 |
| Rehberg, Denny | R | MT01 |
| Reichert, Dave | R | WA08 |
| Reyes, Silvestre | D | TX16 |
| Richardson, Laura | D | CA37 |
| Rodriguez, Ciro D | D | TX23 |
| Roe, Phil | R | TN01 |
| Rogers, Hal | R | KY05 |
| Rogers, Mike | R | MI08 |
| Rogers, Mike D | R | AL03 |
| Rohrabacher, Dana | R | CA46 |
| Rooney, Tom | R | FL16 |

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|---|---|---|
| Roskam, Peter | R | IL06 |
| Ros-Lehtinen, Ileana | R | FL18 |
| Ross, Mike | D | AR04 |
| Rothman, Steven R | D | NJ09 |
| Roybal-Allard, Lucille | D | CA34 |
| Royce, Ed | R | CA40 |
| Ruppersberger, Dutch | D | MD02 |
| Rush, Bobby L | D | IL01 |
| Ryan, Paul | R | WI01 |
| Ryan, Tim | D | OH17 |
| Salazar, John | D | CO03 |
| Sanchez, Linda | D | CA39 |
| Sanchez, Loretta | D | CA47 |
| Sarbanes, John | D | MD03 |
| Scalise, Steve | R | LA01 |
| Schakowsky, Jan | D | IL09 |
| Schauer, Mark | D | MI07 |
| Schiff, Adam | D | CA29 |
| Schmidt, Jean | R | OH02 |
| Schock, Aaron | R | IL18 |
| Schrader, Kurt | D | OR05 |
| Schwartz, Allyson | D | PA13 |
| Scott, David | D | GA13 |
| Scott, Robert C | D | VA03 |
| Sensenbrenner, F James Jr | R | WI05 |
| Serrano, Jose E | D | NY16 |
| Sessions, Pete | R | TX32 |
| Sestak, Joseph A Jr | D | PA07 |
| Shadegg, John | R | AZ03 |
| Shea-Porter, Carol | D | NH01 |
| Sherman, Brad | D | CA27 |
| Shimkus, John M | R | IL19 |
| Shuler, Heath | D | NC11 |
| Shuster, Bill | R | PA09 |
| Simpson, Mike | R | ID02 |
| Sires, Albio | D | NJ13 |
| Skelton, Ike | D | MO04 |
| Slaughter, Louise M | D | NY28 |
| Smith, Adam | D | WA09 |
| Smith, Adrian | R | NE03 |
| Smith, Chris | R | NJ04 |
| Smith, Lamar | R | TX21 |
| Snyder, Vic | D | AR02 |
| Souder, Mark | R | IN03 |
| Space, Zachary T | D | OH18 |
| Speier, Jackie | D | CA12 |
| Spratt, John M Jr | D | SC05 |
| Stark, Pete | D | CA13 |
| Stearns, Cliff | R | FL06 |
| Stupak, Bart | D | MI01 |
| Sullivan, John | R | OK01 |
| Sutton, Betty Sue | D | OH13 |
| Tanner, John | D | TN08 |
| Tauscher, Ellen O | D | CA10 |
| Taylor, Gene | D | MS04 |
| Teague, Harry | D | NM02 |
| Terry, Lee | R | NE02 |
| Thompson, Bennie G | D | MS02 |
| Thompson, Glenn | R | PA05 |
| Thompson, Mike | D | CA01 |
| Thornberry, Mac | R | TX13 |
| Tiahrt, Todd | R | KS04 |
| Tiberi, Patrick J | R | OH12 |
| Tierney, John F | D | MA06 |
| Titus, Dina | D | NV03 |
| Tonko, Paul | D | NY21 |
| Towns, Edolphus | D | NY10 |
| Tsongas, Niki | D | MA05 |
| Turner, Michael R | R | OH03 |
| Upton, Fred | R | MI06 |
| Van Hollen, Chris | D | MD08 |
| Velazquez, Nydia M | D | NY12 |
| Visclosky, Pete | D | IN01 |
| Walden, Greg | R | OR02 |
| Walz, Timothy J | D | MN01 |
| Wamp, Zach | R | TN03 |
| Schultz, Debbie Wasserman | D | FL20 |
| Waters, Maxine | D | CA35 |
| Watson, Diane E | D | CA33 |
| Watt, Melvin L | D | NC12 |
| Waxman, Henry A | D | CA30 |
| Weiner, Anthony D | D | NY09 |
| Welch, Peter | D | VT01 |
| Westmoreland, Lynn A | R | GA03 |
| Wexler, Robert | D | FL19 |

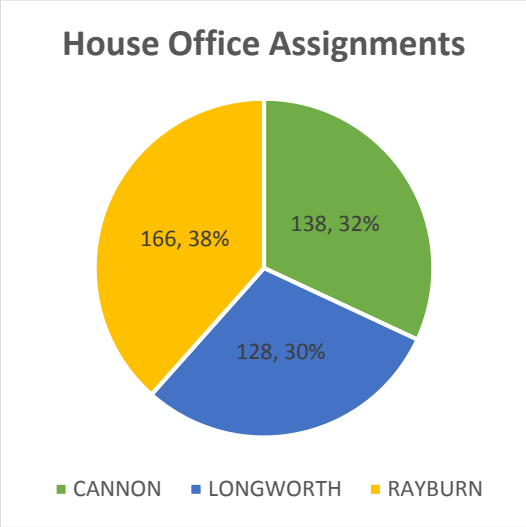
| | | |
|---|---|---|
| Whitfield, Ed | R | KY01 |
| Wilson, Charlie | D | OH06 |
| Wilson, Joe | R | SC02 |
| Wittman, Rob | R | VA01 |
| Wolf, Frank R | R | VA10 |
| Woolsey, Lynn | D | CA06 |
| Wu, David | D | OR01 |
| Yarmuth, John A | D | KY03 |
| Young, C W Bill | R | FL10 |
| Young, Don | R | AK01 |

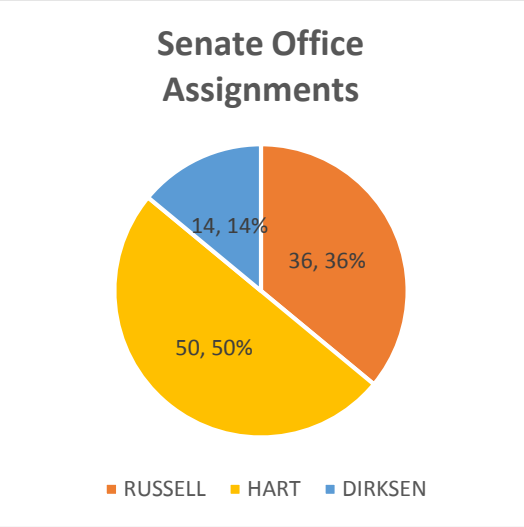
## Appendix B. Senate Network Actors

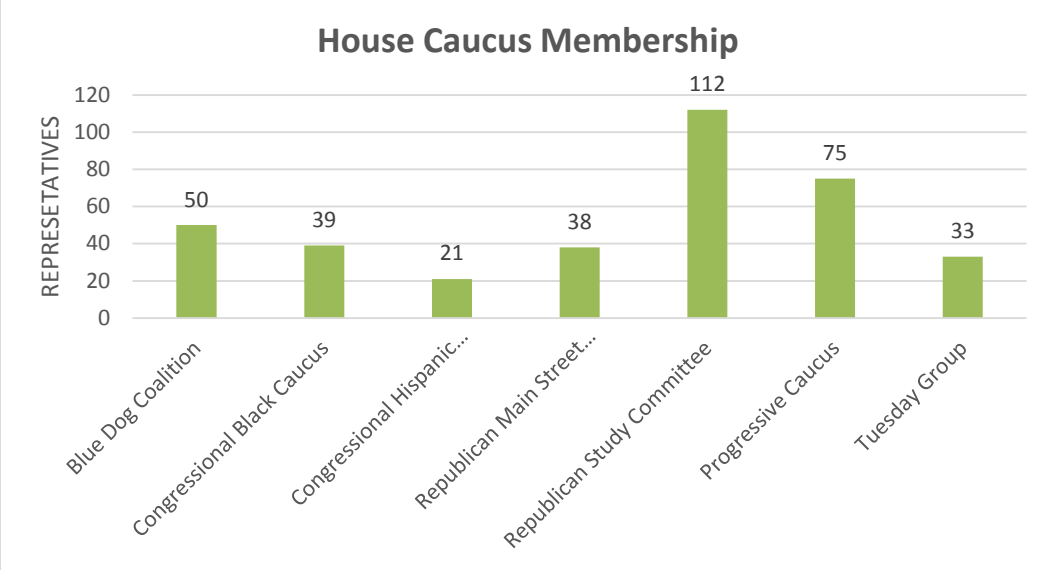
| Name | Party | Office |
|---|---|---|
| Akaka, Daniel K | D | HIS2 |
| Alexander, Lamar | R | TNS2 |
| Barrasso, John A | R | WYS1 |
| Baucus, Max | D | MTS2 |
| Bayh, Evan | D | INS2 |
| Begich, Mark | D | AKS1 |
| Bennet, Michael | D | COS2 |
| Bennett, Robert F | R | UTS2 |
| Bingaman, Jeff | D | NMS1 |
| Bond, Christopher "Kit" | R | MOS1 |
| Boxer, Barbara | D | CAS1 |
| Brown, Sherrod | D | OHS1 |
| Brownback, Sam | R | KSS2 |
| Bunning, Jim | R | KYS2 |
| Burr, Richard | R | NCS2 |
| Burris, Roland | D | ILS2 |
| Byrd, Robert | D | WVS1 |
| Cantwell, Maria | D | WAS1 |
| Cardin, Ben | D | MDS1 |
| Carper, Tom | D | DES1 |
| Casey, Bob | D | PAS2 |
| Chambliss, Saxby | R | GAS1 |
| Coburn, Tom | R | OKS1 |
| Cochran, Thad | R | MSS1 |
| Collins, Susan M | R | MES2 |
| Conrad, Kent | D | NDS2 |
| Corker, Bob | R | TNS1 |
| Cornyn, John | R | TXS1 |
| Crapo, Mike | R | IDS2 |
| DeMint, James W | R | SCS1 |
| Dodd, Chris | D | CTS2 |
| Dorgan, Byron L | D | NDS1 |
| Durbin, Dick | D | ILS1 |
| Ensign, John | R | NVS1 |
| Enzi, Mike | R | WYS2 |
| Feingold, Russ | D | WIS2 |
| Feinstein, Dianne | D | CAS2 |
| Franken, Al | D | MNS1 |
| Gillibrand, Kirsten | D | NYS1 |
| Graham, Lindsey | R | SCS2 |
| Grassley, Chuck | R | IAS1 |
| Gregg, Judd | R | NHS1 |
| Hagan, Kay R | D | NCS1 |
| Harkin, Tom | D | IAS2 |
| Hatch, Orrin G | R | UTS1 |
| Hutchison, Kay Bailey | R | TXS2 |
| Inhofe, James M | R | OKS2 |
| Inouye, Daniel K | D | HIS1 |
| Isakson, Johnny | R | GAS2 |
| Johanns, Michael O | R | NES2 |
| Johnson, Tim | D | SDS2 |
| Kaufman, Ted | D | DES2 |
| Kennedy, Ted | D | MAS1 |
| Kerry, John | D | MAS2 |
| Klobuchar, Amy | D | MNS2 |
| Kohl, Herb | D | WIS1 |
| Kyl, Jon | R | AZS2 |
| Landrieu, Mary L | D | LAS1 |
| Lautenberg, Frank R | D | NJS2 |
| Leahy, Patrick | D | VTS2 |
| Levin, Carl | D | MIS1 |
| Lieberman, Joe | I | CTS1 |
| Lincoln, Blanche | D | ARS2 |
| Lugar, Richard G | R | INS1 |
| Martinez, Mel | R | FLS2 |
| McCain, John | R | AZS1 |
| McCaskill, Claire | D | MOS2 |
| McConnell, Mitch | R | KYS1 |
| Menendez, Robert | D | NJS1 |
| Merkley, Jeff | D | ORS1 |
| Mikulski, Barbara A | D | MDS2 |
| Murkowski, Lisa | R | AKS2 |
| Murray, Patty | D | WAS2 |
| Nelson, Ben | D | NES1 |
| Nelson, Bill | D | FLS1 |
| Pryor, Mark | D | ARS1 |
| Reed, Jack | D | RIS2 |
| Reid, Harry | D | NVS2 |
| Risch, James E | R | IDS1 |
| Roberts, Pat | R | KSS1 |
| Rockefeller, Jay | D | WVS2 |
| Sanders, Bernie | I | VTS1 |
| Schumer, Charles E | D | NYS2 |

| | | |
|---|---|---|
| Sessions, Jeff | R | ALS1 |
| Shaheen, Jeanne | D | NHS2 |
| Shelby, Richard C | R | ALS2 |
| Snowe, Olympia J | R | MES1 |
| Specter, Arlen | D | PAS1 |
| Stabenow, Debbie | D | MIS2 |
| Tester, Jon | D | MTS1 |
| Thune, John | R | SDS1 |
| Udall, Mark | D | COS2 |
| Udall, Tom | D | NMS2 |
| Vitter, David | R | LAS2 |
| Voinovich, George V | R | OHS2 |
| Warner, Mark | D | VAS2 |
| Webb, James | D | VAS1 |
| Whitehouse, Sheldon | D | RIS1 |
| Wicker, Roger | R | MSS2 |
| Wyden, Ron | D | ORS2 |

**Appendix C. House and Senate Office Assignments, Caucus Memberships**



**Appendix D. Social Network Analysis Glossary**

**1. Social network analysis** is the investigative method with foundations in network and graph theory that analyzes actors and their formal or informal relationships in a clearly defined network (Scott 2000).

2. **Relational data** consist of social contacts, affiliations, events, shared attributes, or any kind of social tie between two actors (Scott 2000).

3. **Attribute data** concerns the behavior, attitudes, and opinions of independent agents, and is the data most commonly used in traditional variable analysis (Scott 2000).

4. **Actors**, also known as nodes because of their nodular appearance in graphs or visualizations, are individuals or collectives in social networks who express some form of agency pertaining to a particular relational pattern (Wasserman and Faust 1994).

5. **Ties**, also known as links, edges, or lines, are the relational connections between actors (or nodes). A tie between two actors denotes the existence of a relationship (Borgatti, Everett and Johnson 2013).

6. **Level of analysis** – There are three levels of analysis: dyads, nodes, and networks. **Dyads** are pairwise relationships between actors in the network. The number of observations in any dyadic network analysis is $O(n^2)$, were $O$ is the network and $n$ is the number of nodes. In this study, self-ties were excluded, so the observation number was actually $O(n^2-n)$. Nodes are simply the number of actors in a study, which is $O(n^1)$. Nodal analyses may also exclude self-ties, such that the number of observations is $O(n^1-n)$. Network-level analyses are a study of the overall network properties and, structure. This is a single observation $O(n^0)$. The node level was not utilized for this study, and network-level measures were kept to a minimum. All three levels can apply to individuals or collectives (Borgatti, Everett and Johnson 2013).

7. **Density** – Network density is a measure of the total number of ties between actors divided by the total possible number of ties between actors in a network: $\frac{l}{n(n-1)/2}$ (Scott 2000).

8. **Valued data/dichotomous data** – At the dyadic level of analysis, network ties can be measured either as binary data indicating the presence or absence of a tie or as valued data indicating the degree of strength for each relationship in the network.

9. **Directed/undirected data** – The flow of social relationships can run in either one direction (A→B, or A→B), or both directions simultaneously. The former are directed data, and the latter are undirected, or symmetrical data. In this study, all of the social network models include symmetrical data (Borgatti, Everett and Johnson 2013).

10. **Centrality** – A measure of a node's prominence, power, or strategic importance to the overall social network. Several types of centrality measures have been developed, including degree centrality, closeness centrality, betweenness centrality, eigenvector centrality, as well as other variations such as Bonacich's power measure (Borgatti, Everett and Johnson 2013).

11. **Cliques** – Cliques are a network subset of nodes that are all connected to each other. Cliques generally have a density of 1, meaning each possible combination of ties exist in the actual network (Borgatti, Everett and Johnson 2013).

12. **Network Roles** – The study of network positions and roles includes methods for classifying and analyzing network positions, patterns and types of ties. The study focuses on individual actors, and includes structural equivalence, positional analysis, measurement techniques, partitioning techniques, and spatial representations (Wasserman and Faust 1994).

13. **Core-periphery models** – Core-periphery models are a type of network equivalence pattern that partitions groups into a core and a periphery. The nodes in the core are those most central in the network, and those in the periphery are among the least central. If directed data are used, the

result is a four-block partition with core→core, periphery→periphery, periphery→core and core→periphery connections (Borgatti, Everett and Johnson 2013).

14. **Multiple Regression Quadratic Assignment Procedure** – This multiple regression model regresses a dependent network variable against multiple independent network variable. Instead of vectors the data are matrices in their initial form. The algorithm performs a standard regression of corresponding cells for the independent and dependent variables. In the second step, matrix rows and columns are randomly permuted and the regression is recomputed, and the resulting coefficients and r-square values are stored. The second step is repeated in accordance with the number of times specified in the permutations field in UCINET. For Senate models, there were 2,000 permutations; House models had 1,000 permutations. The percentage of random permutations that yield a coefficient as extreme as the original becomes the p-value. Residuals are added to the regression equation to partial out any multicollinearity (Borgatti, Everett and Freeman 2002).

## Appendix E. Alternative QAP Specifications

| House Ideological PACs | | | House Party | | |
|---|---|---|---|---|---|
| Variable | Co-Sponsorship | Roll-Call Vote | Variable | Co-Sponsorship | Roll-Call Vote |
| Caucus | -0.356 (1.306) | -5.477 (3.840) | Caucus | -0.787 (1.303) | -7.995 (3.957)* |
| Committee | 4.488 (0.826)** | 1.337 (2.530) | Committee | 4.583 (0.859)** | -2.689 (2.585) |
| Experience | 0.234 (0.167) | -0.889 (0.465)* | Experience | 0.205 (0.170) | -1.576 (0.516)** |
| Floor | 1.054 (0.722) | 0.499 (2.287) | Floor | 1.159 (0.724) | 1.735 (2.443) |
| Gender | -5.244 (1.909)** | 4.309 (5.501) | Gender | -5.390 (1.915)** | 4.177 (5.533) |
| Ideology | -35.879 (1.430)** | -235.023 (5.762)** | Party | 32.767 (0.968)** | 194.294 (3.754)** |
| Con. Ideology | -0.262 (0.071)** | -0.063 (0.218) | Con. Ideology | -0.528 (0.064)** | -1.104 (0.227)** |
| Occupation | 1.762 (1.023)* | 4.913 (2.927)* | Occupation | 1.868 (1.012)* | 5.509 (2.996)* |
| Race | -7.479 (2.269)** | -22.758 (6.669)** | Race | -8.883 (2.414)** | -23.841 (7.290)** |
| State | 16.482 (1.375)** | -18.834 (4.264)** | State | 17.366 (1.403)** | -25.149 (4.620)** |
| Ideo. PACs | 2.694 (0.531)** | 3.943 (1.508)** | All PACs | -0.049 (0.036) | 0.433 (0.105)** |
| Co-Sponsor | – | 0.663 (0.096)** | Co-Sponsor | – | 0.837 (0.097)** |
| Intercept | 75.679 (0.000)*** | 535.07 (0.000)*** | Intercept | 49.73 (0.000)*** | 301.827 (0.000)*** |
| $R^2$ | 0.356 | 0.497 | $R^2$ | 0.321 | 0.498 |
| Adj. $R^2$ | 0.356 | 0.497 | Adj. $R^2$ | 0.321 | 0.498 |
| *p*-value | 0.001 | 0.001 | *p*-value | 0.001 | 0.001 |

| Senate Ideological PACs | | | Senate Party | | |
|---|---|---|---|---|---|
| Variable | Co-Sponsorship | Roll-Call Vote | Variable | Co-Sponsorship | Roll-Call Vote |
| Committees | 2.29 (0.826)** | -3.784 (2.504) | Committees | 3.083 (0.801)*** | -1.324 (2.359) |
| Experience | -0.572 (0.243)** | -0.974 (0.686) | Experience | -0.207 (0.239) | -0.285 (0.676) |
| Floor | -1.532 (1.301) | 0.977 (4.226) | Floor | -0.991 (1.315) | -0.276 (3.873) |
| Gender | -5.879 (3.310)* | 9.591 (9.809) | Gender | -7.528 (3.376)** | -4.880 (9.254) |
| Ideology | -31.186 (3.110)*** | -336.908 (13.924)*** | Party | 25.717 (1.693)*** | 252.395 (7.651)*** |
| Con. Ideology | -0.105 (0.146) | 0.520 (0.464) | Con. Ideology | -0.461 (0.143)*** | -1.271 (0.427)** |
| Occupation | -0.530 (1.751) | -2.188 (5.382) | Occupation | 1.348 (1.755) | 5.301 (5.111) |
| Race | 1.182 (6.798) | 29.737 (21.292) | Race | -1.904 (6.850) | 16.668 (19.605) |
| State | 37.263 (2.312)*** | -27.208 (11.486)** | State | 36.806 (2.469)*** | -28.859 (9.865)** |
| Ideo. PACs | 1.220 (0.347)*** | 2.239 (0.998)* | All PACs | -0.027 (0.017)* | 0.047 (0.049) |
| Co-Sponsor | – | 1.227 (0.230)*** | Co-Sponsor | – | 1.152 (0.202)*** |
| Intercept | 49.015 (0.000)*** | 325.769 (0.000)*** | Intercept | 34.954 (0.000)*** | 71.390 (0.000)*** |
| $R^2$ | 0.354 | 0.761 | $R^2$ | 0.324 | 0.823 |
| Adj. $R^2$ | 0.353 | 0.761 | Adj. $R^2$ | 0.323 | 0.823 |
| *p*-value | 0.000 | 0.000 | *p*-value | 0.000 | 0.000 |

**Note:** These specifications are alternatives to those specified in Chapters 5-6. The House and Senate co-sponsorship and roll-call vote ideological PAC models are specifications that use the ideological/single-issue sector ties as the ideological PAC variable with the aggregate co-sponsorship and roll-call vote ties. In all four instances this variable is positive and significant, which was expected. The House and Senate co-sponsorship and roll-call vote party models are specifications that use the "Party" variable instead of the ideological difference measure. The party measure is "1" for a dyad where both members belong to the same party and "0" otherwise. In all four instances this variable is positive and significant, as expected.

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**Vita**

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## AREAS OF RESEARCH/EXPERTISE

Transportation finance and policy, social networks, intelligent transportation systems (ITS), commercial vehicle applications, multimodal transportation systems, political institutions.

## EDUCATION

**M.A.**: 2006-2009
Political Science, University of Kentucky

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Political Science, University of Kentucky (Magna Cum Laude)

## PROFESSIONAL EXPERIENCE

Research Associate, Kentucky Transportation Center, Intelligent Transportation Systems and Traffic Management Section, University of Kentucky (Fall 2010- present)

Graduate Research Assistant for Ed Jennings, Martin School of Public Policy and Administration, University of Kentucky (Spring 2009)

Graduate Research Assistant for Kirk Randazzo and Richard Waterman, Department of Political Science, University of Kentucky (Spring 2008)

Instructor, Department of Political Science, University of Kentucky (Fall 2007- Fall 2010)

Graduate Teaching Assistant, Department of Political Science, University of Kentucky (Fall 2006- Spring 2007)

## AWARDS

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Best Editorial/Opinion Section (Kentucky Intercollegiate Press Association)

National Pacemaker Award (as staff editor at *The Kentucky Kernel*) (Associated College Press)

Honorable Mention for Editorial Writing (Associated College Press)

## RESEARCH REPORTS

Martin, Andrew, Valerie Keathley, and Jennifer Walton. March 2015. "Enforcement and Adjudication of Commercial Vehicle Offenses in Kentucky." Kentucky Transportation Center.

Martin, Andrew, Valerie Keathley, Jerry Kissick, and Jennifer Walton. June 2014. "Coordinating the Use and Location of Weigh-In-Motion Technology for Kentucky." Kentucky Transportation Center. KTC-14-05/SPR456-13-1F. (SPR)

Martin, Andrew, Valerie Keathley and Jennifer Walton. November 2013. “Quick Clearance, Hold Harmless.” Kentucky Transportation Center.

Kissick, Jerry, David Q. Hunsucker, Andrew Martin, Jennifer Walton, and Mark Bell. October 2013. “Kentucky’s PRISM-Based Automated Ramp Screening System Evaluation.” Kentucky Transportation Center, prepared for the Federal Motor Carrier Safety Administration. KTC-13-21/RSF27-12-1F. (SPR)

Martin, Andrew, Mark Bell, Kent Sowards, Chandra Inglis-Smith. April 2013. “Consolidation Study for Motor Carrier Services.” Kentucky Transportation Center and Rahall Appalachian Transportation Institute.

Martin, Andrew, Jennifer Walton and Mark Bell. January 2013. “Motor Carrier Tax Consolidation Study.” Kentucky Transportation Center. KTC-12-18/SPR434-12-1F

Martin, Andrew and Jennifer Walton. July 2012. “DVR Internet Applications Study.” Kentucky Transportation Center. KTC-12-06/SPR 413-10-1F. (SPR)

Knowles, Chuck, Candice Wallace, Ben Blandford, Tim Brock and Andrew Martin. November 2011. “States’ Support of Non-Highway Modes of Transportation: Investigation and Synthesis.” Kentucky Transportation Center.

Martin, Andrew, Jennifer Walton, Mark Spellman and Mark Bell. June 2011. “Assessment of Kentucky Department of Vehicle Regulation’s Tax and Fee Structure.” Kentucky Transportation Center. KTC-11-08/SPR 412-11-1F.

### PUBLICATIONS

Martin, Andrew, Mark Bell and Jennifer Walton. 2015. “Analysis of Alternative to Kentucky Weight-Distance Tax.” *Transportation Research Record: Journal of the Transportation Research Board, No. 2450*, pp. 172–178.

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Martin, Andrew, Mark Bell and Jennifer Walton. “Analysis of an Alternative to the Kentucky Weight-Distance Tax.” Paper prepared for the Transportation Research Board meeting in Washington, D.C., January 12-16, 2014.

Butler, J.S., Edward T. Jennings, Jr., and Andrew Martin, “Explaining State Spending Priorities: A Theoretical Critique of The Jacoby-Schneider Model of Spending Priorities and an Alternative Specification and Estimation,” Presented at the Annual Conference of the American Society for Public Administration, Las Vegas, Nevada, March 2, 2012.

Randazzo, Kirk, Rick Waterman and Andrew Martin. “The Evolution of Legal Constraint on the Supreme Court.” Paper prepared for the annual meeting of the American Political Science Association, in Toronto, Canada, September 2-6, 2009.