

## **The Dollars and Cents of Party Campaign Finance Networks**

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This study shows that political parties have a major impact on the flow of money in extended campaign finance networks that include partisan actors that possess no formal ties to traditional party committees. Using social network analysis and nonparametric statistical techniques, we demonstrate that the strategic objectives and organizational assets of different types of actors heavily influence their network position, activities, and influence. Party committees dominate the networks, but organizations affiliated with congressional leaders and candidates and PACs sponsored by allied interest groups assume important roles in the financing of elections. Our results have implications for party organizational development, interest group behavior, party influence in the legislative process, and the polarization of American politics.

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Political parties, like most societal institutions, must adapt to change in order to remain relevant. Since their inception the Democratic and Republican parties in the U.S. have had to adapt to numerous transformations in the political environment. This is especially the case for party organizations. Changes in technology, the individuals and groups that participate in campaigns, and particularly campaign finance law have posed new challenges for the parties as they attempt to meet the needs and expectations of candidates (Aldrich 1995). Party organizations have adapted by instituting new election programs and developing new relationships with others that participate in elections (Cotter et al. 1984; Herrnson 1988). One aspect of their response involves occupying a central position in extended party networks (EPN) comprising candidates, interest groups, political consultants, opinion leaders, political activists, individuals, and other nonparty actors that share some party objectives. As a result, traditional definitions and theories no longer accurately describe contemporary party organizations.

Scholars have begun to respond to the mismatch between theory and practice by introducing new theories and methods to explain the relationships between traditional, formal party organizations (FPOs), such as the Democrats' and Republicans' national, state, and local campaign committees, and the nonparty partisan actors listed above. Among the most promising approaches are those that use social network analysis (SNA) to identify EPNs. Analyses of campaign contributions, partisan mailing lists, political consultants' employment histories, and other data have demonstrated the existence of separate Democratic and Republican EPNs; located lobbyists, political action committees (PACs), and other organizations within them; and led to generalizations about the influence of various network actors (Koger, Masket, and Noel 2009; Skinner, Masket, and Dulio 2012).

This study uses SNA and campaign finance data for congressional elections to create a weighted campaign finance network for each EPN. Unlike previous studies it takes into account

the sources, recipients, and amounts of money involved in each EPN transaction. Building on a theory of political parties as enduring multilayered coalitions (Herrnson 2009), we develop and test several hypotheses concerning the impact of a network actor's strategic objectives and organizational assets on their relationships with others and influence within an EPN. Using data from the 2006 congressional elections, permutation regression analysis, and nonparametric distributional tests, we show that relationships with EPNs are complex. FPOs constitute the core of each network and use their positions to influence the flow of campaign money. They are followed by party-connected committees (PCCs), comprising candidates' principal campaign committees and leadership PACs, which raise significant resources from substantial numbers of EPN members but contribute to relatively few. Allied PACs, which overwhelmingly support one party's candidates, are the furthest removed from their EPN's core. Primarily distributors rather than recipients of campaign money, allied PACs wield the least influence of all three types of actors. Overall, our results demonstrate that FPOs' abilities to influence the decisions of others have enabled them to become key players in the redistribution of campaign funds and, despite their increased prominence in popular media, leadership and other PACs have lesser influence. These findings have implications for several aspects of politics, including party organizational development and the influence of parties on elections, the selection of congressional leaders, interest group behavior, and the polarization of Congress.

### **Money and Influence in Extended Party Networks**

Research on EPNs presents a compelling challenge to Key's (1958) tripartite conceptualization of political parties as the "party in government," the "party as organization," and the "party in the electorate." Using SNA to identify actors associated with each party, their relationships with each other, and location within a party's network, researchers have provided insights into contemporary party structure, culture, decision making, and the interdependence of

a variety of partisan actors. They have demonstrated that partisan considerations structure the behavior of both party and nonparty actors, such as members of Congress (Fowler 2006), political activists (Heaney et al. 2012), and anti-war activists (Heaney and Rojas 2007). They also show that some EPNs include actors in and out of government, including congressional incumbents, lobbyists, PACs, political consultants, and news magazines (Koger, Masket, and Noel 2009, 2010; Grossman and Dominguez 2009; Skinner, Masket, and Dulio 2012).

Given the centrality of money in U.S. politics, the campaign finance arena provides many advantages for researching EPNs. Individuals and groups that participate in the financing of elections are members of social networks where information is exchanged through fundraising lists (Koger, Masket, and Noel, 2009), the mingling that takes place at fundraising events (Herrnson 2012), and other formal and informal methods of sharing political intelligence (Brown, Powell, and Wilcox 1995; Francia et al. 2003). FPOs have been shown to influence the flow of campaign contributions and expenditures made in connection with presidential elections (Robbins and Tsvetovat 2009).

Recent SNA research demonstrates the existence of distinctive Democratic and Republican campaign finance networks (e.g., Herrnson and Kirkland 2013). It demonstrates that FPOs position themselves where they can have the most substantial impact on the decision making of other EPN members. Less influential are the PCCs candidates use to raise and spend money. Allied PACs are shown to have the least influence over the spending decisions of others in their network. Nevertheless, a major limitation to this research is that it is based on networks built from the presence of financial transactions, regardless of the direction of connections or the amounts of money involved. Campaign contributions, transfers, and expenditures in party networks range from a few dollars to in excess of millions of dollars. We demonstrate that including the actual amounts involved in these transactions provides additional insights into the

dynamics of partisan campaign finance networks.

This study builds on its predecessors by testing Herrnson's (2009) theory of political parties as multilayered coalitions using weighted SNA techniques to analyze money flows in the 2006 congressional elections. The theory postulates that FPOs are the most centrally located within each EPN and possess the broadest network influence, followed by PCCs and then PACs. Our analysis conceptualizes actors as having different roles within campaign finance networks. It proposes that FPOs are major recipients and distributors of campaign funds (see Figure 1). PCCs are significant collectors and beneficiaries of campaign contributions and expenditures, but they assume a lesser role in the distribution of funds. Conversely, allied PACs are primarily distributors rather than collectors of campaign money. We assess the validity of these expectations by testing five hypotheses.

*The major beneficiary hypothesis:* FPOs will raise the most funds from EPN members, followed first by PCCs and then allied PACs. The expectations for FPOs are based on the recognition that they are the major collectors and distributors of campaign money. The Democratic Congressional Campaign Committee (DCCC) and the National Republican Campaign Committee (NRCC), for example, are leading redistributors of campaign funds in House elections. The parties' success in raising large contributions is based on several factors, including their unique ability to collect unlimited contributions from candidates' principal campaign committees and the realization of most legislators and PACs that contributing to an FPO is a standard method of gaining the attention of congressional leaders needed to advance one's political ambitions, policy goals, or other selective benefits (Heberlig and Larsen 2012; Hall and Wayman 1990). National party organizations have capitalized on these advantages, including through a profusion of high-dollar fundraising programs. Our expectations for PCCs are informed by an understanding that most campaign transactions involve candidates, and EPN

members recognize that these contributions can influence the composition of Congress, the balance of power between the parties, and the likelihood of gaining legislative access and achieving their goals (Hall and Wayman 1990; Langbein 1986) Finally, our expectations for allied PACs are consistent with their roles as distributors of campaign funds and pursuit of political access and influence.

*The major benefactor hypotheses:* FPOs will make the largest contributions and expenditures of all EPN members, followed first by PCCs and then allied PACs. This hypothesis is informed by research on the centrality of different types of network actors. As was the case with the major beneficiary hypothesis, our expectations regarding FPOs are based on their preeminence as redistributors of campaign funds. Regulations permitting FPOs to make unlimited transfers to each other and unlimited independent expenditures in elections also are considerations. Our expectations for PCCs and allied PACs are somewhat weaker. Although they are predominantly the beneficiaries of contributions and expenditures that originate with others, we anticipate that PCCs will disburse the second largest amount of funds primarily because of their ability to make unlimited transfers to FPOs and the importance of leadership PACs in elections and congressional politics more generally (Heberlig and Larson 2012). Our slightly more modest expectations for allied PACs are informed, in part, by the small number of that groups that account for most PAC spending. For example, in a typical election cycle less than 20% of all PACs account for roughly 85% of all PAC contributions and an even smaller percentage accounts for most PAC independent expenditures (e.g., Herrnson 2012).

*The profusion of donors hypothesis:* PCCs will raise funds from the largest number of EPN members, followed first by FPOs and then allied PACs. FPOs' seat maximization goals eliminate the possibility of raising funds from FPOs and PCCs of the opposing party, and greatly

reduce their likelihood of attracting contributions from PACs allied with the opposition.<sup>1</sup> PCCs associated with members of Congress, particularly leaders and committee chairs, are attractive targets for a broader range of contributors, particularly those who seek to obtain selective benefits. These donors include members of their party's congressional caucus, allied PACs in their EPN, and some allied PACs in the opposing party's EPN. Our expectations for allied PACs are informed by the same considerations that inform the major beneficiary hypothesis—their roles as donors and access seekers.

*The profusion of recipients hypothesis:* Allied PACs will distribute funds to the largest number of EPN members, followed first by FPOs and then PCCs. Some of the logic behind this hypothesis is similar to that of the profusion of donors hypothesis. Seat maximization goals should limit the group of candidates and party committees that benefit from FPO contributions and expenditures. Seat maximization combined with the specific objectives of individual politicians should also constrain the number of EPN members that benefit from PCC disbursements. Electoral considerations and the limited resources available to nonincumbents, in particular, should stem the flow of resources from PCCs to other EPN members. We expect allied PACs to distribute funds to the most EPN members for these and other reasons. Their concern with winning legislative roll-call votes and electing members of Congress that share their views encourages allied PACs to distribute funds to large numbers of PCCs and FPOs. Moreover, some allied PAC contributions flow to PCCs and FPOs located in the opposition party's EPN.<sup>2</sup>

*The influence hypothesis:* FPOs will have the greatest influence on the flow of campaign transactions of any amount and in any direction, followed first by PCCs, and then allied PACs. Influence can be a function of the number of direct or indirect incoming and outgoing

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<sup>1</sup> There are a few exceptions, including cases where candidates switched parties.

<sup>2</sup> Allied PACs rarely contribute to other allied PACs in the opposition party's EPN.

connections an actor has to other EPN members. At one extreme are actors that seek influence by forging many direct connections with others, as is specified in the profusion of donors and profusion of recipients hypotheses. In practical terms, these actors are at the center of action, and can be visualized as a hub with many spokes connecting them to others. They are exemplified by real estate agents, whose success largely is based on personal interactions. At the other extreme are actors that derive their power from a multitude of indirect connections. A classic example is the military, where the most formidable actors (admirals and generals) have indirect connections to all under their command but direct connections to few of them.

We anticipate that FPOs will exercise the most influence in campaign finance networks for a number of reasons. As a result of their political training programs, FPOs have relationships with many of the consultants and staff employed by nonparty EPN members (Skinner, Masket, and Dulio 2012). FPOs' candidate recruitment and campaign services programs furnish them with extensive knowledge of the strengths and weaknesses of individual candidates and campaigns that enable them to prioritize races on the basis of their electoral competitiveness. These programs, and FPOs' electoral surveillance and outreach activities, result in their acting as gatekeepers for behind-the-scenes information that other financiers of elections rely on to execute their political strategies. Another reason for FPOs' centrality in the network is the recognition by nonparty actors that party leaders are uniquely able to manipulate political and legislative agendas (Petrocik 1996; Damore 2005). We expect PCCs to have greater betweenness centrality than allied PACs because members of Congress have principal-agent ties with party leaders and participate directly in the policymaking process, and allied PACs do not.

*The party hierarchy hypothesis:* The Republican EPN will be more hierarchical than the Democratic EPN. A number of factors inform this hypothesis. First, the Republican Party is the more homogeneous of the two parties. Second, the GOP traditionally has focused on

strengthening its campaign infrastructure, while the Democrats also have been concerned with enhancing their party's demographic representation. Third, and related, the political operatives and activists in the Democratic EPN have more diverse perspectives (Freeman 1986; Dulio 2004). Fourth, Democratic candidates have relied on interest groups, particularly labor unions, for campaign support, while Republicans have turned primarily to their party for campaign assistance (Cotter et al. 1984; Herrnson 2012). Fifth, Republican candidates, FPOs, PCCs, and allies have typically raised larger amounts from fewer sources than their Democratic counterparts.

### **Data and Methods**

A discussion of the terms associated with SNA will help with the transition from a set of theoretical expectations to an empirical study of campaign finance networks. Connectivity forms the basis for most network statistics. It refers to the number of *edges* (direct ties) an actor has with all others. Centrality, one of the most commonly examined network statistics, indicates the relative importance of various actors based on their direct or indirect connections to each another. There are many measures of centrality, including five that are theoretically appropriate for this study. We use each as a dependent variable in our analyses.

*Graph strength-in* and *graph strength-out* are used to test the major beneficiary and major benefactor hypotheses. These measures are based on “weight” of the edges that link each network actor. In campaign finance networks, each weight is simply the sum of the contributions, expenditures, and transfers that tie two network actors. Graph strength-in measures (in \$100,000s) the weighted edges for the contributions an actor receives (or benefits from, in the cases of independent expenditures or internal communications).<sup>3</sup> Graph strength-out, by contrast, measures the weight of the contributions or expenditures an actor disburses. For example, if an

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<sup>3</sup> For ease of interpretation, all five measures used in the analyses are expressed in \$100,000s. Specifically, the edge weights were divided by 100,000.

FPO contributes \$5,000 to a candidate's principal campaign committee, both organizations have an edge with a weight of \$5,000, and a value of 5,000 is used to calculate the campaign committee's graph strength-in centrality and an identical value is used to calculate the FPO's graph strength-out centrality.

The profusion of donors and recipients hypotheses are tested using measures of *closeness-in centrality* and *closeness-out centrality*. These measures are based on the relative distance between an actor and all other actors in the network. An actor's closeness-in centrality is defined by the number of receipts it collects from all other actors in a network. That is, maximum closeness-in centrality is achieved when an actor has an incoming connection from all the other actors in the network, while an actor with few connections from others will be far from most actors in the network. Closeness-out centrality measures the number of disbursements that connect one actor to all others. The difference between the measures of graph strength and closeness centrality is that the former are based on the weight of each edge while the latter are based on the number of edges. Graph strength may be high because an actor possesses one strong connection, even when it has few other connections. Closeness centrality may only be high when an actor is connected to many unique others, regardless of the strength of any particular connections.

The last dependent variable in the study, *betweenness centrality*, is used to test the influence hypothesis. Betweenness centrality is based on the *geodesic*, or shortest path, across a network between two actors ( $i, j$ ). The betweenness centrality of each actor is the ratio of the number of geodesics it lies on to the total number of possible geodesics in the network (Freeman 1977). In layperson's terms, actors with the highest betweenness centrality have the fewest degrees of separation from others and are positioned to have the greatest impact on the flow of information (and in this case funding) across the network. The ability of actors with high

betweenness centrality to manipulate the intelligence used by others is a major source of influence. Because actors with low betweenness centrality lie on few of the paths that most actors use to connect with one another, they have less effect on information flows and possess less authority. It is important to emphasize that the influence of actors with high betweenness does not depend on their direct connections to other network members. Indeed, actors with high betweenness centrality may have low closeness centrality (Freeman, Roeder, and Mulholland 1980).

Because betweenness centrality focuses on the movement of transactions across the network, it does not have distinct incoming and outgoing components, even in a network where relationships are defined partially by directionality. Actors with very high betweenness centrality have placed themselves on the most efficient path across a network. This makes them the major hubs through which many resources in an EPN travel. As a result of their being the locus of many incoming and outgoing transactions, actors with high betweenness centrality have substantial influence over the flow of network resources.

To identify differences in the centrality of EPN members, we designate each as a *formal party organization*, *party-connected committee*, or *allied PAC*. The criterion that distinguishes an allied PACs from other PACs is that it allocated at least 90% of its campaign money to one party's candidates. Some may consider this a low threshold and others may consider it high, but it is consistent with what one might expect of a shadow party (Skinner 2006). Preliminary analysis of the data demonstrates that changing the threshold has little impact on the results; PACs classified somewhat above or below it behave similarly to those currently categorized as allies.

The first step in the analysis was to construct two weighted directional networks using Federal Election Commission and Center for Responsive Politics data: one network consists of

all financial transactions made by a Democratic FPOs, PCCs, and allied PACs in connection with the campaign of every major-party candidate who participated in elections for the U.S. House of Representatives in 2006; the other consists of the transactions made by the corresponding set of Republicans. These transactions consist of virtually every financial transaction involving network members.<sup>4</sup> They include coordinated expenditures made on behalf of a candidate, independent expenditures to elect or defeat a candidate, internal communications intended to influence an election, or financial transfers between committees. The data were aggregated so that each network has one edge whenever two actors are linked to another. Where there is no link between any two actors a value of 0 is included in the network.

The 2006 election cycle is similar to many elections held since the early 1990s. Partisan polarization and the majority party's slim margin of control in both chambers of Congress led to a toxic atmosphere and a campaign season defined by heavy spending and a prevalence of negative advertising. Almost \$3 billion was spent, including roughly \$850 million by House candidates, \$537 million by Senate candidates, and \$457 million by PACs. FPOs spent a total of about \$1.1 billion, but less than \$265 million was committed to campaign contributions, coordinated spending, and independent expenditures. Consistent with other recent election cycles, House incumbents and candidates for open-seats spent, on average, roughly three times more than the typical House challenger. The 2006 election was the first of three nationalized (or wave) elections to take place since 1994. Both this election and the one held four years later resulted in a change in the party in control of the House. The characteristics that define the similarities between the 2006 and other recent elections encouraged the leaders of FPOs, PCCs, allied PACs to take extraordinary efforts to collect, redistribute, and channel campaign money.

After we provide an overview of each party's campaign finance network, we test our

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<sup>4</sup> The data exclude actors that raised or spent insufficient funds to disclose their finances to the Federal Election Commission.

hypotheses. Because network data usually violate assumptions of independent observations, we are unable to use traditional parametric tests to assess the differences between the connectivity of different types of organizations or the impact of actor type on an organizations' positioning and influence on other network members (Cranmer and Desmarais 2011; Fowler et al. 2011; Kirkland 2013). Fortunately, nonparametric techniques that generate reference distributions directly from the data offer a powerful alternative to traditional hypothesis testing with none of the assumptions of independence. We use network permutation regression to test each of our positional hypotheses, and the Kolmogorov-Smirnov (KS) test for the equality of two distributions to test our hypothesis regarding differences between the hierarchies exhibited in the Democratic and Republican EPNs.

The first step in our statistical analysis is to regress each dependent variable on the dummy variables for actor types. Next, we create a reference distribution by scrambling (or rewiring) each of the connections in the network with some probability (Watts and Strogatz 1998).<sup>5</sup> This creates a new randomly generated network. Then, using the rewired network we recalculate the centrality scores for each actor and regress them on the dummy variables for actor types. We repeat this process thousands of times to produce a distribution of coefficients likely to be observed due to random chance. The 95% intervals of this distribution are used to determine whether the original coefficients generated from the "true" network data are statistically significant.

The final part of the analysis concerns the party hierarchy hypothesis. We test whether the cumulative density functions (CDF) for graph strength-in, graph-strength out, and unweighted graph strength-in and unweighted graph strength-out for the Republican and Democratic EPNs differ from one another using a modified version of the KS test that is

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<sup>5</sup>We scramble the network 10,000 times and rewire the connections in it with a probability of 0.95. That is, each connection is redrawn between a different set of actors with a probability of 0.95.

appropriate for data that are integers (Sekhon 2011). This test, combined with the results of some power law tests, enables us to discern whether the Republican EPN is the more hierarchical of the two.

### Party Campaign Finance Networks

What are the contours of the parties' extended campaign finance networks? Both EPNs are defined by skewed participation by their actors. The Democratic EPN consists of 1,355 unique actors that have 12,259 direct connections with one another out of a possible 1,834,670.<sup>6</sup> Only 35% of its members had 10 or more connections. However, this group was responsible for 91% of all of the connections in the network. The network's density is 0.007, indicating that less than 1% of all potential ties in the network actually exist.<sup>7</sup> The transactions that flowed among network actors ranged from \$0 to \$4,705,266 with an average \$26,923. The Republican EPN has 1,225 actors with 11,485 out of a possible 1,499,400 direct connections between them. Only 37% of the actors in the Republican network had 10 or more direct connections, but this group is responsible for more than 93% of all connections in the network. The connections in the Republican network ranged from \$0 to \$18,890,925, with an average transaction of \$24,094.

Both parties' EPNs also possess a strong core-periphery structure. The Democratic EPN's incoming and outgoing power law coefficients are 2.138 ( $p < .001$ ) and 2.110 ( $p < .001$ ), respectively, indicating that the vast majority of the network's connections are generated from and targeted to a limited number of actors. The corresponding statistics for the Republican EPN are slightly larger (2.176,  $p < .001$ ; 2.357,  $p < .001$ ), indicating it is the slightly more hierarchical of the two networks. Both EPNs are defined by preferential attachment processes that lead to a "rich get richer" effect, wherein a few actors account for most network activity (Barabasi and Albert 1999). Given these processes are similar to those reported for a network of individual

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<sup>6</sup> All network statistics are calculated using the *igraph* package in R (Csardi and Nepusz 2006).

<sup>7</sup> These measures are based unweighted direct connections among network actors.

campaign contributors (Vonnahme 2012), it is not surprising to find them in networks of financial transactions among political organizations.

FPOs are the dominant and most central actors in each EPN. Figure 2 provides a partial visualization of the positioning of the major actors in the Democratic EPN.<sup>8</sup> The number of connections each actor has to all others determines the size with which it is depicted. FPOs are represented by squares, PCCs by triangles, and allied PACs by circles. The anticipated patterns are readily observable. The DCCC, represented by the large square in the middle of the figure, is the largest and most centrally located network actor. It is surrounded by a large number of arrows, demonstrating that it receives a substantial number of contributions from others. The large number of arrows that emanate from it indicate that it also is the source of money involved in many transactions. The Democratic National Committee is also fairly influential and centrally located. Many PCCs also are located near the middle of the network. Among the largest and most central are the leadership PACs associated with the top two Democratic House leaders: AmeriPAC: The Fund for a Greater America, affiliated with Rep. Steny Hoyer (D-MD), and PAC to the Future, affiliated with Rep. Nancy Pelosi (D-CA). Rangel for Congress, Rep. Charles Rangel's (D-NY) principal campaign committee, is also centrally located, in large part, because of the roughly \$820,400 it transferred to the DCCC. Rep. Lynn Woolsey's principal campaign committee, on the other hand, transferred less than \$63,300 to the DCCC and is located much further from the center of the network. Finally, several recognizable allied PACs also are visible in the Democratic EPN, including the National Committee for an Effective Congress and the Sierra Club.

The Republican EPN bears many similarities to its Democratic counterpart (see Figure 3). The NRCC and, to a lesser extent, the Republican National Committee are centrally located

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<sup>8</sup> To make it possible visualize the locations and influence of different actors, and because the vast majority of connections involve only a few of them, Figures 1 and 2 only include actors who donated \$100,000 over the course of the campaign.

and distribute large sums. Two of its most important PCCs, Keep Our Majority PAC and Straight Talk America PAC are leadership PACs associated with party leaders, then-House Speaker Dennis Hastert (R-OH) and Senator John McCain (R-AZ). Eric Cantor's principal campaign committee also occupies central place in the party network, mainly because the future party Republican whip transferred \$577,200 to the NRCC. At the perimeter of the network is open-seat candidate Randall Graf's (R-AZ) campaign committee, which benefitted from less than \$118,000 in NRCC spending and transferred no money to Republican party organizations. Prominent conservative allies, such as the National Pro-Life Alliance and the Conservative Victory Fund, populate the periphery of the network and have very few incoming connections.

What are the relationships among the different types of actors within the parties' extended campaign finance networks? Our major beneficiary and major benefactor hypotheses posit that FPOs will both receive and distribute the largest monetary transactions in the network, followed by PCCs, and finally allied PACs. Our permutation regressions for graph strength-in provide support for these hypotheses. Recall that an actor with high graph strength-in is a major beneficiary of large contributions or expenditures, and an actor with high graph strength-out is a major benefactor who provides them. Table 1 reports the results of our regressions. The coefficients represent the differences in the average sums distributed by each type of actor compared to the average for allied PACs, the baseline category that is represented by the intercept. The coefficients for FPOs and PCCs in the first two columns of the table indicate how much more or less graph strength-in these actors have than allied PACs. The results strongly support our major beneficiary hypothesis: FPOs have the largest coefficients in the models for each party's EPN. The coefficient for the Democratic FPOs (11.697) is substantially larger than that for Democratic allied PACs (0.024). It indicates that the average FPO's graph strength-in is 4,000% greater than that for its allied PACs. In other words, the average contribution (or

financial transfer) received by a Democratic FPO is over \$1,100,000 larger than that received by its allied PAC. The coefficient on graph strength-in for Democratic PCC is also positive and statistically significant. It indicates that Democratic PCCs receive, on average, \$100,000 more in donations than Democratic allied PACs. The differences between the party's FPOs and PCCs also are statistically significant. The average contribution (or financial transfer) received by a Democratic FPO is \$1,000,000 larger than that received by a Democratic PCC.

The findings for graph strength-in for the Republican EPN parallel those for the Democratic network. Republican FPOs receive roughly \$1.2 million more than Republican allied PACs, and Republican PCCs receive an average of more \$100,000 more than allied PACs, though the difference between Republican allied PACs and PCCs fails to reach statistical significance. The differences between the party's FPOs and PCCs are again quite large, indicating that Republican FPOs receive an average of \$1 million dollars more than their party's PCCs.

The results for graph strength-out demonstrate that Democratic and Republican FPOs spend significantly more funds than allied PACs and PCCs. Indeed, the coefficients on FPOs' graph strength-out are even larger than FPOs' graph strength-in. They indicate that Democratic FPOs distributed an average of \$1.4 million to party EPN members, compared to \$800,000 for Democratic PCCs and \$537,000 for Democratic allied PACs. The figures for Republican groups are comparable: the party's FPOs distributed an average of \$1.5 million, and its PCCs and allied PACs distributed \$800,000 and \$300,000, respectively. Although the coefficients for Democratic and Republican PCCs are in the predicted directions, their lack of statistical significance demonstrates that they, like allied PACs, distributed relatively small amounts to other network members. These findings were not entirely unanticipated. Overall, the results for our tests of incoming and outgoing graph strength demonstrate that FPOs are both the major beneficiaries

and benefactors in their respective EPNs. The results establish the FPOs' preeminence as collectors and distributors of financial resources during campaigns.

Our profusion hypotheses imply that PCCs benefit from the contributions and expenditures of many and make contributions to relatively few, allied PACs will collect money from few and distribute funds to help many, and FPOs will distribute and collect funds to and from moderate numbers of network actors. The results from our permutation regressions for the two measures of closeness centrality provide substantial support for our hypotheses. The first two columns in Table 2 demonstrate that PCCs in both the Democratic EPN and the Republican EPN have the highest levels of closeness-in centrality, followed closely by FPOs, and then by allied PACs (represented by the intercept).<sup>9</sup> The third column in the table shows that Democratic allied PACs have the highest levels of closeness-out centrality, followed by FPOs and then PCCs. The relationships among members of the Republican EPN differ somewhat. As hypothesized, Republican allied PACs have significantly more closeness-out than Republican PCCs. However, Republican FPOs have levels of closeness-out centrality that are virtually identical to their party's allied PACs.

Overall, the findings for the profusion hypotheses conform to our expectations. Allied PACs' lack of formal government standing and political objectives result in few groups supporting them and their supporting many others. The ability to directly influence the legislative process enables PCCs sponsored by incumbents, especially congressional incumbents, to raise sums from many allied PACs and other EPN members that seek political influence. Electoral competition also makes PCCs, mainly principal campaign committees in associated with candidates in closely contested races, prime targets for contributions by FPOs and allied PACs. Financial constraints and the electoral concerns limit the number of contributions that many PCCs, particularly those sponsored by nonincumbents and candidates in tight elections, make to

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<sup>9</sup> The differences between PCCs and FPOs in both EPNs fall well short of statistical significance.

others. Finally, FPOs' seat maximization goals, FPO leaders' influence over policymaking process, and recognition by other network actors that FPOs are major redistributors of campaign money results in FPOs in both EPNs raising substantial funds from many actors. Given our theoretical expectations, one would expect Democratic FPOs to occupy an intermediate position in terms of the number of groups they support financially. However, it is somewhat surprising that Republican FPOs support almost identical numbers of EPN members as Republican allied PACs. Nevertheless, this finding is consistent with research that shows Republican candidates' greater reliance on party organizations for campaign support (Cotter et al. 1984; Herrnson 1988, 2012).

Our influence hypothesis suggests that modern FPOs should be most centrally located in their respective networks and have the greatest influence over the flow of resources within them. Their overriding objectives, campaign service programs, surveillance and outreach efforts, and the power associated with their leaders are important assets in electoral and legislative politics. The findings from our analysis of the betweenness centrality of different EPN members support this hypothesis. FPOs in both campaign finance networks position themselves to exercise the greatest influence over other network members. Democratic FPOs represent the shortest route between two different actors for 312% more Democratic EPN members than Democratic allied PACs. Similarly, Republican FPOs provide the shortest route for 261% more Republican actors than Republican allied PACs. Only in the Republican EPN do PCCs possess significantly more betweenness centrality than allied PACs. PCCs sponsored by GOP candidates provide the shortest path between two actors for 190% more actors than allied PACs and 27% fewer actors than Republican FPOs.

Finally, the party hierarchy hypothesis maintains that the Republican EPN will exhibit a stronger core-periphery structure than its Democratic counterpart. That is, the Republican EPN

should have fewer centrally located actors, and they should exercise greater influence. We already have presented some evidence for this hypothesis: Republican FPOs have the highest graph-strength in and graph-strength out, and Republican FPOs also have highest closeness-in and closeness-out centrality. The results of KS tests presented in Table 4 provide more systematic evidence. They demonstrate that there are significant differences between the CDFs for Democratic and Republican incoming and outgoing weighted and unweighted graph strength.<sup>10</sup> Combined with the findings reported earlier that show the Republican EPN has larger power law coefficients than the Democratic EPN, these findings provide strong evidence that the core-periphery structure of the Republican EPN is significantly stronger than that of the Democratic EPN network. To illustrate these findings, we simulate 1,000 graph strength-in distributions using the power law fit parameters from each party's EPN and plot their mean and 95% confidence intervals in Figure 4. The figure shows that the EPNs' graph strength-in distributions are nearly identical for low values, but diverge for high values. The greater length of the tail for the Republican distribution indicates that there is a greater probability of observing an actor with extremely high levels of incoming graph strength-in the Republican than the Democratic EPN. This supports our expectation that the Republican EPN is more hierarchical and significantly more of its activity is concentrated among a smaller number of actors.

The findings for the hierarchy hypothesis are consistent with those of previous research (Heaney, et al. 2012 ; Herrnson and Kirkland 2013) and can be explained by a number of factors. First, Republican members of Congress are somewhat more ideologically homogeneous (e.g., Theriault 2006) and typically cooperate more in order to advance their ideological views (Freeman 1986). Second, Republican FPOs traditionally have been more focused on pursuing electoral victories, while Democratic FPOs also have been attentive to enhance demographic representation (e.g., Klinkner 1994). Third, Democrats have been able to turn to allied interest

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<sup>10</sup> Typically referred to as degree centrality, this is a count of the connections going to or coming from each actor.

groups, particularly labor unions, for campaign support, while Republicans have relied primarily on FPOs for campaign assistance (Cotter et al. 1984; Herrnson 1988, 2012). A fourth explanation concerns the impact of majority control. Members of the majority party (the Republicans in 2006) are acutely aware that a loss of procedural control would result in their forfeiting many benefits, including the ability to set the legislative agenda (Heberlig and Larson 2012). As a result, their PCCs target candidates in closely contested elections for contributions. Presumably, PACs allied with the majority party also would respond this logic (Cox and Magar 1999). Thus, party control may have added to the hierarchy of the Republican network during the 2006 elections.

### **Conclusion**

This study has used campaign finance data and SNA to test a theory of political parties as enduring multilayered coalitions. The findings demonstrate that a network actor's strategic assets, such as an affiliation with a party leader, and strategic objectives, including seat maximization and political access, influence its election activities and location in its party's extended campaign finance network. FPOs are the most centrally located of all EPN members and use their position to strategically redistribute campaign funds. Their seat maximization goals, election activities, and leaders' influence over the policymaking process position them to collect and distribute larger sums of campaign money than other EPN members, raise the most funds from EPN members, and have the largest impact on the flow of money within their network. PCCs are concerned first and foremost with advancing their sponsors' goals, including those concerned with elections and political influence. PCCs are primarily recipients rather than distributors of campaign money. Electoral considerations and the pursuit of political access enable PCCs to benefit from the transactions of more network actors than any other group of EPN members. They also result in PCCs ranking second only to FPOs in the ability to attract

large sums. Because the pursuit of influence usually requires contributing to the advancement of party goals, many PCCs sponsored by incumbents transfer funds to FPOs and follow party cues when distributing campaign money. PCCs are less centrally located in EPNs and possess an intermediate amount of influence over the flow of campaign money. Allied PACs reside on the periphery of EPNs. Their overriding goals are the election of candidates who share their priorities and the cultivation of politicians who can advance their priorities. Their principal role is to distribute rather than collect campaign funds. Consistent with their goals, they contribute to more actors than any other EPN members and receive relatively few contributions and fewer large contributions. They have least influence over the spending decisions of others in their respective EPN. These generalizations apply to both parties' campaign finance networks, but there are some differences between them. The Republican EPN is the more hierarchical of the two. Compared to the Democratic EPN, it is influenced disproportionately by a small group of actors.

The results of this study have substantial implications for the study of political parties and campaign finance. First, they add to a growing literature that demonstrates that a complete conceptualization of parties and party influence should include actors besides traditional party committees. Second, they support the conceptualization of party networks as coalitions comprising different types of organizations that are connected by overlapping goals, shared information and personnel, and a web of financial transactions. Third, they build on theories that argue a party's influence is largely determined by its ability to meet its politicians' needs by demonstrating that—in order to meet those needs—contemporary parties rely on PCCs created by politicians and allied PACs organized by supportive interest groups. Fourth, they reinforce the perspective that money flows to power and demonstrate that the ability to influence the financial transactions of others is an important source of party leaders' influence. Fifth, the differences in the hierarchies of the Democratic and Republican EPNs provide additional support for

generalizations developed from studies of congressional organization, campaign conduct, and the organization of the party apparatus itself. Finally, the measures used in this study may be used to provide insights into other aspects of politics, including legislators' party unity, bill co-sponsorships, and career advancement. The abilities of FPOs, particularly the DCCC and the NRCC, to orchestrate the flow of large sums of campaign money also may help explain interest group behavior and polarization of American politics.

This study has tested several hypotheses about the roles of different types of groups in Democratic and Republican party campaign finance networks. Nevertheless, more research is needed in this area. Given that individuals typically account for 56% of the funds raised by House candidates, 68% of the funds raised by Senate candidates, and most of the monies collected by party organizations and PACs, it would be worthwhile to extend the analysis of party financial networks to include individual donors. Future research also could compare the structure of House and Senate campaign the finance networks. Given that Senate candidates rely less on contributions from interest groups and the Senate is the less hierarchical of the two chambers, one would expect the campaign finance networks for Senate elections to be less hierarchical than those for the House. Finally, replications of this study should include data from other election cycles, particularly 2012—the first full presidential and congressional election cycle in which super PACs, 527 committees, 501(c) groups, and their corporate, union, and other sponsors could spend money in federal elections.

Regardless of the outcomes of additional research, the findings of this study demonstrate that to fully understand the roles of political parties in elections, one must look beyond the organizations that the law and most academic studies formally recognize as party committees. Party-connected committees and party allies have assumed nuanced roles in orchestrated bids for power.

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**Table 1: Graph-strength in Extended Party Campaign Finance Networks**

Actor type	Democratic graph strength-in	Republican graph strength-in	Democratic graph strength-out	Republican graph strength-out
Formal party organizations	11.697* (-2.723, 4.109)	12.032* (-3.102, 5.059)	14.542* (-3.696, 5.051)	15.118* (-3.689, 5.765)
Party connected committees	1.614* (-2.385, 1.605)	1.646 (2.833, 1.800)	0.269 (-3.391, 2.168)	0.579 (-3.792, 2.289)
Intercept	0.024* (1.229, 4.203)	0.010* (1.123, 4.219)	0.537* (0.957, 4.956)	0.306* (0.862, 4.583)
N	1,355	1,255	1,355	1,255
R-Squared	0.023	0.025	0.021	0.023

Note: Reference category is Party Allies. Intervals represent expected range of network statistics due to random chance. \* p < 0.05.

**Table 2: Closeness Centrality in Extended Party Campaign Finance Networks**

Actor type	Democratic closeness-in centrality	Republican closeness-in centrality	Democratic closeness-out centrality	Republican closeness-out centrality
Formal party organizations	0.077* (-0.001, 0.001)	0.129* (-0.001, 0.001)	-0.012* (-0.001, 0.001)	-0.001 (-0.001, 0.001)
Party connected committees	0.081* (-0.001, 0.001)	0.130* (-0.001, 0.001)	-0.038* (-0.001, 0.001)	-0.034* (-0.001, 0.001)
Intercept	0.092* (0.115, 0.144)	0.106* (0.142, 0.183)	0.177* (0.113, 0.141)	0.177* (0.124, 0.145)
N	1,355	1,255	1,355	1,255
R-Squared	0.309	0.098	0.347	0.159

Note: Reference category is Party Allies. Intervals represent expected range of network statistics due to random chance. \*  $p < 0.05$ .

**Table 3: Betweenness Centrality in Extended Party Campaign Finance Networks**

Actor type	Democratic betweenness centrality	Republican betweenness centrality
Formal party organizations	0.507* (-0.241, 0.191)	0.308* (-0.254, 0.203)
Party connected committees	0.093 (-0.225, 0.161)	0.225* (-0.247, 0.177)
Intercept	0.162 (0.105, 0.444)	0.118 (0.101, 0.486)
N	1,355	1,255
R-Squared	0.011	0.021

Note: Reference category is Party Allies. Intervals represent expected range of network statistics due to random chance. \*  $p < 0.05$ .

**Table 4: Kolmogorov-Smirnov Test for Equality of Distributions**

Connection Type	Weighted Graph Strength	Unweighted Graph Strength
Incoming	0.071* (0.003)	0.069* (0.001)
Outgoing	0.078* (0.001)	0.072 (0.001)

Note: Test compares empirical cumulative density functions to determine the likelihood that two cumulative density functions were drawn from the same population probability density function. P-value appears below test statistic.

Figure 1. A Conceptualization of the Actors in Party Campaign Finance Networks

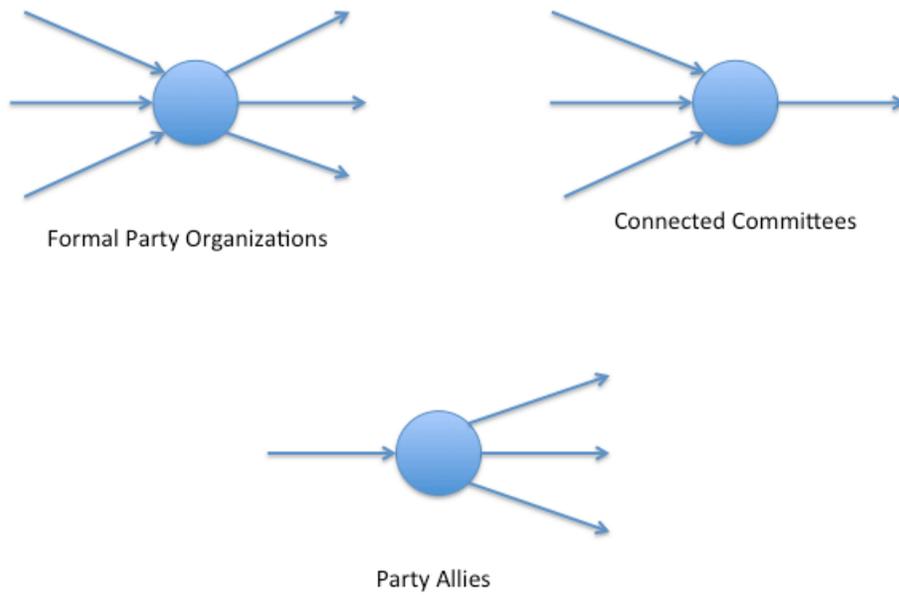


Figure 2. The Major Actors in the Democratic Extended Campaign Finance Network

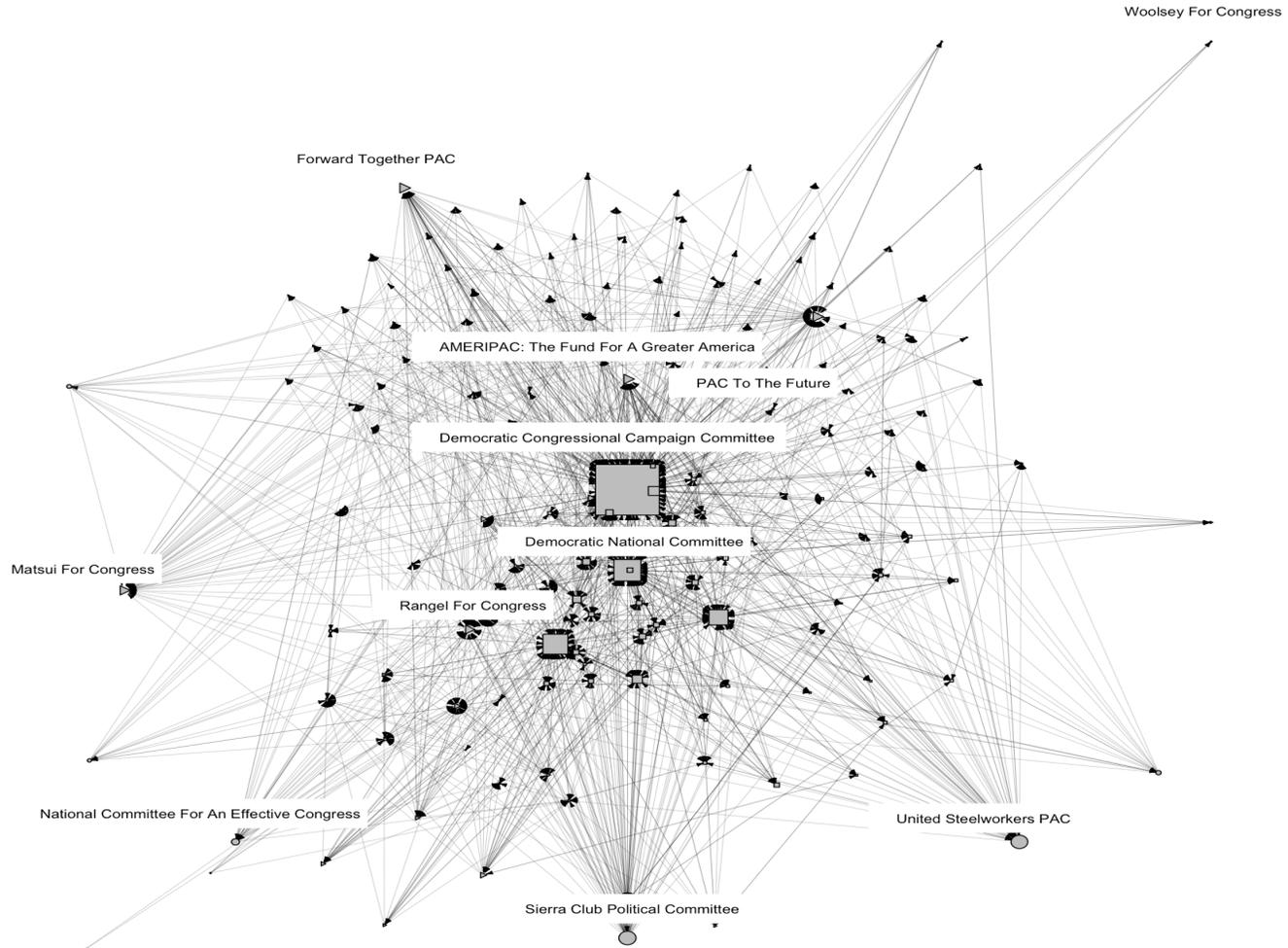


Figure 3. The Major Actors in the Republican Extended Campaign Finance Network

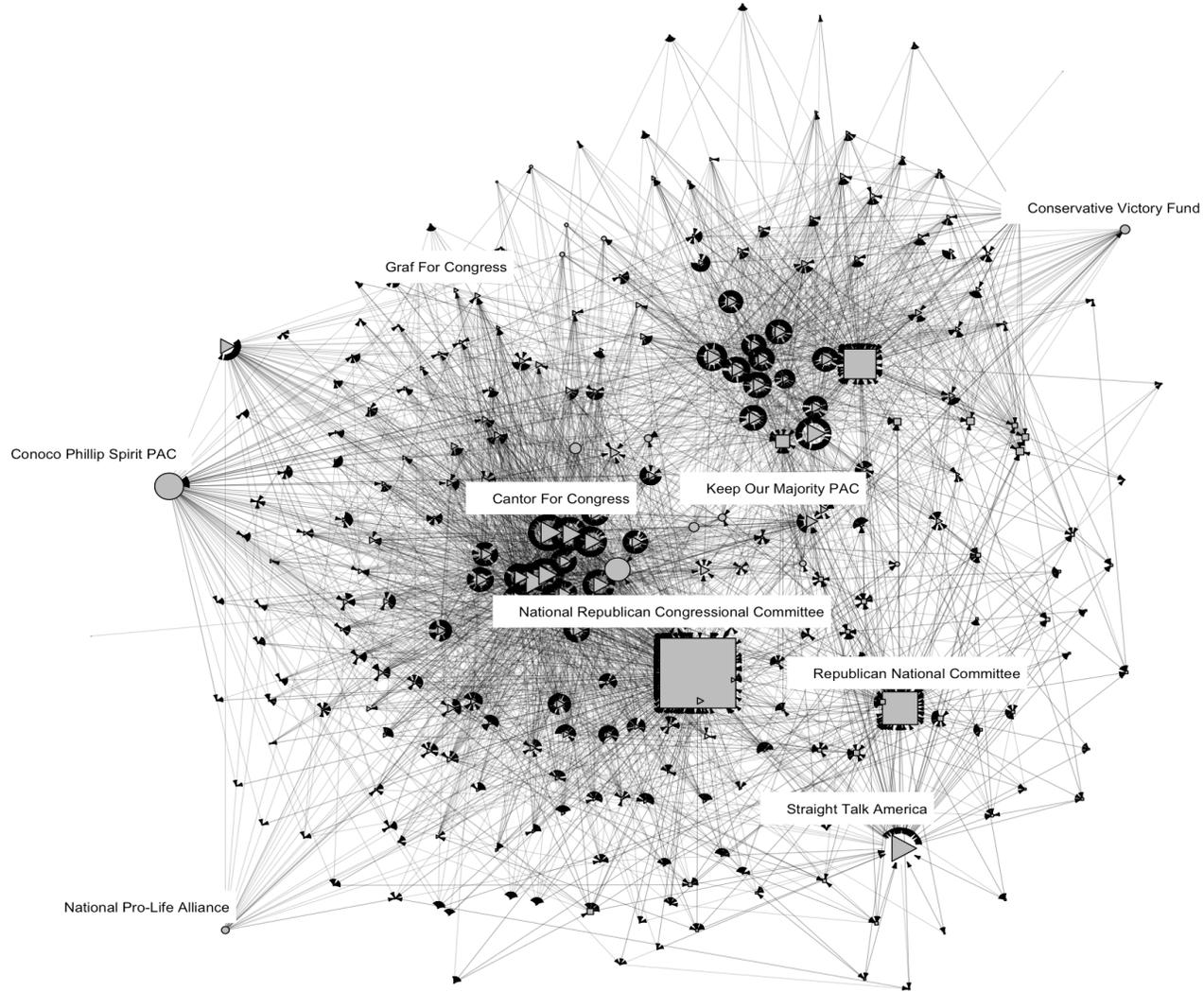


Figure 4. Simulated Distribution of Graph Strength-In for Republican and Democratic EPNs.

