

The Exchange Theory of Party Influence and the Coordination of
Collective Action in the U.S. House of Representatives

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Abstract: While students of American politics are accustomed to thinking of members of Congress as recipients of campaign contributions, congressional candidates are increasingly active as contributors to their parties and other candidates. This paper outlines an exchange theory of party influence where parties resolve collective action problems among their members by offering selective incentives that advance member ambitions in exchange for support of party goals. The theory is tested in two areas of partisan influence. First, in the instance of committee chair selection, we argue that Republican Party leaders pioneered a system that uses committee leadership positions to reward individuals who support party fund-raising and policy goals. Second, in the instance of the allocation of federal distributive benefits, we contend that party leaders use pork as a selective incentive to promote support for party fund-raising and policy initiatives.

1 Members as Contributors

POLITICIANS with power have always worked to help elect other like-minded politicians. Presidents, presidential candidates and popular political figures regularly appear at fundraisers or offer endorsements. However, over the last twenty-five years, politicians themselves have begun to contribute increasingly larger sums to candidates. Under the provisions of the Federal Election Campaign Act (FECA), federal candidates may raise and spend unlimited amounts of money from individuals (in increments of \$2,000 per candidate per election in 2002 dollars) and political action committees (PACs) typically sponsored by organizations (in increments of \$5,000 per candidate per election in 2002 dollars).

While businesses, labor unions, and interest groups are the most common sponsors of PACs (and have been the subject of many scholarly studies), there are no legal restrictions prohibiting individuals from forming PACs that are not associated with an organization. In fact, sitting members of Congress can, and often do, form PACs. In 1978 a sitting member of the House of Representatives, Henry Waxman (D-CA), became the first member of Congress to sponsor such a PAC. Waxman wanted to chair the subcommittee on Health (a subcommittee of the Energy and Commerce Committee), but was not the most senior member. By Democratic Party norms, Waxman's lack of seniority meant that someone else was entitled to the position. However, Waxman speculated that he might be able to use his fund-raising skills to help him win the position. Waxman formed a PAC, raised funds, and redistributed the money (in increments of several thousand dollars) to other Democrats. His tactics proved to be persuasive—he ultimately won the subcommittee chair position he sought.

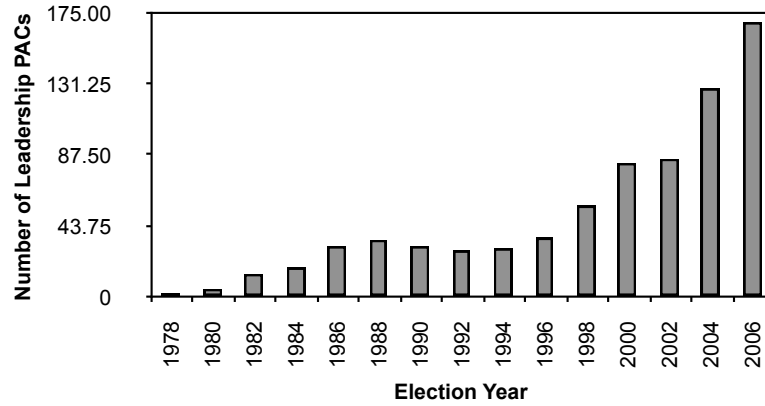
Because these politician-sponsored PACs are frequently formed by sitting or aspiring congressional leaders, member-sponsored PACs are commonly referred to as leadership PACs. Since 1978, more and more members of Congress have formed PACs. Figure 1 shows the number of active leadership PACs sponsored by members of the House of Representatives from 1978 to 2006. The general trend is clearly increasing, with substantial gains in the most recent election years.

Naturally, with the proliferation of these PACs we have also witnessed a dramatic increase in the amount of money raised and redistributed through these member-led PACs to a point where sitting members of Congress are now a major source of campaign funds. While the McCain-Feingold law made significant changes in the campaign finance system, it placed no regulations on leadership PACs. In fact, Senator McCain (R-AZ) maintains a leadership PAC of his own.

In addition to contributing from leadership PACs, members of Congress make contributions directly from their own re-election funds. Many candidates, particularly safe incumbents, raise far more money than they spend. Ansolabehere and Snyder (2000) argue that some candidates accidentally raise more money than they need. Other scholars contend that large “war chests” serve political purposes, either as a deterrent to future challengers (Box-Steffensmeier 1996) or more likely as insurance in the event that a legislator faces a stiff challenge in the future (Goodliffe 2001). Notwithstanding the political importance of these uses for war chests, many members of Congress share at least a portion of their excess re-election funds with other members of Congress. In this way, candidate-contributors can give the maximum contribution twice—once from a leadership PAC, and again from their personal campaign funds.

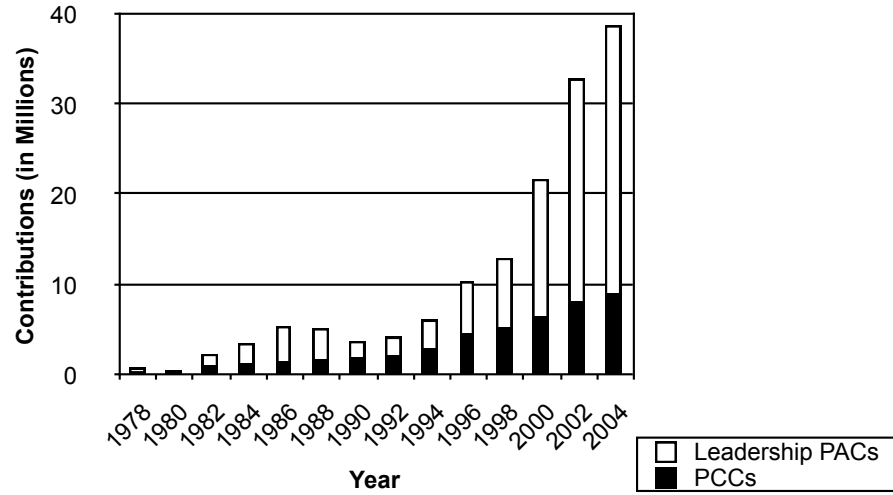
Figure 1 illustrates the level of contributions from House and Senate candidates to other House and Senate candidates in 1978 through 2004. Two features of the figure are worth particular note: First, there is a general trend of increases in member contributions over time, and second, that level of member contributions appears to have exploded after the Republican takeover of Congress. The prevailing explanation for the effusive growth in member contributions is the increased competition for majority control of Congress. Heberlig and Larson (2005), for instance, show that as the seat margin between Republicans and Democrats narrows, the amount of member contributions increases. Kolodny (1998), Kuhn (1999), and Currinder (2003) make similar arguments regarding the pursuit of majority status as a driving factor behind member contributions. While members of Congress clearly derive substantial benefits from their party obtaining majority status, Olson (1965) shows that a personal interest in obtaining the benefits of some collective action is generally not sufficient to ensure support for the collective goal. Instead, either a selective incentive (an

Figure 1: Number of Leadership PACs Sponsored by Members of the House of Representatives, 1978-2006.



Source: Buchler (2002), The Almanac of Federal PACs 1997-98, and the Center for Responsive Politics <<http://www.opensecrets.org>>

Figure 2: House and Senate Member-to-Member Contributions, 1978-2004



Sources: Buchler (2002); Belington and Malbin (2003); Center for Responsive Politics (<http://www.opensecrets.org>)

excludable good that is received only by individuals supporting the collective goal) or some type of coercion is required to prevent individuals from shirking on collective goals but reaping the non-excludable benefits derived from whatever degree of collective action is achieved. While increased member-to-member and member-to-party giving may indeed be driven by the fierce battles for majority control of the House as witnessed in recent years, an important piece of the theoretical puzzle is missing: Why do individual members of Congress devote time and other scarce resources to raising funds only to turn the money over to their party or to fellow-party candidates?

2 The Exchange Theory of Party Influence

Some scholars have argued that members of Congress sometimes raise more money than necessary by accident because they expected a strong challenger but ultimately face a weak challenger instead (Ansolabehere and Snyder 2000; Goodliffe 2004, 2007). It could be that members of Congress simply pass on these excess funds to the party or to other members of Congress. However, the notion of excess funds as accidents cannot explain the dramatic rise in member contributions in the last 20 years unless one assumes that candidates make many more accidents in estimating the amount of funds needed for election today than they did ten or twenty years ago. Rather than writing off the member contributions phenomenon as a non-systematic series of accidents, we contend that members of the House intentionally raise these funds and contribute to other candidates and their parties in situations where doing so advances their personal ambitions.

Sinclair (1983), Cox and McCubbins (1993, 2005), and Currinder (2003) have all suggested that political parties will best be able to advance their goals when party leaders structure the Congressional world in such a way that support of the party also furthers the individual ambitions of party members. Indeed, Aldrich (1995) contends that members adopt a partisan identification specifically because it is in their best interest to do so. Historically, party leaders who exercise their powers in such a way as to make it beneficial for members to support the party are particularly effective (Cooper and Brady 1981). The exchange theory has its basis here: Party leaders enter

exchanges with rank-and-file members of Congress that advance the respective goals of both the party and the individual members.

Exchange theories have been applied widely in the social sciences. The roots of exchange theory were developed in sociology, with Homans (1958) arguing that social relationships can be evaluated in terms of what each party to a relationship gives and receives. In this conception, all social activities are an exchange of goods or intangibles, all of which have rewards and costs (Homans, 1961: 12-3). The theory predicts that individuals required to give more than they receive from a relationship are likely to exit the relationship. Applications of this principle abound in political science, including the exchange theory of interest group membership (Salisbury 1969) and Waldman's (1972) applications of exchange theory to citizens political activities (including political culture, legitimacy, and conflict resolution). Perhaps it is because the resurgence of congressional parties was just beginning as Waldman wrote that he did not discuss the application of exchange theory to political parties (especially party leaders) and their members as an important determinant of activity within Congress. Nevertheless, we will see that exchanges brokered by party leaders that help both members and parties further their goals will prove to be powerful sources of party influence. To understand these exchanges, we must first understand the goals of both individual members of Congress and the political parties.

Schlesinger (1966) contends that politicians activities are driven by their ambitions. Fenno's (1973) trichotomy of ambitions has been broadly accepted as a statement of politicians goals. Fenno contends that members of Congress seek election (or re-election), power in Washington, and good public policy. Of course, at times, these goals conflict with each other (Aldrich and Rohde 2000). A member of Congress may seek a party leadership position (power in Washington), but in order to win that position, they may need to make ideological compromises (which may conflict with their desire to make what they consider good public policy). Alternatively, members seeking a leadership position may at times be required to sacrifice some of their own campaign funds or may need to vote more frequently with their party, both of which may hamper their re-election goals (though members will be careful minimize the risk of losing re-election).

While all three of these member ambitions are certainly important factors in many facets of legislators decision-making, the primacy of the electoral ambition cannot be disputed, as election is a prerequisite for obtaining power in Washington and crafting good public policy (Mayhew 1974). Nevertheless, there are many electorally safe members with deeply held desires to gain more power or see certain policies enacted. Further, it has been shown that while winning is important, members do not behave strictly as vote-maximizers (see for example Milyo 2001). Thus, it seems unwise to excessively discount the non-elective goals of legislators.

Political parties hold two fundamental goals. First, political parties aspire to control a countrys governing institutions and thereby manage the coercive power of government (Downs 1957). Second, political parties seek to enact their preferred policies. The idea of policy-oriented Congressional parties goes as far back as Wilson (1885), but the goal is reiterated in contemporary works on parties as procedural coalitions (e.g. Cox and McCubbins 1993, 2005). In many ways, the goal of majority status is much like an individual legislators goal of election: It is difficult for a party to craft good public policy without the power that comes with majority status. Nevertheless, it seems as unreasonable to think that parties have no goal but to control the government as it is unreasonable to think that politicians have no goal but to be elected. Indeed, the very reason parties seek to control the government is so they can create what they deem to be good policy. A party derives few benefits from ruling if it cannot implement at least some of its preferred policies.

As argued by Cann (2008), we contend that that political parties are particularly influential when they structure the congressional world in such a way that the choices that best advance members' ambitions also advance the party's ambitions. Political parties achieve these conditions by offering valuable selective incentives in exchange for members' support of collective goals. While a multitude of such exchanges likely exist, in the constraints of this project we consider only two. First, we examine the exchange of committee chair positions for support in achieving party fund-raising goals and for unity in roll-call voting. The party's willingness to make leadership positions conditional on member contributions offers at least a partial solution to the collective action problem the political parties face in soliciting support from their members. To the extent

that party leaders can control who holds positions of power in Congress (i.e. committee chairs, subcommittee chairs, and party leadership positions), they may use them a selective incentive to encourage members to contribute to the party and to party candidates. Second, we examine the exchange of federal distributive benefits targeted at legislators' home districts in return for party fund-raising and support for the leadership's policy goals. Pork is potentially a valuable electoral resource; as such, members of the party may be willing to incur the costs of supporting party goals if the utility of the accompanying pork is greater than the costs of supporting their party's collective efforts.

3 The Exchange Theory and Committee Chair Selection

The 1910-11 revolt against House Speaker Joseph Cannon initiated a process where powers previously held by the Speaker gradually diffused to committee chairs (Sala 2003). As the powers of committee chairs grew, a norm of seniority developed where the most senior member of a committee essentially held a property right to chair that committee (Abram and Cooper 1968; Polsby, Gallaher, and Rundquist 1969). This norm held rather firmly until the congressional reforms of the 1970s. In 1971, House Democrats allowed their Committee on Committees to recommend new chairs even if the recommendation violated seniority. Additionally, rather than approving committee chairs as a slate, caucus rules were changed to allow a secret ballot up-or-down vote on each committee chair (Rohde 1991). Cox and McCubbins (1993) show that these rules changes resulted in small number of uncompensated seniority violations through the 1970s and 80s.¹

The Republican revolution in 1994 brought a number of changes to committee chair selection in the House. Seniority was to be just one factor among many in determining committee chair selection. Further, they implemented a three-term limit on committee chairs.² Although

¹Schickler and Rich (1997) argue that the small number of uncompensated seniority violations through the mid-20th century indicates and provides evidence that party leaders did not dole out such punishments with an iron st. Although Cox and McCubbins (1997) concede that there were few violations in that time period, they maintain that observing few seniority violations in that time period is consistent with the low cohesiveness of the majority party throughout the 20th century. Further, they maintain that only a party-oriented theory can explain both the low levels of seniority violations in the 1950-70 period and the resurgence of violations in the postreform era.

²The new Democratic majority has maintained these rules.

these rules changes appeared to give party leaders the ability to hand-pick committee chairs, it was unclear how far leaders would move from the traditional norm of seniority. Under Republican rule, the committee chair selection process evolved through three regimes of committee chair selection. Quickly following the 1994 elections, incoming Speaker Newt Gingrich (R-GA) simply named committee chairs before most members of Congress were even back in Washington (Aldrich and Rohde 199798). Notwithstanding the antiseniority rhetoric, Gingrich largely adhered to the norm of seniority, though he skipped over the heir apparent for the Agriculture, Appropriations, Energy and Commerce, and Judiciary committees to appoint less senior (and more loyal) members. While organizing at the outset of the 104th Congress, the House Republican Conference developed a new set of rules for selecting committee chairs where the Republican Steering Committee recommends a slate of committee chairs.³ The Republican Conference may vote on these recommendations either individually or in groups (Schneider 2002; Deering and Wahlbeck 2006). It is under this method of selection that chairs were selected for the 105th and 106th Congresses.

Brewer and Deering (2005) qualitatively discuss a new process developed by then-Speaker Dennis Hastert (R-IL), first used to select committee chairs for the 107th Congress. Under the new process, committee members interested in a chair position apply for the position by interviewing with the Steering Committee. The Steering Committee then deliberates and selects a chair. Aside from the vague guideline that seniority would be only one factor among many, the Steering Committee did not disclose what its criteria for chair selection were. However, most committee chairs selected by the Steering Committee under the interview process have not been the “next in-line” for the position by virtue of seniority. If seniority is no longer the key factor in determining committee chairs, it becomes scholars to determine what election criteria may have taken its place. But beyond simply telling us whether or not seniority matters in committee chair selection, we can potentially learn whether or not party leaders have successfully taken control of the committee chair selection process, enabling them to offer these powerful positions as incentives to induce support for party fund-raising and policy goals. To that end, we seek to establish the relationship between

³It is important to note that the Steering Committee is dominated by party leaders and loyalists, see Deering and Wahlbeck (2006) on this point.

fund-raising, party voting support, seniority, and committee chair selection in each of the three previously described regimes of committee chair selection.

3.1 Variables and Hypotheses

Based on the earlier discussion of seniority and the exchange framework for parties and party members, we test three hypotheses in each of the three regimes of committee chair selection. The first regards the seniority norm. The traditional view of seniority essentially grants the most senior member of a committee property rights to the chair position. To test whether or not the traditional seniority system has been dismantled calls for a dummy variable indicating whether a legislator is the most senior person seeking that chair position. That being the case, it may also be appropriate to test whether one's relative level of seniority matters. Even if Republicans moved away from granting the chair to the most senior person a chair position, it is possible that level of seniority is still a consideration. If party leaders remain bound to the seniority system (by choice or otherwise), the exchange theory would not be supported.

Two additional variables seem appropriate to consider as rival explanations for committee chair selection. First, a member's level of support for party goals as measured by their voting could be an important consideration for party leaders allocating chair positions. Indeed, Heberlig (2003) shows that party leaders are more likely to give positions on prestige committees to individuals with higher levels of party unity. It seems that a similar relationship may exist for committee chair positions as well. We measure party unity using a committee chair candidate's average CQ party unity score from the Congress preceding the Congress in which they seek a committee chair appointment. Notwithstanding the limitations of the measure (Krehbiel 2000), members of Congress often reference these scores in evaluating commitment to party causes, making them useful in terms of gauging leaders perceptions of a member's propensity to support the party. A significant positive coefficient would support the notion from the exchange theory that party leaders offer committee chair positions as incentives to promote voting unity.

The second additional variable that may help explain committee chair selection is party fund-

raising. Members of Congress may make contributions in support of party goals from both their personal campaign funds and a leadership PAC (if they sponsor one). Members may contribute both to party committees (e.g. RNC, NRCC, DNC, DCCC) and directly to the campaigns of their fellow-party candidates. The exchange framework discussed above suggests that as members help their party achieve its goals (in this instance, fund-raising), the party will help members achieve their goals (in this instance, power in Washington). Members who contribute more money to the party and party candidates should be more likely to win a committee chair position. Contributions are measured in thousands of dollars. A significant positive coefficient would support the notion from the exchange theory that party leaders offer committee chair positions as incentives to promote fund-raising for the party and party candidates.

3.2 Statistical Model

Developing a model of committee chair selection requires consideration of a number of nuances of the selection process. Deering and Wahlbeck (2006) estimate a probit model with sample selection (Dubin and Rivers 1989) for chair selection in the 107th Congress only. A number of problems with this approach exist, largely stemming from the fact that members of Congress participate in individual contests for a specific chair position.⁴ For example, a fixed number of committee chair positions exists (15 chairs were open in the 107th Congress), but a standard binary choice model imposes no constraint on the number of individuals who could win chair positions. Moreover, individuals who faced no opposition for their chair position should have had a probability of 1 of winning a chair, but predicted probabilities from the Deering and Wahlbeck model show that some of these individuals had small predicted probabilities of winning. Similarly, it should be clear that a binary choice model is an improper probability model for a process like committee chair selection because the probabilities of winning for all contestants in a particular race are not constrained to sum to 1. Perhaps the key problem associated with the binary choice approach can also be put in substantive terms. A binary choice model of the probability of being selected for a

⁴Obviously, the selection equation does nothing to ameliorate this problem.

chair position compares the level of seniority (and levels of other factors) with all all other chair candidates. However, it is far more appropriate to compare each candidate’s characteristics only with the other candidates seeking the same specific position. Indeed, the seniority system itself is based on length of service relative to other members of the same committee. Neglecting these types of data dependencies leads to inconsistent estimates (Greene 2003). This approach is analogous to modeling victory in congressional elections using a probit model where each candidate constitutes a single observation. Two candidates vying for the same position in an open seat race with high levels of spending could both be “predicted winners” while an incumbent who spends little because he/she faces no serious competition could have a predicted probability below .5. Most importantly, the effects of the variables predicting probability of victory would be incorrectly estimated. Even if the signs on the coefficients were in the expected direction, little credibility could be given to the estimates of the effects from that model.

In order for a statistical model of committee chair selection to mirror reality, it must account for the fact that chair candidates compete in races for specific chair positions. Congressional elections scholars have dealt with this problem by using the race as the unit of analysis and defining the dependent variable in terms of one candidate (the incumbent, the Democrat, etc.) and using independent variables that measure characteristics of both that candidate and their opponent (e.g. Jacobson 2006). This approach works well where there are two candidates in each race. However, the number of candidates for each committee chair position varies across races, making this approach impossible.

We apply a conditional logit model to model committee chair selection. McFadden (1974) developed the model in the context of an individual making a decision multiple choices where different individuals face choice sets of (potentially) varying sizes. Let j index choices and i index choice sets. Based on a random utility approach, McFadden writes the probability of choosing choice j from choice set i is as a function of a set of predictor variables and coefficients as

$$p(y_{ij} = 1|\beta) = \frac{e^{\mathbf{x}'_{ij}\beta}}{\sum_{j=1}^J e^{\mathbf{x}'_{ij}\beta}} \quad (1)$$

From there, it is straightforward to find the likelihood function

$$\prod_{i=1}^n \prod_{j=1}^J \left(\frac{e^{\mathbf{x}'_{ij}\beta}}{\sum_{j=1}^J e^{\mathbf{x}'_{ij}\beta}} \right)^{y_{ij}} \quad (2)$$

Historically, the conditional logit model has been estimated using standard maximum likelihood techniques. However, Bayesian estimation is possible by combining some specified prior beliefs with the likelihood from the observed data and applying Bayes' Rule to obtain the joint posterior distribution. From there, marginal distributions can be derived to give parameter estimates and measures of uncertainty. More formally, the joint posterior is proportional to the likelihood function multiplied by a multivariate normal prior, i.e.

$$p(\beta|\mathbf{x}, \mathbf{y}) \propto \left[\prod_{i=1}^n \prod_{j=1}^J \left(\frac{e^{\mathbf{x}'_{ij}\beta}}{\sum_{j=1}^J e^{\mathbf{x}'_{ij}\beta}} \right)^{y_{ij}} \right] \pi(\beta) \quad (3)$$

where $\pi(\cdot)$ symbolizes the multivariate normal distribution function.

Computational advances have thrown Bayesian methods into the spotlight of the social-scientific statistical community (Gill 2002, Jackman 2000). Classical statistical methods (frequentist and MLE statistics) are inappropriate for this substantive problem for two theoretical reasons. First, the number of observations is too small to appeal to the asymptotic properties of maximum likelihood estimators. Second, the theory behind classical statistics relies on repeated hypothetical draws from a population while in this case we have a fixed number of cases (the full population) under each of the three regimes of committee chair selection. In other words, we have observed the full population; expressing uncertainty around our the estimates would make no sense since there is not a frequentist-style data generating process that can be infinitely repeated.

Perhaps the aspect of Bayesian inference that most troubles researchers is the requirement to specify prior beliefs. However, where analysts are clear about the prior distributions they choose, such statistical chicanery could easily be detected.⁵ Two possible approaches to integrating prior

⁵It is also worthwhile to note that researchers taking classical approaches also make a number of assumptions, such as the level of significance or the choice of a one-tailed test, which certainly introduce a measure of subjectivity (on this point see Gill 2002).

information exist. Some analysts treat the specification of priors as a nuisance, simply setting vague, “uninformative” priors to avoid subjectively influencing the results. Alternatively, the researcher may provide strong justification for the prior and check the results for sensitivity to prior specification across a range of possible priors.⁶

Based on the foregoing discussion, it seems that Bayesian estimates of the conditional logit model with clearly specified priors are appropriate for this approach. However, we also include maximum likelihood estimates of the model as a comparison. These hypotheses are tested on the population of all contested⁷ committee chair races in each of the three regimes of committee chair selection under Republican rule: Speaker selection (104th Congress), pre-term limits Steering Committee Selection (105th and 106th Congresses, and interview-based Steering-Committee selection after term limits took effect (107th-109th Congresses).

3.3 Empirical Results

The contention that seniority became less important in committee chair selection beginning in the 107th Congress (Brewer and Deering 2005; Deering and Wahlbeck 2006) hinges on the notion that prior to the 107th Congress the Republicans generally held to the seniority norm. Thus, we estimate the effects of these three variables (seniority, party unity, and fund-raising) on the full population of committee chair contests in under each regime of committee chair selection during the Republican era (104th-109th Congresses). During the 104th-106th Congresses, all Republican members of a committee are considered as possible candidates for committee chair positions. During the 107th-109th, only individuals who interviewed with the Steering Committee are candidates for each committee chair position. Under each regime of chair selection, we present both Bayesian and maximum likelihood estimates of a conditional logit model, once with seniority measured

⁶A possible variant of this approach is to specify “skeptical” priors—priors that work against the research hypotheses. Such priors create a more conservative test because the data must overwhelm a prior assumption that the researcher’s hypothesis is wrong.

⁷While it is very rare for a sitting chair to be challenged for their position in this time period, there are a number of open chair positions for which there was no contest. While this seems like a possible source of selection bias, it seems that it was not their seniority that scared off their challengers, but rather their high levels of party unity and contributions (e.g. Jim Hansen (R-UT) for Resources).

dichotomously (whether the candidate is the most senior) and once with the level of seniority (number of terms of service).

We begin with the selection of committee chairs in the 104th Congress, where incoming speaker Newt Gingrich simply named the slate of committee chairs. Because there was no interview process in the 104th Congress, all non-freshman members of a committee are considered as possible chairs. For the Bayesian estimates, we summarize the posterior distribution of each coefficient using the posterior mean as a point estimate and the 95% Highest Posterior Density region as a measure of uncertainty.⁸ To reflect the prior belief that seniority was key in this period, we specify the prior for the effect of seniority as normal with a mean of 1 and a variance of 1; the priors for the other coefficients are diffuse (normal with mean 0 and variance 1000).⁹ The maximum likelihood point estimates and their respective 95% confidence intervals are provided for comparison. Results appear in Table 1.

Across both conceptions of seniority and both estimation techniques, we find clear support for the notion that seniority was the key to obtaining a committee chair position in the 104th Congress. The model measuring seniority as a dichotomous variable better predicts the winner of each race. On some committees, the two most senior members differ very little in terms of service, leading to errors in prediction, while the dichotomous seniority indicator chooses a clear winner.¹⁰ While

⁸Statistical “significance” for a coefficient is defined as a coefficient for which the 95% HPD does not contain 0. To estimate the statistical model for each regime of chair selection we ran three parallel chains each for 110,000 iterations, with the first 10,000 iterations of each chain discarded as a burn-in. The Gelman-Rubin (1992) diagnostic as modified by Brooks and Gelman (1998) and the Geweke (1992) diagnostic suggest convergence in both the absolute and relative seniority models.

⁹Re-running the model with a normal(0, 1000) prior for seniority or uniform(-5, 5) for all coefficients makes no substantive difference in the outcome of the model.

¹⁰The naïve .5 criterion is *not* used here because it would artificially inflate the measure (each committee could have, at most, two errors in prediction, making the predictions from races with more candidates look like a good fit even if the wrong winner is predicted). For example, with a choice set of 4 individuals, an incorrect prediction of the winner would mean two errors (the predicted winner who actually lost and the actual winner who was predicted to lose) from four members, which means 50% of committee members were still correctly classified; a choice set of 8 members would also involve only two incorrect predictions, but would appear to have a better fit because 75% of members were correctly classified. Thus, we measure goodness of fit at the committee level rather than the individual level. The committee chair whose probability of winning is highest among all candidates seeking the chair position is treated as the predicted winner (even if that probability is less than .5). So in a 3-way race with candidates predicted probabilities of .4, .35, and .25, the candidate with a .4 probability of winning is the predicted winner. The % is calculated as 100 times the number of committee chair positions where the predicted winner was the actual winner divided by the number of committee chair positions available.

	Bayesian (95% HPD)	ML (95% CI)	Bayesian (95% HPD)	ML (95% CI)
Seniority (dichotomous)			3.547** (2.600, 4.534)	4.205** (2.934, 5.476)
Seniority (terms)	.698** (0.428, 0.989)	.516** (.310, .722)		
Contributions	-.006 (-0.025, 0.009)	.0003 (-.009, .009)	-.007 (-0.026, 0.009)	.004 (-.007, .016)
Party Unity	.034 (-0.063, 0.135)	.034 (-.056, .125)	.005 (-0.085, 0.103)	-.003 (-.117, .111)
% Correctly Predicted	61.1%	61.1%	83.3%	83.3%
Number of Candidates	259	259	259	259
Number Contested Races	18	18	18	18

Table 1: Bayesian and ML Conditional Logit Models of Committee Chair Selection for the 104th Congress. **denotes coefficients for which 0 is not contained in the 95% HPD (for Bayesian models) or 95% confidence interval (for ML models).

a general adherence to the norm of seniority persists in this period, the inability of seniority to perfectly predict outcomes suggests that the seniority norm was far from an iron law.

The second system of committee chair selection under Republican rule consisted of the Republican Steering Committee naming chairs. However, in this time period, term limits had not yet taken effect and Hastert’s interview process had not yet been implemented. Thus, once again, all non-freshmen members of a committee are considered as possible chairs. Because the effect of seniority is less clear in this time period, we specify diffuse normal priors for all coefficients.¹¹ The results of this model appear in Table 2.

As in the 104th Congress, we find that seniority is the only statistically significant predictor of committee chair selection in the 105th-106th Congresses. Party fund-raising and party unity seem to have no effect under this regime of committee chair selection. However, the overall fit of the model declines in this era, perhaps suggesting that while seniority still mattered in this era, it was far from perfect as a predictor of chair selection.

¹¹More specifically the priors are normal with mean 0 and variance 1000. Re-running the model with a N(1,1) prior on seniority (as in the 104th Congress) or with uniform(-5, 5) priors for all coefficients makes no substantive difference in the results.

	Bayesian (95% HPD)	ML (95% CI)	Bayesian (95% HPD)	ML (95% CI)
Seniority (dichotomous)			3.352** (1.588, 5.264)	3.063** (1.468, 4.660)
Seniority (terms)	1.591** (0.659, 2.687)	.630** (.252, 1.008)		
Contributions	.006 (-0.004, 0.017)	.004 (-.002, .010)	.002 (-0.006, 0.009)	.003 (-.004, .010)
Party Unity	.142 (-0.062, 0.376)	.063 (-.081, .206)	.037 (-0.106, 0.202)	.022 (-.133, .177)
% Correctly Predicted	57.1%	57.1%	57.1%	57.1%
Number of Candidates	143	143	143	143
Number Contested Races	7	7	7	7

Table 2: Bayesian and ML Conditional Logit Models of Committee Chair Selection for the 105-106th Congresses. **denotes coefficients for which 0 is not contained in the 95% HPD (for Bayesian models) or 95% confidence interval (for ML models).

Finally, we move to the third regime of committee chair selection in the Republican era, covering the 107th-109th Congresses. As noted above, members of Congress seeking a committee chair in this era were required to interview for a chair position with the Steering Committee. Thus, only those who interviewed for a chair position are considered as candidates for a chair position. We specify diffuse priors (normal with mean 0 and variance 1000) for all coefficients in the model.¹² The results of this model appear in Table 3.

The results of the model in this era differ dramatically from the results for the 104th-106th Congresses. While seniority was the key factor in determining committee chair selection in earlier periods, seniority seems to have no effect in the 107th-109th Congresses. Even the level of seniority (as opposed to the traditional dichotomous view of seniority) has no significant effect on committee chair selection. Instead, in the more appropriate Bayesian models, we see strong evidence that contributions to the party and to fellow-party candidates have substantial effects on the probability of winning a committee chair position as the 95% HPD intervals for the coefficient on contributions

¹²Re-running the model with uniform(-5, 5) priors makes no substantive difference in the outcome of the model. Further, the data can overwhelm a skeptical prior on the effect of seniority, specifically a normal prior on seniority with a mean of 1 and variance of 1.

	Bayesian (95% HPD)	ML (95% CI)	Bayesian (95% HPD)	ML (95% CI)
Seniority (dichotomous)			-0.106 (-1.845, 1.541)	-0.011 (-1.494, 1.472)
Seniority (terms)	-0.325 (-0.849, 0.169)	-0.241 (-0.700, 0.217)		
Contributions	0.016** (0.003, 0.031)	0.013* (-0.001, 0.026)	0.012** (0.002, 0.023)	0.009* (-0.001, 0.018)
Party Unity	0.135 (-0.014, 0.302)	0.103 (-0.031, 0.237)	0.138 (-0.018, 0.302)	0.102 (-0.034, .)
% Correctly Predicted	80.0%	80.0%	73.3%	73.3%
Number of Candidates	43	43	43	43
Number of Races	15	15	15	15

Table 3: Bayesian and ML Conditional Logit Models of Committee Chair Selection for the 107-109th Congresses. **denotes coefficients for which 0 is not contained in the 95% HPD (for Bayesian models) or 95% confidence interval (for ML models), * denotes coefficients for which 0 is not contained in the 90% confidence interval.

do not contain 0 regardless of how seniority is operationalized. In the maximum likelihood models, the effects of contributions are marginally significant ($p < .10$).

Levels of party unity are only marginally “significant” in the Bayesian models, with 0 being contained in the 95% HPD, but not in the 90% HPD, suggesting a possible influence, though it is not significant at conventional levels of significance. In the maximum likelihood models, $p = .141$ for the dichotomous seniority model and $p = .133$ for the model considering the level of seniority.

Quantifying the nature of these effects is most easily done by the presentation of predicted probabilities. An in-depth examination of an actual committee chair contest may further illustrate the substantive import of the results. Thomas Davis, Christopher Cox, and Christopher Shays all sought the chair of the House Government Reform Committee for the 108th Congress. Christopher Cox had the highest average party unity score for the previous Congress (95.5), with Davis not far behind at 90. Christopher Shays, who was next in line to chair the committee by right of seniority, had a modest unity score of 77.5 for the 107th Congress.

While Davis’s unity score lagged slightly behind Cox’s, he contributed nearly \$570,000 to party committees and party candidates. Cox contributed about \$380,000 and Shays offered only

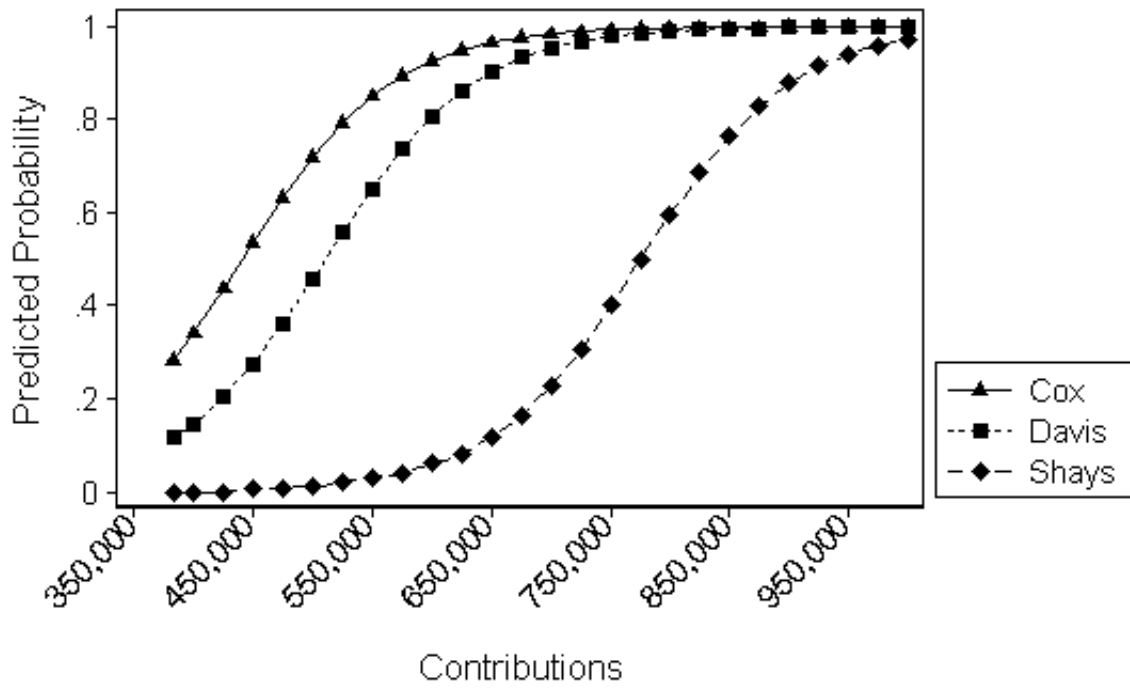


Figure 3: Predicted Probabilities of Christopher Cox, Christopher Shays, and Thomas Davis winning the Government Reform Committee Chair. Spending varies for the candidate in question with all other values held constant at their observed values.

\$61,000. Given Davis's acceptable party unity score and his massive fund-raising efforts, he was successful in obtaining the chair. The model makes it possible, however, to estimate how much money each candidate would have had to contribute (given their observed levels of party unity) to win with a predicted probability of .5. The dashed line with square markers in Figure 3 shows the predicted probabilities of Davis winning varying his spending and setting all other values equal to their observed levels. Davis's actual contribution was only slightly higher than the \$511,000 he needed to have a predicted probability of .5 of winning the race. The solid line shows the predicted probabilities of Cox winning the race, here varying Cox's level of financial contributions and holding all other factors constant at their observed levels. Cox did not need to out-contribute Davis because he had a stronger party unity score. Still, he needed to contribute about \$115,000 more than he did in order to win with a .5 probability. The dashed line with diamond markers in Figure 1 depicts the predicted probabilities of Shays winning the race holding all factors constant at their observed levels but allowing Shays's level of contributions to vary. While the model suggests that some level of spending could possibly have purchased the chair for Shays, the amount of contributions required would have been hundreds of thousands more than he actually contributed. Shays's low party unity score effectively put the committee chair position out of reach. In general, it appears that members must have both an acceptable party unity score and a high level of contributions in order to secure a committee chair.

We should note that one alternative explanation for the insignificance of seniority could be selection bias. It may be that legislators with more seniority may be more likely to run for committee chairs. If seniority determines the pool of candidates for a committee chair position, it is difficult to argue that it is unimportant in committee chair selection. This possibility certainly raises questions for the results of the model using levels of seniority (terms of service). However, this possibility does not affect the model that measures seniority as a dichotomous indicator (there is only one "most senior" person on each committee). Thus, while relative levels of seniority may have some effect in determining the candidate pool, the results from the model using dichotomous seniority suggest that the traditional seniority system where the most senior member of a committee essentially holds

a property right to a chair was effectively dismantled by Republicans in the 107-109th Congresses. Committee chair positions in this period were instead allocated in a manner consistent with the predictions of the exchange theory.

4 The Exchange Theory and the Allocation of Federal Distributive Benefits

Scholars have made much of the causes and consequences of federal distributive politics. Studies have explored the politics of the allocation of federal money to congressional districts (Bickers and Stein 2000; Knight 2004; Levitt and Snyder 1995; Shepsle and Weingast 1981). Further, scholars have shown that pork also affects the outcomes of members' reelection bids (Alvarez and Saving 1997; Bickers and Stein 1996; Mayhew 1974; Stein and Bickers 1995). The influence of political parties in Congress has received no less attention than pork-barrel politics. Yet, surprisingly few scholars have investigated the role of political parties in the allocation of these funds (but see Bickers and Stein 2000 and Levitt and Snyder 1995). In the era of strong congressional parties that prevails today, however, scholars have shown that parties influence many facets of congressional operation (e.g. Cox and McCubbins 1993, 2005; Rohde 1991; Sinclair 1995).

We contend that parties offer distributive benefits as a selective incentive to win support from rank-and-file party members in exchange for supporting party fund-raising efforts and voting with the party. Members enter these exchanges because they believe that generating particularized benefits builds support for their reelection ambitions (Mayhew 1974). Ferejohn (1974) points out that pork provides an opportunity for members to claim credit with their constituency. Further, he notes that effective pork-barreling members may generate an aura of invincibility, deterring quality challengers. Even when distributive benefits reach only a small fraction of a legislator's constituency, the benefactors are often politically active individuals who will vote, volunteer, and contribute to assist in reciprocation for the legislator's efforts in steering federal dollars their way (Evans 2004).

We begin the evaluation of the connection between fund-raising, party unity, and distributive politics by placing them in the context of existing theories of distributive benefits. We then discuss the predictions of exchange theory regarding the allocation of these benefits and present statistical tests of those predictions based on data from the 107th and 108th Congresses. We observe that representatives readily enter into exchange relationships for distributive benefits both with their parties and among one another. Representatives receive more benefits when they vote more often with their party and when they contribute to the campaigns of fellow members.

4.1 Theories of Distributive Politics

Perhaps the simplest explanation for the allocation of federal distributive outlays lies in the characteristics of the districts (Hird 1991; Rich 1989). In this view, it is a simple matter of needs and demographic characteristics that explain the seemingly asymmetric allotment of federal dollars across congressional districts. Demographic characteristics also help explain the role of committees in the allocation of benefits. Just as some districts have a higher demand for distributive programs, representatives of those districts are likely to seek membership on committees that can provide them. Demographic characteristics yield good predictions of agency or committee-specific distributive spending (Adler 2002). What is unclear, which we address in the methods section below, is which characteristics are good predictors of general distributive spending.

Related to district characteristics, a specific state level factor is also important to the distribution of benefits. Levitt and Snyder (1995) argue that state congressional delegations band together to increase the federal dollars targeted at their state. They contend that federal money in one district likely generates positive externalities for their district (e.g. a highway that is used by citizens from neighboring districts), leading state delegations to work together to maximize the allocation of federal outlays to their state. As a consequence, this theory would predict that states with larger delegations would get a disproportionately large share of federal monies. Yet, there are arguments grounded in the federal structure of the nation that predict the opposite. Specifically, while districts in “larger” states may be able to band together and exert more influence in the

House, when bills authorizing the funding reach the Senate, smaller states are likely to increase their share of the pie, leaving the average district in smaller states with more funding than the average district in larger states. While district and state characteristics make an elegant and powerful explanation, there is clearly more involved in the process of allocating these funds.

Incumbent specific characteristics can have a substantial effect on the distribution of benefits. Several scholars have contended that distributive benefits are strategically targeted at the electorally vulnerable to increase the chances of incumbent reelection. Stein and Bickers (1995) show that these funds tend to be targeted at incumbents expected to face a stiff reelection contest. These funds, which members can claim credit for when campaigning (Mayhew 1974), then may help an endangered incumbent sail through to reelection. In general, many studies report or theorize a positive relationship between benefits and the electoral success of incumbents (Alvarez and Saving 1997; Levitt and Snyder 1997; Mayhew 1974; Stein and Bickers 1995), but these positive effects may in fact be conditional on a variety of factors like representative and voter ideology (Sellers 1997; Sidman and Mak 2006).

Finally, Bickers and Stein (2000) advance a partisan theory of distributive outlays based on ideological principles. With Republicans as the self-styled party of fiscal responsibility, Bickers and Stein question whether the party holding majority status might affect the scope of the congressional pork barrel. This partisan/ideological theory holds that pork barrel spending should be lower when the Republican Party holds majority status than when the Democratic Party reigns. Indeed, they find that spending on direct payment programs, which encompass typical pork barrel or earmark spending, decreased relative to spending on contingent liability programs (insurance and loan programs sponsored by the federal government) comparing periods before and after Republicans gained majority status in the 1994 elections. If parties are important to the distribution of benefits, it may also enable more prominent party members are able to secure a disproportionate share of the distributive pie. In particular, committee leaders such as chairmen and ranking minority members (both of which are elected from among their parties) may be able to use their influence in committees to direct more fund to their own districts. Likewise, party leaders (e.g. the

Speaker, majority and minority leaders and whips) may also be able to secure more spending on their districts.

While this partisan/ideological theory strikes us as a natural way of thinking, this approach says nothing about how parties may use their institutional powers to influence the allocation of distributive benefits in a manner that overcomes collective action problems and builds party strength. We seek to build a partisan theory based more squarely on the prevailing literature on congressional parties. Specifically, we seek to examine whether parties, using their influence over committee and floor outputs, allocate distributive benefits to encourage loyal partisan behavior among their members.

Using the pork barrel as an incentive to encourage party fund-raising may help parties with the realization of the quest to gain or maintain majority status. However, parties may also use distributive benefits to promote their policy goals. With narrow seat margins in the House, parties need a cohesive majority to enact (or block) legislation. While Cox and McCubbins (2005) make a strong case for the unconditional nature of negative agenda control (the ability of the majority to keep legislation it dislikes off the agenda), they concede that the majority party must still regularly seek votes on the margin to secure passage of legislation the party wishes to enact. Here the exchange theory dovetails with Evans's (2004) argument that pork is used to "grease the wheels" of the legislative process and build support for party positions. We contend that party leaders may use their influence over the allocation of distributive outlays to reward members who are more supportive of the party's policy goals.

Two major objections might exist to the notion that party leaders engage in these exchanges to promote their ultimate goals. First, Sellers (1997) argues that Republicans may not benefit from obtaining pork because increased federal spending is incongruent with their message of fiscal responsibility. However, Bickers and Stein (2000) show that Republicans did not reduce the size of distributive benefits *per se*, they simply redirected much of the funding to types of spending that were more consistent with their ideology. It seems that even self-styled spendthrift Republicans are still able to find ways to spend sizable sums of federal money in ways they find inoffensive; it

seems unlikely that they would engage in these practices at the cost of losing an election.

A second objection is that parties may emphasize their need to win seats over their need to promote party unity, meaning the party should simply give pork to marginal districts. While this is an empirical question at heart, it is worthwhile to consider the theoretical rationale for allocating pork on the basis of assistance in the realization of party goals. It is critical to note here that pork must inevitably at some point offer diminishing marginal returns on reelection. As such, past a certain point, parties will find it more advantageous to offer pork to safe incumbents in exchange for fund-raising efforts than to give it directly to the electorally vulnerable member because the campaign money generated from the exchange may yield higher returns (in terms of election outcomes) than the pork directly delivered to an endangered incumbent. Additionally, while it may not seem to always be the case, the amount of pork Congress may generate is limited in some sense (or we would see even higher levels of federal spending). When allocating a limited resource, party leaders may be forced to choose between supporting the endangered party loyalist and an endangered maverick. In such situations, it is easy to believe that party unity may be a critical factor as well as electoral vulnerability. Given these rationales, the use of pork in exchanges with members of Congress, electorally safe or unsafe, is perfectly logical.

It may not, however, be solely through the party that members derive benefits from their fund-raising activities. With respect to member-to-member contributions, members may target their donations to those who are in a position to provide legislative assistance. Such are the hypotheses derived from a gains-from-trade framework (Adler 2002; Weingast 1994). Members still trade support under this theory of congressional behavior, but not with the party; the trades occur between individual members. Considering the effects of member contributions, gains-from-trade theory would predict that members receive distributive benefits directly from the committees of members whose campaigns to which they contributed. This expectation is not mutually exclusive with the expectations of party-based relationships described previously. Testing both will paint a clearer picture of how member relationships with both their parties and other members shape the allocation of federal distributive benefits.

To test these all of these relationships, we provide two sets of analyses. First, we examine the aggregate relationships between campaign donations, party unity, and distributive benefits. Second, we identify how much of the overall donations made during a campaign cycle were directed to members of the Appropriations Committee. Separate models are specified for each agency through which distributive programs are administered with the key independent variables being party unity and donations made to members of the Appropriations Subcommittee(s) overseeing each agency.

4.2 Data and Methods

To examine the influence of member activities on the distribution of benefits,¹³ we analyze data on House districts and representatives drawn from the 107th through 108th Congresses.¹⁴ To simplify this examination, we only consider how the activities of members in the prior congress affect the benefits received by their districts in the subsequent congress. We recognize that these exchanges can occur contemporaneously (e.g. allowing a member to add pork to a bill to ensure her support of it). It is still important, however, to consider whether the party rewards the past loyalty of members and to what extent past behavior influences the current distribution of benefits. Given the reliance on lagged measures, particularly in the key independent variables, the sample is limited to representatives serving at least two continuous terms during the 106th, 107th, or 108th Congresses. We estimate six versions of the following general, random effects model:

¹³Following several previous studies of distributive politics, starting with Stein and Bickers (1995), we measure distributive benefits using the Federal Assistance Award Data System. One issue that typically arises in the study of distributive benefits is which types of federal spending one includes in the definition. A consensus in the literature is to not include entitlement programs, or what some consider redistributive spending (see discussions in Alvarez and Saving 1997; Sellers 1997). We also do not include contingent liability programs (e.g. loan and insurance programs), which Bickers and Stein (2000) distinguish from other distributive programs.

¹⁴Specifically, the dependent variables are measured for the 107th and 108th Congresses. There are also lagged measures included in the models. Party unity, for example, is measured for the 106th and 107th Congresses. All electoral variables denoted $t-1$ (e.g. member contributions) are measured for the electoral cycle preceding the current Congress (i.e. the 2000 elections for the 107th Congress and the 2002 elections for the 108th Congress).

$$\begin{aligned}
Dist. Benefits_{jt} = & \beta_0 + \beta_1 Party Unity_{jt-1} + \beta_2 M2M Contrib._{jt-1} + \beta_3 M2M Appropriations_{jt-1} \\
& + \gamma_1 \% Black_{jt} + \gamma_2 \% Gov. Employees_{jt} + \gamma_3 \% Military_{jt} + \gamma_4 \% Over 64_{jt} \\
& + \gamma_5 \% Unemployed_{jt} + \gamma_6 \% Urban_{jt} + \gamma_7 \ln(Median Income)_{jt} \\
& + \gamma_8 House Delegation Size_{jt} + \gamma_9 Dem. Pres. Vote Share_{jt} \\
& + \alpha_1 Inc. Vote Share_{jt-1} + \alpha_2 Challenger Experience_{jt-1} + \alpha_3 DW-Nominate_{jt} \\
& + \alpha_4 Seniority_{jt} + \alpha_5 Seniority_{jt}^2 + \alpha_6 Party Leader_{jt} + \alpha_7 Committee Chair/RMM_{jt} \\
& + \alpha_8 Republican_{jt} + u_j + \epsilon_{jt}
\end{aligned}$$

As well as one can specify a model, there invariably remain some difficult-to-measure characteristics specific to representatives that make them more (or less) proficient at securing federal funding for their districts. We, therefore, include random effects for representatives.¹⁵ The six models estimated here represent the combinations of two ways of measuring the dependent variable (distributive benefits) and three subsets of the data: the full sample, Democratic representatives, and Republican representatives.

Specifically, the dependent variable for three of the models is the natural log of distributive outlays received by district j during Congress t . The dependent variable for the other three models is the number of distributive awards, measured in hundreds of awards, received by district j during Congress t .¹⁶

¹⁵Given incumbent reelection rates, the differences between representatives and districts are minimal. We did, however, estimate these models using random effects for districts. The substantive results are virtually unchanged.

¹⁶Our determinations with respect to the log transformations of outlays and member contributions are based in model comparison. We estimated various model specifications using different operationalizations of these variables (e.g. outlays and contributions without the transformation) and including interactions between contributions and party unity. The results presented here represent the best fitting, most parsimonious models.

4.2.1 Primary Independent Variables

To test whether party loyalty on roll call votes impacts distributive benefits, the representative's party unity scores from the previous congress are included. Essentially, this is the percent of roll calls on which a representative voted with his or her party when at least fifty percent of each party opposed each other. We hypothesize that an increase in a member's party unity score from the prior congress will cause an increase in the amount of distributive outlays and awards in that member's district during the current congress (*Party Unity Hypothesis*).

Again, political parties care about more than legislation—leaders also want to ensure that their party retains and increases the number of seats they hold. To this end, it was posited that parties would also reward members who contribute to the campaigns of fellow party members or to party committees (e.g. the NRCC or DCCC). We operationalize member contributions as the natural log of contributions made to fellow members of the party or to party committees in the last election cycle and hypothesize that an increase in the amount of such contributions during the last election cycle will cause an increase in the amount of distributive outlays and awards in that member's district during the subsequent congress (*Party Electoral Goals Hypothesis*).

In considering member-to-member contributions, we have acknowledged that exchanges with the party are certainly not the only ones in which members of Congress engage. Members can, and do, make such trades directly with other members. Thus, it is important to differentiate the effects of the general member contributions described above from those made to members who are in an immediate position to influence the distribution of benefits. We, therefore, also include the natural log of contributions from members of Congress in the prior election cycle to members of the House Appropriations Committee, hypothesizing that an increase in the amount of money a member contributed to the campaigns of members on the Appropriations Committee during the last election cycle will cause an increase in the amount of distributive outlays and awards in that member's district during the current congress (*Appropriations Members Hypothesis*).

4.2.2 District Characteristics

In addition to these three, we control for several district and member characteristics that have either been empirically demonstrated or theorized to impact the distribution of benefits (Rich 1989; Hird 1991; Stein and Bickers 1995; Bickers and Stein 2000). The literature provides little theoretical guidance as to which attributes are most critical as determinants of distributive benefits, but has consistently shown that race, age, unemployment, urbanization, and income are effective predictors of distributive benefits. As such we include the percentage of the district that is black, the percentage of the district over the age of 65, the district level of unemployment, the percent of the population dwelling in urban areas, and district median income. Given the nature of some benefits and how they are distributed, government employees and military population have also been demonstrated as good predictors (Adler 2002). Thus the percent of district that is employed by the government (any level) and by the military are also included. Data on all these variables are taken from the 2000 U.S. Census and the translation of Census statistics into congressional districts for the 107th and 108th Congresses.

Two final district characteristics are included. First, as with other aspects of congressional action, smaller states tend to benefit disproportionately. Districts in more populous states, it is thought, are able to band together and exert more influence in the House (Levitt and Snyder 1995). Yet, when bills authorizing funding reach the Senate, smaller states are likely to increase their share of the pie, leaving the average district in smaller states with more funding than the average district in larger states. Thus, House delegation size is included with the expectation that districts from states with larger delegations will receive fewer benefits on average. Finally, we control for district preferences using the method suggested by Erikson and Wright (1980). Specifically including the district vote share received by the Democratic presidential candidate from the most recent election. Increases here are suggestive of a more liberal electorate, one that may have more of a preference for distributive spending (Sidman and Mak 2006).

4.2.3 Member Characteristics

In addition to district factors, characteristics of the representative have been demonstrated to affect the distribution of benefits. We control for partisan effects in two distinct ways. First, a dummy variable is included scored 1 if the representative is Republican, 0 otherwise. We also recognize the possibility that other variables included in the models may have heterogeneous partisan effects. For example, the effect of member contributions may not be uniform across the parties. These relationships are analyzed by estimating models on subsamples of the data; one on districts represented by Democrats and another on districts represented by Republicans. If parties control the distribution of benefits, it is likely that the majority party receives a disproportionate share of the benefits. Thus Republicans should receive more spending and more awards. This would be observed in the full sample models with a positive coefficient on the Republican variable. In the partisan subsamples, these effects would be observed by comparing the intercepts of the respective models. The Republican models should feature significantly larger intercepts than the Democratic models.

Pursuant to the previous discussion, it is also expected that leadership roles are positively related to distributive benefits. We, therefore, include dummy variables for party and committee leadership. The party leader measure is scored 1 if the member is Speaker of the House, majority or minority leader, or majority or minority whip. Committee leadership is scored 1 if the member chairs a committee or is the ranking minority member (RMM) on a committee.

A number of scholars have argued that electoral vulnerability affects the level of distributive benefits allocated to each district, with greater levels of funding directed at endangered incumbents. We assess electoral vulnerability using two variables. First, we include the incumbent share of the two-party vote from the previous election. Second, we include a dummy variable scored 1 if the incumbent faced an experienced challenger in the previous election. Both variables are indicative of the prior electoral vulnerability of the incumbent and are expected to have a positive effect on distributive benefits received by those districts.

Overarching partisan effects, leadership roles, and electoral vulnerability is the reality that

more senior members of Congress are invariably more effective at securing congressional outputs. As Adler (2002) highlights, seniority brings with it intricate knowledge of and experience with the rules and procedures of the chamber and a substantial set of bipartisan, collegial relationships. Furthermore, seniority is related to leadership and (lack of) electoral vulnerability. It is expected, therefore, that as seniority, measured as the number of years served in the House, increases, so do benefits. We posit, however, that this effect is subject to increasing marginal returns. Moving from one's tenth to eleventh year of service should provide more benefits than moving from one's third to fourth year of service. We model this relationship as quadratic by including both seniority and its square.

As a final control variable, Sellers (1997) shows that the electoral effects of distributive benefits are conditional on the ideology of the representative. Specifically, conservative representatives, who are supposed to act in a fiscally responsible manner, do not receive the same boosts to their vote share as other representatives. As such, conservative representatives may have less of a preference for distributive spending. We measure ideology using the first dimension of the DW-Nominate scores (McCarty, Poole, and Rosenthal 1997). Whereas increases in the DW-Nominate scores are indicative of increasing conservatism, we expect a negative relationship with distributive benefits.

4.3 Results

Tables 4 and 5 show the results for the random effects models using the log of distributive outlays and hundreds of distributive awards as the respective dependent variables. As expected, all three member activities have a positive effect on the amount of distributive spending received by districts, although some partisan differences emerge. There is strong support for the Party Unity and Party Electoral Goals hypotheses, which directly point to party involvement. Looking at the full sample, a one point increase in party unity is expected to cause a 1.2% increase in distributive outlays and an increase of 18.1 awards. Doubling the amount contributed to other members (from the mean contribution), an increase of 100% leads to a 3.9% increase in outlays and an increase of 50.7 awards.

Variable	Full Sample		Democrats		Republicans	
	Coef.	Std. Err.	Coef.	Std. Err.	Coef.	Std. Err.
<i>Member Activity</i>						
Party Unity _{t-1}	.012**	(.004)	.023**	(.006)	.006	(.005)
Member Contributions _{t-1}	.039**	(.011)	.040**	(.012)	.021	(.015)
Member Contributions to Approp. Committee _{t-1}	.037**	(.007)	.020**	(.007)	.039**	(.010)
<i>District Characteristics</i>						
% Black	-.011**	(.005)	-.012*	(.007)	-.020	(.013)
% Gov. Employees	.156**	(.035)	.118*	(.060)	.135**	(.053)
% Military	-.023	(.082)	.078	(.138)	-.004	(.118)
% Over 64 Years Old	.003	(.019)	-.022	(.030)	-.004	(.035)
% Unemployed	.216	(.121)	.451**	(.170)	.060	(.206)
% Urban Areas	.011**	(.003)	.007	(.005)	.014**	(.004)
ln(Median Income)	-.378	(.372)	.839*	(.471)	-1.272*	(.704)
House Delegation Size	-.026**	(.005)	-.024**	(.006)	-.029**	(.007)
Dem. Pres. Vote Share	.079	(.593)	-1.109*	(.641)	.473	(1.230)
<i>Member Characteristics</i>						
Republican	.075	(.158)	-		-	
Party Leader	.160	(.365)	.125	(.399)	.232	(.467)
Comm. Chair/RMM	-.121	(.131)	.0001	(.173)	-.307*	(.167)
Vote Share _{t-1}	-.028	(.215)	.157	(.242)	-.177	(.321)
Challenger Exp. _{t-1}	-.100	(.073)	-.010	(.080)	-.125	(.090)
Seniority	-.090*	(.047)	-.071	(.056)	.007	(.069)
Seniority ²	.004*	(.003)	.004	(.003)	.001	(.004)
DW-Nominate	-1.012**	(.235)	-.944**	(.464)	-.553	(.399)
Intercept	19.639**	(4.107)	6.405	(5.021)	29.923**	(7.932)
<i>Model Statistics</i>						
Wald χ^2	192.920**		85.250**		61.470**	
Overall r^2	.328		.231		.210	
n	618		305		313	
Districts (J)	362		180		197	

Table 4: Results for the Allocation of Distributive Outlays. Note: The dependent variable for all models is the natural log of distributive outlays received by the district. All models include random effects for representatives. Activity variables are measured for the prior Congress. Electoral variables are measured for the most recent election. * denotes $p < .1$; ** denotes $p < .05$ (two-tailed).

Variable	Full Sample		Democrats		Republicans	
	Coef.	Std. Err.	Coef.	Std. Err.	Coef.	Std. Err.
<i>Member Activity</i>						
Party Unity _{t-1}	.181**	(.068)	.136	(.155)	.157**	(.046)
Member Contributions _{t-1}	.507**	(.191)	.868**	(.340)	.131	(.143)
Member Contributions to Approp. Committee _{t-1}	.410**	(.129)	.421*	(.224)	.231**	(.094)
<i>District Characteristics</i>						
% Black	-.065	(.072)	-.039	(.098)	-.282*	(.159)
% Gov. Employees	2.407**	(.488)	1.946**	(.813)	1.982**	(.593)
% Military	-1.242	(1.085)	-.199	(1.846)	-1.648	(1.408)
% Over 64 Years Old	.160	(.268)	.268	(.440)	-.002	(.397)
% Unemployed	2.941*	(1.620)	3.364	(2.486)	-1.110	(2.441)
% Urban Areas	.096	(.040)	.140**	(.070)	.127**	(.050)
ln(Median Income)	-1.609	(5.376)	-2.677	(8.270)	-7.287	(8.024)
House Delegation Size	-.231**	(.059)	-.237**	(.089)	-.164**	(.086)
Dem. Pres. Vote Share	-.200	(9.088)	1.404	(14.839)	-23.767*	(13.036)
<i>Member Characteristics</i>						
Republican	.895	(2.558)	-		-	
Party Leader	-1.353	(6.600)	3.792	(10.668)	-8.450**	(4.276)
Comm. Chair/RMM	-1.139	(2.177)	1.672	(4.122)	-.893	(1.626)
Vote Share _{t-1}	-2.986	(3.835)	-6.834	(7.206)	-1.133	(3.096)
Challenger Exp. _{t-1}	-3.725**	(1.326)	-2.643	(2.457)	-3.176**	(.840)
Seniority	-1.136*	(.683)	-1.696	(1.088)	.591	(.737)
Seniority ²	.068*	(.039)	.085	(.060)	.021	(.045)
DW-Nominate	-7.559**	(3.492)	-8.771	(7.169)	-3.803	(4.769)
Intercept	-6.692	(59.513)	2.475	(89.861)	71.762	(90.848)
<i>Model Statistics</i>						
Wald χ^2	110.000**		53.540**		90.680**	
Overall r^2	.213		.203		.061	
n	618		305		313	
Districts (J)	362		180		197	

Table 5: Results for the Allocation of Distributive Awards. The dependent variable for all models is the number of distributive awards received by the district in hundreds. All models include random effects for representatives. Activity variables are measured for the prior Congress. Electoral variables are measured for the most recent election. * denotes $p < .1$; ** denotes $p < .05$ (two-tailed).

Disaggregating by party, however, shows that, at least in these exchange relationships, the parties have different priorities. The Democratic Party, which was in the minority during the years under consideration here, appears to have concentrated more on regaining the majority by rewarding fund-raising among its membership, but there is also a secondary focus on promoting voting unity within the caucus. An increase of one point in party unity leads to an increase of 2.3% in the amount of distributive outlays,¹⁷ but no significant increase in the number of awards to districts. An increase of 100%¹⁸ in member contributions, however, causes both an increase of 4% in the amount of outlays and an increase of 86.8 awards. Republicans, on the other hand, appear far more concentrated on using distributive benefits to maintain legislative unity. Member contributions do not have a significant effect on either the amount of outlays or the number awards in a district for Republicans. Party unity likewise does not significantly influence outlays, but does affect the number of awards; an increase of one point in party unity causes an increase of 15.7 awards.

There is also ample support for the Appropriations Members Hypothesis. For the full sample, doubling the amount contributed to members of the Appropriations Committee nets slightly smaller increases in benefits as compared to contributions to all members; distributive outlays increase by 3.7% and awards increase by 41. These effects, however, are significant regardless of party. Democratic representatives can expect to receive 2% more outlays and 42.1 more awards and Republican representatives can expect 3.9% more outlays and 23.1 more awards for an increase of 100% from the mean in the amount contributed to members of the Appropriations Committee.

The coefficients in Tables 1 and 2 point to patterns of behavior that speak to the partisan context and could lead to general expectations regarding the types of behavior parties tend to

¹⁷With the dependent variable transformed using the natural log, the easiest interpretation of the effect of party unity, which has not been transformed, is to say that a one-unit change in x causes a $(100 - \beta)\%$ change in y . For member contributions, which are also log-transformed, the most straightforward interpretation is: a 1% increase in x causes a $\beta\%$ increase in y .

¹⁸While an increase of 100% seems excessive with respect to interpreting the coefficients, it is in fact less than one standard deviation from the mean for both measures of member contributions. For the full sample, the mean amount of contributions to all members is \$120,476.50 with a standard deviation of \$199,525.10. Considering contributions only to members of the Appropriations Committee, the mean amount contributed is \$2,888.60 with a standard deviation of \$11,054.22.

reward. Again, the period under consideration here is one in which the Republican Party is in the majority in the House. We observe Democratic representatives being rewarded, through distributive benefits, both for roll call unity and member contributions. One can conclude that the Democratic Party was interested in regaining the majority and staying united in an effort to block what party leaders believed was poor legislation. Republican representatives very clearly benefited from roll call unity. In neither the 107th nor the 108th Congresses did the Republican Party enjoy a substantial majority, holding 221 and 229 seats respectively. It appears that, to the extent party leaders can manipulate the distribution of benefits, federal spending was used far more to ensure that the small majority remained cohesive on roll calls than to promote the electoral goals of fellow members. Referring to general expectations regarding partisan use of distributive benefits, these results lead to two competing hypotheses, which cannot be tested here given the nature of the sample, but would be worthwhile for future work. First, the pattern of rewarding party unity and member contributions may be specific to the Democratic Party, whereas the Republican Party only rewards party unity. Second, these results could be indicative of a majority party effect. The majority party tends to only reward legislative unity, caring much more about getting legislation passed while in the majority, with the minority party having to balance maintaining legislative unity against the majority and promoting electoral goals to regain majority status.

Regardless of the partisan or majority context, it is clear that members engage in direct exchange relationships with one another. While there are several facets to the relationships members of Congress develop with each other, it is clear that both Democrats and Republicans in the House are willing to contribute to the campaigns of Appropriations Committee members to get a larger share of the distributive pie. While such exchanges demonstrate that the party does not exert monopolistic control over exchanges involving member contributions. Instead, our results show that member-to-member contributions have significant consequences in both partisan and extra-partisan exchanges.

5 Discussion

We set out to test the predictions of exchange theory in two significant arenas of legislative politics: the selection of committee leadership and the allocation of distributive benefits. In both instances, we find support for the exchange theory. In terms of committee chair selection, we find strong evidence that the Republican Party transitioned from a strict seniority system to a system where committee chair positions were used to reward members who supported party fund-raising goals. The use of committee chairs as an inducement for support of party goals is consistent with and the predictions of the exchange theory, supporting its basic tenets. Rather than simply telling us something about how committee chairs are selected, these results help us to better understand how political parties work to obtain their goals.

In terms of distributive benefits, we empirically verify what many suspect and believe about the pork barrel. Even more than horse trading on individual pieces of legislation, there is a general, systematic relationship between party promoting activities and distributive benefits. Our results point to the influence of party leaders in directing benefits to members who actively work to advance the party's legislative and electoral goals. We found interesting differences emerged considering the effects of partisan activities (i.e. party unity and general member contributions). Democrats in this analysis are rewarded both for roll call unity and contributing to the campaigns of fellow members, thus supporting the electoral fortunes of the party. Republicans, on the other hand, only receive significantly more benefits from roll call unity.

While the two contexts in which we tested for the existence of party-coordinated exchanges are somewhat disparate, both are supportive of the core notion that party leaders can effectively offer a variety of incentives to their members to coordinate support for the party's collective goals, enhancing the party's power. The exchange theory is consistent with on existing theories of partisan influence. The Conditional Party Government (CPG) approach to partisan influence (Rohde 1991; Aldrich and Rohde 1997-98, 2000) holds that as preferences within the legislature shift toward inter-party polarization and intra-party homogeneity, members are willing to cede more authority

to party leaders. When the twin conditions of CPG are met, members will grant party leaders control over a broader range of selective incentives with which to promote party collective action. In this sense CPG theory answers questions of *when* parties will be strongest, but the exchange theory provides new answers to *how* party leaders orchestrate collective action.

The party cartel approach to partisan influence (Cox and McCubbins 1993, 2005), while persuasive, focuses on negative agenda control (the ability of the majority to use procedural advantages to prevent the passage of legislation the majority dislikes), but has less to say about how effectively party leaders can rally their members' support for initiatives they support. The exchange theory identifies positive powers of the parties that complement the negative powers Cox and McCubbins discuss.

More than enhancing prevailing theories of party influence in Congress, though, the exchange theory, particularly in its emphasis on member-to-member and member-to-party contributions, breaks new ground by connecting partisan influence to the electoral process rather than requiring it to be rooted in institutional procedures. Looking for influence with roots in the electoral process seems logical given that both members of Congress and parties emphasize electoral goals so strongly. Future research should continue to identify exchanges between parties and members of Congress (as well as extra-partisan exchanges) and their implications for congressional operation and public policy.

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