

# A Meta-Analysis of Campaign Contributions' Impact on Roll Call Voting\*

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*Objectives.* Conventional wisdom about the link between campaign contributions and roll call votes is that contributions rarely matter because groups tend to give to like-minded legislators. This meta-analysis examines the conventional wisdom by analyzing published research on this topic. *Methods.* More than 30 studies are pooled to produce more than 350 individual tests of the contributions-roll call link. Extending meta-regression (Stanley and Jarrell, 1989), a logit meta-analysis is conducted to summarize the literature and assess the importance of various modeling choices. *Results.* We find that some, but not all, model specifications have an impact on whether significant results are present. Models that control for friendly giving by including a measure of legislators' ideology and that include more than one contributions variable are less likely to produce significant results. *Conclusions.* After considering the impact of model choice on study results, we conclude that one-third of roll call votes exhibit the impact of campaign contributions.

Since the Federal Election Commission began collecting campaign finance data three decades ago, much research has investigated the possibility that contributions influence how elected representatives vote on proposed pieces of legislation. As the cost of financing electoral campaigns has increased, many observers of American politics have become concerned that interest groups are buying the roll call votes of elected officials. However, political scientists who have examined whether such a link exists have tended to downplay these suspicions. In fact, over time a conventional wisdom, culled from an overview of the literature, has developed that asserts PAC contributions rarely exert an independent influence on roll call votes. Although legislators often cast roll call votes congruent with the interests and preferences of those groups that contributed to their campaigns, this correlation does not reflect influence but rather the tendency of interest groups to donate to like-minded legislators. When properly modeled, it is argued, analyses show that campaign contributions seldom change the votes of

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elected officials (Ainsworth, 2002; Rozell and Wilcox, 1999). For example, a widely used introductory American politics textbook concludes that “most research has failed to establish any significant relationship between contributions and votes” (Fiorina and Peterson, 1998:216), and a text on interest groups notes it “is widely acknowledged in the scholarly community . . . that the apparent connections between money and voting are generally spurious” (Wright, 1996:137). Thus, “the campaign contributions of interest groups have far less influence than commonly thought” (Smith, 1995:91).

Despite this conventional wisdom, a thorough review of the literature uncovers many studies that do indeed find a link between contributions and votes, even when using sophisticated models. After a comprehensive review of the research on contributions and roll calls, Smith describes “a literature filled with conflicting results” (1995:92), which he attributes to methodological flaws and model misspecification. To examine this literature more systematically, to assess the accuracy of the discipline’s conventional wisdom, and to determine the impact of model specification on the results in this line of research, we have conducted a meta-analysis including all published research articles examining the link between contributions and roll call voting. Our findings suggest several important qualifications to the conventional wisdom. In a surprising number of studies, contributions did in fact impact how elected representatives voted. Moreover, this finding is robust to variations in model specification. In fact, we find that while significant links are less frequent with certain model specifications, such results are still common even in the better models.

### **Modeling the Contribution-Vote Linkage**

Clearly, contributions are correlated with roll call voting favorable to the contributors’ interests. However, any attempt to conclude that these contributions have an independent influence on legislators must fully model the complexities of the relationships involved. Most important is the tendency for PACs to contribute money to members who are already generally disposed to favor their position. Liberal groups give to liberal Democratic members from liberal districts who then vote liberally, and vice versa for conservatives. This pattern suggests it is the legislator’s ideology, partisanship, and constituency, not contributions, that truly drive voting behavior. To the extent this situation of “friendly giving” is true, contributions do not actually have an independent influence on voting. That is, they do not lead legislators to vote differently than they would have in the absence of the contribution. Political donations, it is argued, are used to gain or maintain access (Grenzke, 1989; Herndon, 1982; Langbein, 1986; Wright, 1990), or mobilize friendly legislators to lobby their colleagues, or alter the language of the bill, especially at the committee stage (Hall and Wayman, 1990).

Any serious attempt to establish the influence of contributions on roll calls, therefore, must control for this possibility. There have been two basic approaches. First, a set of control variables is included that predicts how a member would normally vote on a given bill. These control variables include the party and ideology of the legislator, characteristics of the constituency, and others. The second approach is to build a set of simultaneous equations. This approach attempts to purge the contributions variable of the variance attributable to friendly-contribution strategies from like-minded groups. In the secondary equation, contributions are regressed on a set of predictors capturing the political and ideological character of the legislator. An instrumental contributions variable is taken from this equation and then used in the primary equation to predict roll call voting. Additionally, researchers have argued that variables such as electoral marginality and seniority condition the influence of campaign contributions on roll call voting and so such variables must be included in any models attempting to capture this influence.

Naturally, each study claims to have properly modeled these complex relationships. There is, however, great variety in the specific statistical strategies employed. Meta-analysis can help uncover the true nature of the relationship between contributions and voting. On one hand, it may be that certain models reduce the observed relationship to zero. On the other hand, it may be that a significant finding is equally likely under any modeling specification. Meta-analysis can determine if the use of control variables or simultaneous equations produces different results from those models that do not utilize such techniques and helps heighten confidence in conclusions drawn about the nature of the relationship between contributions and roll call voting.

## Methods

Meta-analysis involves pooling numerous research studies together into a single data set and utilizing statistical and analytical methodologies to explain the variance in findings using factors that vary across the studies. Meta-analysis, while common in many physical and some social sciences, has been relatively rare in political science, though its use is becoming more common (Imbeau, Petry, and Lamari, 2001; Lau et al., 1999).

Most meta-analytic techniques involve methods for calculating effect sizes, generally bivariate correlations, from the results of many studies. There has been some development of meta-regression analysis for examination of multivariate models (Stanley and Jarrell, 1989). The research on PAC contributions and roll call voting, however, is a methodologically sophisticated and heterogeneous literature and therefore requires a nonparametric approach that is useful for assessing findings across a diverse set of studies (Lau et al., 1999). The technique used here focuses on the coefficient for the

PAC contributions variable within multivariate models. Because the operationalizations and statistical models differ across studies (e.g., OLS, probit, two-stage least squares), as do the set of control variables, it is impossible to examine the functional form of the relationship between contributions and roll calls and therefore assess substantive impact. Instead, because almost all studies report standard errors or *t* values, we have simply coded whether the coefficient for the contributions variable is statistically significant at the 0.05 level. This binary variable then expresses the general findings of the literature and can be used to assess whether various study characteristics are associated with a greater or lesser likelihood of finding a significant relationship.

It would be optimal to include information about the substantive impact of contributions, but the heterogeneity of the approaches used makes any such classification difficult. For instance, the effects of standard OLS regression coefficients would need to be compared to logit and probit coefficients from various models. A nonparametric approach might be possible in which the impact could be coded as “weak” or “strong,” but such a classification would necessarily be arbitrary and subjective. As a result, we have decided to focus strictly on the statistical significance of the coefficient. We must, therefore, add the caveat to our analysis that statistical significance does not amount to substantive significance.

The literature search utilized backward mapping of study bibliographies as well as computer searches. To begin, we searched JSTOR to identify seminal pieces of literature that looked at this topic. From there, we identified studies that were cited in the bibliographies of these articles and continued to map the literature backward in time. We also examined issues of major political science journals, such as the *American Political Science Review*, *American Journal of Political Science*, *Journal of Politics*, and *Legislative Studies Quarterly*, that were too recent to be included in the JSTOR database. Studies of the U.S. House, U.S. Senate, and state legislatures were included. Some studies looked at the entire membership in a chamber; others looked at a subset, such as a particular committee. Only published studies were included. Though there is some concern that the exclusion of unpublished research may eliminate many nonsignificant findings, publication provides a control for research quality. It is a tradeoff that must be made in any meta-analysis, but in this case nonsignificant findings are often very interesting given the expectation that money exerts influence and, we feel, just as likely to be published. Furthermore, analyses examining the impact of excluding unpublished sources in meta-analysis find little to no difference in effect sizes with the exclusion of these sources (Hunter and Schmidt, 1990; Rosenthal, 1984).<sup>1</sup>

<sup>1</sup>To assess the quality of unpublished studies on the topic, we contacted the American Political Science Association in an attempt to locate papers presented at past conferences on this topic. However, the Association does not have all conference programs dating back to when the FEC started collecting campaign finance data. With such an incomplete record on

A number of studies were located that focused on the contribution-vote link but had to be excluded for various reasons. Many used a dependent variable that was not comparable (policy impacts, change in voting record, etc.), replicated the equations using the same data from an earlier study, or were missing information needed to calculate our dependent variable ( $t$  values or standard errors).

In all, 33 *studies* were included. Many studies include multiple *equations*. And within equations, there is often more than one contributions variable; for instance, it is common for an equation to include a variable for labor PAC contributions and another for corporate PAC contributions. In this meta-analysis, the unit of analysis is the coefficient for a single contribution variable within an equation in a study; we have labeled this unit a *test*. Some studies contribute many tests, while others contribute only one or two. In total, there are 357 tests. The Appendix lists the studies and the number of equations and tests culled from each.

The studies exhibit both diversity and commonalities. Though the years of the roll calls included in the studies range from 1973 to 1996, there was clearly a boom in this line of research as the new FEC data became available in the 1970s. The mean year for the tests included in the data set is 1981, and 90 percent of the tests modeled votes in 1985 or earlier. After this flurry of activity, contribution-roll call studies waned. Another noticeable characteristic of these studies is their focus on the U.S. House of Representatives. Of the 357 tests, 77 percent examined the U.S. House and another 17 percent studied some subset of the House, such as a committee. Less than 6 percent of the tests looked at the Senate or state legislatures.<sup>2</sup> Consequently, political science can speak fairly confidently about the influence of contributions in the House, but has little to say about the role of money in different legislative venues. This finding should encourage researchers to remedy this shortcoming.

The following section will discuss the model characteristics of the tests included in the meta-analysis and examine some bivariate relationships. Then we report results from a multivariate analysis. Extending meta-regression (Stanley and Jarrell, 1989), a logit meta-analysis was developed to model the study data. The dependent variable is a dichotomous variable indicating whether the contributions variable in a test was a significant predictor of roll call voting at the 0.05 level and had the correct sign, indicating contributions were associated with support for the groups' positions. The independent variables are characteristics of the individual tests. Because of the possibility that the tests from any one study may be

which to draw, assessing the quality of this unpublished literature was difficult and the possibility of including this research problematic.

<sup>2</sup>With so few cases examining state legislatures or the Senate, we were unable to uncover any interesting differences across legislative settings. We have also conducted the reported analyses including only the full House cases and the results were virtually identical. All our main conclusions are unchanged when just this subset is examined.

correlated, it is necessary to use a generalized estimating equation (GEE) to conduct the multivariate analysis. This approach allows a logit specification while also accounting for correlation within clusters (Zorn, 2001; Horton and Lipsitz, 1999). We use a logit link function, a binomial distribution, and exchangeable error structure. Each study defines a cluster.

## Results

The first result to report is the simple frequency of tests that show a significant link between contributions and roll call voting at the 0.05 level. Of the 357 tests collected for this meta-analysis, 35.9 percent show such a significant link. This simple finding suggests the conventional wisdom about money and roll calls may be wrong. Contributions do seem to impact the way legislators vote in a surprisingly large minority of instances that have been tested.

Now, of course, these tests include a variety of model specifications ranging from sparse to very complex. It is possible that better specified models may reduce or eliminate the incidence of significant findings. Perhaps the “positive” tests—that is, showing a statistically significant link—are concentrated in equations that are poorly specified. To test for this possibility, we have analyzed the relationship between model specification and test results.

Table 1 displays information about a number of model specification choices that were common in the studies. The first column lists the characteristic, the second column indicates the percentage of tests that appear in equations with that particular characteristic, the third and fourth columns provide the frequency of significant findings in tests with and without the characteristic, and the last column gives  $t$  test values from a comparison between the tests with and without the characteristic. The  $t$  test will indicate whether tests using a particular model specification show a significant link between contributions and roll call voting more or less frequently than tests without such a specification. Our hypothesis is that these model specifications, which have been used by researchers to control for the effects of friendly giving, will alter the frequency with which such a significant link is found.

Quite common in the models found in these studies is a control variable for party. More than six out of ten tests include this measure. Generally, the reasoning given by researchers is that certain kinds of PACs are naturally inclined to give to some party members—unions to Democrats, for instance—and that controlling for this pattern will eliminate the link between money and voting. Unexpectedly, there is little difference in the frequency of significant findings for tests including a party variable and those that do not. In fact, significant findings between contributions and roll call voting are more frequent in tests that include party in the equation,

TABLE 1  
 Characteristics of Equations Included in Meta-Analysis

Test Characteristic	Tests with Characteristic	Significant Tests with Characteristic	Significant Tests without Characteristic	<i>t</i> Test of Difference
Equation contains a party variable	61.1%	38.1%	32.4%	- 1.10
Equation contains an ideology variable	61.9%	25.3%	52.9%	5.31***
Equation contains constituency variable(s)	80.7%	42.0%	10.1%	- 6.81***
Equation contains district presidential vote variable	68.3%	34.0%	39.8%	1.06
Simultaneous equation used	61.6%	30.0%	45.3%	2.89**
Contributions are expressed as % of total contributions	22.1%	60.8%	28.8%	- 5.19***
Equation contains more than one contributions variable	83.2%	58.3%	31.1%	3.88***
Equation contains electoral margin variable	49.3%	41.5%	30.4%	- 2.19*
Equation contains length of tenure variable	18.8%	38.8%	35.2%	- 0.56

\* $p < 0.05$ ; \*\* $p < 0.01$ ; \*\*\* $p < 0.001$ .

NOTE: There are 357 tests included in the data set. Each test represents a single coefficient for a contributions variable within a multivariate equation predicting roll call voting. The *t* test compares the incidence of significant findings at the 0.05 level between tests with and tests without the characteristic.

though the  $t$  test indicates this difference is not large enough to be statistically significant.

Alternatively, an ideology variable, which is used as commonly as party, does appear to reduce the incidence of positive findings. Although 52.9 percent of tests without ideology in the equation were significant, only 25.3 percent of those including ideology as a control showed a significant link. This difference is statistically significant ( $t = 5.31$ ). When the model removes the variance in roll call behavior attributable to legislator ideology, indications of an impact from contributions are less frequent. It is important to note, though, that even with ideology included, over one-quarter of the tests showed a significant link between money and voting. Moreover, the measure of ideology used in these models is almost always based on interest-group ratings, most commonly those produced by ADA. The problem with these measures is that the votes that have been used to produce the “ideology” scores may themselves have been influenced by campaign contributions, thus underestimating the effect of contributions on votes (Wawro, 2001; Jackson and Kingdon, 1992). So while the presence of an ideology variable makes a significant result less common, the problems associated with this variable may mean that the campaign contribution variable was actually important more frequently than these models suggest. Since it has been well established that groups tend to give to like-minded legislators, it is important to include some control for the preference of legislators, and in the absence of better data, interest-group ratings may have to serve as proxies for such measures. Nonetheless, it should be kept in mind that campaign contributions may have significantly impacted roll call votes more than 25.3 percent of the time in these models, lending support to the assertion that contributions impact votes more frequently than the conventional wisdom suggests.

Factors measuring the constituency role are the most common control variables in these studies—over 80 percent of the tests include them. There is quite a variety of specifications in the equations, but most frequently these are based on district demographic data. In some cases, the variables are connected substantively to the issue that is the focus of the roll call. For example, Wilhite (1988) examines labor votes and so includes a measure of unionization in a given district; Welch (1982) examines dairy price support votes and includes a measure for dairy production in the district. Usually, though, these variables are general measures such as median income or district racial composition. Because it is expected that a PAC gives to representatives from districts with interests and preferences congruent with the PAC's, including constituency variables should make positive findings less frequent. As it turns out, constituency controls make significant findings much more frequent. Without constituency controls, only 10.1 percent of the tests are significant, but when these variables are included 42.0 percent of the tests are significant. These counterintuitive findings seem to be driven by the fact that there are negative correlations between the use of constituency

variables and the use of ideology as a control variable and the use of simultaneous equations (see discussion below), both of which serve to reduce the occurrence of significant findings. In other words, equations that include constituency are also likely to exclude ideology or eschew a simultaneous equation model. As a result, they tend to be misspecified. These interrelationships will be explored further in the multivariate analysis below.

In addition to these demographic and economic measures of constituency, close to 70 percent of the tests include a variable for the district presidential vote as an indicator of the political orientation of the constituency. Unlike the more standard constituency variables, this indicator does not appear to make a difference in explaining the incidence of significant tests. Though tests with a presidential vote variable show positive findings less often, the difference is small and not statistically significant.

One final choice used to control for the effects of friendly giving is simultaneous equation modeling. Over 60 percent of the tests are drawn from equations using this specification. This technique is generally argued to be the best method for purging the contributions variable of the variance associated with the political and ideological orientations of the legislator. Typically, in the secondary equation contributions are regressed on a set of predictors that include many of the control variables discussed above as well as additional measures such as membership on the committee of jurisdiction and others. Then, this instrument is used in a primary equation to predict roll call behavior in a model that may or may not contain many of the same control variables.<sup>3</sup> As Table 1 indicates, significant findings are less common with this approach. Although 45.3 percent of the tests that did not use simultaneous equations showed a significant link between money and voting, only 30.0 percent of those that did use this methodology showed such a link. Again, as with the findings for ideology, it must be noted that even when applying this modeling choice, a substantial number of the tests were positive. Almost one-third of the tests using simultaneous equations indicated a significant link between contributions and roll call voting at the 0.05 level.

Besides these approaches for dealing with the issue of friendly giving, other modeling choices may have an impact on the frequency with which significant links are found, though unintentionally. In examining the full set of studies, we encountered two common model specifications we believe are problematic. First, in most of the tests contributions are measured in total dollars given from particular sources. Only 22.1 percent operationalize contributions as a percentage of total contributions. A case can be made that the latter formulation is superior. If groups are looking to trade resources for

<sup>3</sup>We should note that when a control variable is included in the first equation but not in the second, it has not been coded as a characteristic of that *test*. In other words, a control variable must be in the equation predicting roll call voting in order to be considered a control variable in the test.

votes, it might be expected that a legislator's willingness to trade would depend not on the amount of money coming from the group but the importance of that group's contribution to the legislator's overall fund of resources. If so, using a percentage measure for contributions might be a superior operationalization and make significant findings more likely. As Table 1 shows, this is the case. When this more appropriate measurement strategy is employed, 60.8 percent of the tests are significant, while only 28.8 percent of the tests using total dollars show a significant link between money and voting.

Another potentially problematic choice is to include more than one source of money as separate variables in the same equation. This practice, found in 83.2 percent of the tests, most commonly includes a corporate PAC contributions variable and a labor PAC contributions variable. Occasionally, groups with similar interests are included. There are certainly substantive reasons to consider the simultaneous impact of contributions from more than one source. However, these variables are likely to be highly collinear. Legislators receiving large corporate contributions are likely to receive little money from labor and vice versa. As these variables are coding very similar information, regression might reveal neither to be a statistically significant predictor of roll call voting when controlling for the other even though the pattern of contributions may have a real impact. A better approach to examine multiple-source contributions, we argue, would be to create a scale. So, for example, when labor and corporate PAC contributions are both included, one would subtract the amount of labor contributions from the amount of corporate contributions. Legislators who mainly receive contributions from corporate PACs would have high positive scores while legislators who mainly receive contributions from labor PACs would have high negative scores and legislators who received equal contributions from both would have scores near zero. In the meta-analysis data, the use of multiple-contributions variables does reduce the incidence of positive findings. When this approach is used, 35.6 percent of the tests show a significant link, while half of the tests do when there is a single contributions variable.

Finally, we observed two additional control variables that are very commonly included as a way of better specifying the models. By including these variables, researchers argue that the model should better capture the conditions under which money impacts voting. As a result, equations with these variables should produce significant links between contributions and voting *more* frequently. About half the tests use a control for the electoral marginality of the legislator, usually measured as the winning percentage in the prior election. The general theoretical expectation is that insecure incumbents will be attuned to constituency concerns and less open to influence from interest groups. On the other hand, a testing election may sharpen an incumbent's need for campaigns resources and thus create new opportunities for PACs to influence the member on roll calls. Either way, the variable

should focus the relationship between money and votes. As Table 1 indicates, it appears to do so.

A smaller number of tests—18.8 percent—include a variable for the seniority of the member, usually measured simply as the length of tenure in the legislature. As with the previous variable, the theoretical expectation is ambiguous. As more senior members are often more secure, they might be expected to feel less constituency pressure and be more open to interest-group pressure. Alternatively, they may also feel less need to collect electoral resources. In the data, the inclusion of this variable has no impact on whether the test reveals a link between money and voting.

This overview of the data reveals several interesting relationships. However, this bivariate approach leaves open the possibility that some of the patterns may be spurious. Many of the studies, for instance, use both an ideology control variable and simultaneous equations. It is important to assess whether both are independently important model specifications. To do so, we turn to a logit meta-analysis.

This analysis predicts whether a test shows a significant link between contributions and roll calls using the six model characteristics that had a significant bivariate relationship in the analysis above. Table 2 presents the results. First, the ideology variable does tend to reduce the incidence of significant findings. Using the GEE logit coefficients and holding all other variables at their modes, we calculate that the inclusion of an ideology variable reduces the probability of finding a significant relationship by 0.14. Second, as expected, when controlling for the other model characteristics,

TABLE 2

The Impact of Campaign Contributions on Roll Call Voting: GEE Results for Logit Meta-Analysis

Variable	Coefficient
Equation contains an ideology variable	-0.869* (0.345)
Equation contains constituency variable(s)	0.798 (0.595)
Simultaneous equation used	-0.341 (0.486)
Contributions are expressed as % of total contributions	0.143 (0.560)
Equation contains more than one contributions variable	-2.000** (0.626)
Equation contains electoral margin variable	0.844 (0.534)
Constant	0.560
PRE	0.15
-2LL	397.415

\* $p < 0.05$ ; \*\* $p < 0.01$ .

NOTES: Logit coefficients from generalized estimating equation (GEE) are presented; standard errors are given in parentheses. Model was specified with a binomial distribution, logit link function, and an exchangeable correlation structure. Dependent variable is a dichotomous variable indicating whether the contributions variable in a test was a significant predictor of roll call voting at the 0.05 level.  $N = 357$ .

the use of constituency variables makes no difference. Neither, it seems, does the use of simultaneous equations. The coefficient has the proper sign, but is not close to being statistically significant. Apparently, the only effective way to control for the impact of friendly giving is to include an ideology variable in the equation. It should be noted again that even with this critical control variable there are still a large number of positive findings—25.3 percent of the tests—and that weaknesses in the measurement of ideology likely obscure more widespread links between contributions and voting.

Table 2 also shows that the measurement strategy for the contributions variable does not seem to matter. Against our expectations, expressing contributions as a percentage of total contributions does not make significant findings more frequent. On the other hand, significant links between money and voting are less frequent in equations with multiple-contributions variables. The effect of this modeling choice is considerable. Again, using the coefficients from the logit equation and holding all other variables at their modes, the data suggest that the use of multiple contributions variables reduces the probability of finding a significant relationship by 0.40. As we suggest above, this connection is likely a reflection of collinearity. If so, better measurement strategies—such as the scale we suggest—might reveal an even higher proportion of positive findings.

Finally, the inclusion of an electoral margin variable, after controlling for other model characteristics, does not appear to have an impact on test findings. As we note above, there is theoretical ambiguity about the role of marginality, and its null impact may actually reflect competing effects.<sup>4</sup>

## Discussion

This meta-analysis suggests a revision to the conventional wisdom about the power of campaign contributions to influence roll call voting. It is simply not true that the apparent connection between money and voting is just a reflection of friendly giving. In a noteworthy minority of tests, money did have a statistically significant impact on how legislators voted.

<sup>4</sup>Because several studies contribute a large portion of the tests, it is possible that particular model specifications unique to these studies may be overinfluential. There are six studies, in particular, that contribute more than 5 percent of the tests, with the maximum contribution from any one study 18 percent (see the Appendix for each study's number of equations and tests). To check for this possibility, the GEE logit meta-analysis was rerun six additional times with one of these six studies removed from the data each time. In three of these supplemental runs, the patterns of significant coefficients were identical to the results reported above, though the level of significance shifted in a couple instances (e.g., ideology was significant at 0.01 instead of at 0.05). In one model (without Kau and Rubin, 1982), ideology was not significant, though the coefficient had the same sign and was roughly similar in magnitude ( $-0.664$ ). In another model (without Masters and Zardkoohi, 1988), the variable for contributions as a percentage was significant. Finally, in the run excluding Grenzeke (1989), the multiple-contributions variable was not significant, though only barely ( $z = 1.90$ ). These supplemental runs give little indication to suggest any one study was overly determinative of the results.

It is true that significant findings of this type are less frequent when the model employed to predict roll call voting includes control variables to capture the effect of friendly giving. However, it is only the use of legislator ideology that seems to be helpful in this regard. Other control variables do not seem to matter. Moreover, significant links are just as common when using sophisticated modeling strategies, such as simultaneous equations, as they are in more simple analyses. In addition, we find evidence that the common practice of including more than one contributions variable may be masking significant relationships.

How, then, should the conventional wisdom be updated? We might set as the upper bound the basic finding that 35.9 percent of the tests showed significant links. The lower bound could be located at 25.3 percent—the percentage of significant tests in equations including an ideology variable. This lower bound might be adjusted upward to account for the collinearity problem we have identified and the problems with the measurement of legislator ideology. If the roll calls included in these studies are viewed as roughly representative of all roll calls, a reasonable conclusion is that one in three roll call votes exhibits the impact of campaign contributions.<sup>5</sup> We should emphasize again that this conclusion does not address the substantive impact that money has on these votes—for instance, how frequently donations can be viewed as critical to the defeat or success of a bill. But it does suggest the conventional wisdom has been too sweeping in its characterization of money as almost wholly unimportant in roll call voting.

On the one hand, for those aware of the conventional wisdom, our estimate that one-third of roll call votes show the influence of contributions seems unexpectedly high. On the other hand, it should not be surprising that the patterns of donations get reflected in a significant minority of votes. Legislators are inundated with legislative proposals, many of which have little connection to their own policy interests or the interests of their constituency. Lawmakers themselves may have little information about these bills and there is good evidence that they often have to rely on cues from their political environment, such as other members (Kingdon, 1989; Matthews and Stimson, 1975; Uslander and Weber, 1977). In these conditions it is not surprising that members would be willing to trade their votes for a resource so critical to a goal—reelection—that all agree is primary to almost all legislators.

In the wake of the conventional wisdom formed from this literature, scholars in recent years have examined some important alternative dynamics of interest-group influence. This work has focused on the role donations play in securing access, the connections between contributions and lobbying

<sup>5</sup>There is truly a broad diversity of legislative content in the literature, if skewed a bit toward issues of interest to unions (for whom PAC contributions are readily identifiable). One-third of the tests focus on labor votes and another 10 percent look at agricultural votes. The balance of the tests—over half—use a surprising variety of bills ranging from trucking deregulation to defense appropriations to gun control to NAFTA.

patterns, and the extra legislative effort earlier in the legislative process money can elicit from members already in agreement with groups on final passage (Grenzke, 1989; Hall and Wayman, 1990; Herndon, 1982; Langbein, 1986). In addition to further work in these valuable areas, we believe scholars should focus more effort on explaining why money seems to have a direct impact on roll call voting in some cases and not others. Although researchers have speculated about the conditions under which contributions have an impact on voting, future work should identify contextual variables—such as bill salience—that explain the conditions that foster the impact of money. With this effort, the conventional wisdom would be more nuanced and complete.

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### Appendix: Studies Included in Meta-Analysis with Number of Equations/ Tests Taken from Each Study

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  - 4 Dow, Jay L., and James W. Endersby. 1994. "Campaign Contributions and Legislative Voting in the California Assembly." *American Politics Quarterly* 22:334–53. (2/2)
  - 5 Durden, Garey C., Jason F. Shogren, and Jonathan I. Silberman. 1991. "The Effects of Interest Group Pressure on Coal-Strip Mining Legislation." *Social Science Quarterly* 72:237–50. (1/4)
  - 6 Feldstein, Paul J., and Glenn Melnick. 1984. "Congressional Voting Behavior on Hospital Legislation: An Exploratory Study." *Journal of Health Politics, Policy and Law* 8:686–701. (1/1)
  - 7 Fleisher, Richard. 1993. "PAC Contributions and Congressional Voting on National Defense." *Legislative Studies Quarterly* 28:399–410. (1/1)
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- 16 Masters, Marick F., and Asghar Zardkoochi. 1988. "Congressional Support for Unions' Positions Across Diverse Legislation." *Journal of Labor Research* 9:149–65. (33/65)\*
- 17 McCarthur, John, and Steven V. Marks. 1988. "Constituent Interest vs. Legislator Ideology: The Role of Political Opportunity Cost." *Economic Inquiry* July:461–70. (1/1)
- 18 Neustadt, Alan. 1990. "Interest Groups PACsmanship: An Analysis of Campaign Contributions, Issue Visibility, and Legislative Impact." *Social Forces* 69:549–64. (2/4)
- 19 Peltzman, Sam. 1984. "Constituent Interest and Congressional Voting." *Journal of Law and Economics* 27:181–210. (2/2)
- 20 Rothenberg, Lawrence S. 1992. *Linking Citizens to Government: Interest Group Politics at Common Cause*. New York: Cambridge University Press. (8/16)
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- 25 Stratmann, Thomas. 1995. "Campaign Contributions and Congressional Voting: Does the Timing of Contributions Matter?" *Review of Economics and Statistics* 77:127–36. (10/20)\*
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- 30 Wilhite, Allen, and John Theilman. 1987. "Labor PAC Contributions and Labor Legislation: A Simultaneous Logit Approach." *Public Choice* 53: 267–76. (2/2)
- 31 Wilhite, Allen. 1988. "Union PAC Contributions and Legislative Voting." *Journal of Labor Research* 9:79–89. (4/4)
- 32 Wright, John R. 1990. "Contributions, Lobbying, and Committee Voting in the U.S. House of Representatives." *American Political Science Review* 84:417–38. (2/4)
- 33 Wright, John R. 1996. *Interest Groups and Congress*. Boston, MA: Allyn and Bacon. (1/1)
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\*One of the six studies contributing more than 5 percent of the cases.

NOTE: Numbers in parentheses at the end of the entry are the number of equations followed by the number of tests.