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Research note

Determinants of legislative success in House committees*

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Abstract. We examine the factors that are associated with whether a bill passes the committee stage in the U.S. House of Representatives. Probit results for the 97th and 98th Congresses show that a bill is more likely to pass (1) if the sponsor chairs the committee that considers the bill or a subcommittee of that committee; (2) the higher the number of Democratic cosponsors who sit on the committee; (3) if the bill has bipartisan cosponsorship from members who sit on the committee that considers the bill. However, in the multivariate probit model including the above mentioned variables, other variables previously found to be important, e.g., the total number of cosponsors, whether or not the sponsor sits on the committee that considers the bill, and the party affiliation of the sponsor, are not statistically significant. Also a variable related to a public choice model of committee behavior, the difference between the sponsor's ideology (as measured by ADA score) and the ideology of the committee's median member, has no effect on a bill's probability of committee passage.

1. Introduction

The purpose of this paper is to examine the factors that determine whether or not a bill is reported out from the committee stage of the U.S. House of Representatives. We build on the earlier work of Browne (1985) and Crain, Leavens, and Tollison (1986). Our dependent variable will be a binary variable: whether or not a bill passes the committee stage of the U.S. Congress. In contrast, Crain, Leavens and Tollison focus mainly on whether a bill succeeds on the House floor, and Browne deals with whether a bill becomes a law. Moreover, Browne's research deals with state legislatures, not Congress. Like these earlier articles, however, our explanatory (independent) variables will be characteristics of the bill's sponsors and cosponsors.[1] However, as will be shown below, we find that the variables in Crain, Leavens and Tollison and

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in Browne lack statistical significance when entered into a regression equation with the set of variables we identify as most important.

There are two major reasons why we should be interested in which bills pass the committee stage in Congress. First, the committee stage appears to be the most important screening step in the legislative process. For example, in the 97th Congress, House and Senate members introduced 9,551 public bills, but only 10% of these bills passed the committee stage. In contrast, of those that passed the committee stage, 70% passed at least one chamber and 37% became law. Second, recent articles argue that congressional committees can block legislation that they dislike, and enact legislation that they favor because of an implicit institutionalized logroll involving committee jurisdictions and because committees can effectively influence the conference stage of the legislative process (Shepsle and Weingast, 1987a and 1987b). Moreover, because of factors such as committee anticipation of floor amendments, deference to committee expertise, bargaining that has already taken place within the committee, and the use of closed and semi-closed rules, it is rare for substantively major changes to be made in a successful bill, although, sometimes, the committee may prepare a substitute bill as an amendment that reflects the committee's own position.

Before we proceed to the details of the analysis, we wish to consider an important potential confounding factor in specifying our key variable, the fact that the content of a bill may change during the committee stage.[2] Because committees report the original bill only if they do not make substantial changes to it (Congressional Quarterly, 1982; 412) – albeit there may be substitute bills proposed as amendments to the original bill that reflect the committee's own position – it is reasonable to treat the bill reported by the committee as the same as the bill of that number sent to the committee. If a committee makes substantial changes to a bill, it will report a "clean bill" (with a new bill number) now listing the committee's chairman or a subcommittee chairman as the new bill's sponsor.[3] Thus, "sponsorship" has a different meaning in the context of "clean bills" than for bills that are not substantially changed in committee, since the former category of bills is certain to be sponsored by a committee or subcommittee chair and virtually certain to be reported to the floor. In order to avoid the problems in the comparability of sponsorship on clean bills as opposed to other bills, we delete all clean bills from our sample.

The paper is organized as follows. Section 2 identifies hypotheses about what variables might theoretically be expected to be important in determining whether a bill passes the committee stage. Section 3 uses these variables to specify a probit model. Section 4 presents the empirical results. Section 5 contrasts these results to those of previous research. Section 6 contains our discussion and conclusion.

2. Which variables should be important?

The literature on spatial models of legislative choice often assumes that a bill that passes the committee stage reflects the preferences of the median member who sits on the committee that considers the bill (see Krehbiel, 1988, for an extensive survey of the literature). This suggests that if a bill reflects the preferences of the sponsor, then the sponsor's *preferences* can be used to predict the bill's fate in committee. To represent preferences we use Americans for Democratic Action (ADA) scores.

Hypothesis #1: *Ceteris paribus*, the further a sponsor's ADA score is from the committee's median member's ADA score, the smaller the probability the bill should have of passing the committee stage.

Those with power should be in a position to obtain the outcomes they desire. Thus the power of the sponsor and cosponsors to influence committee outcomes should be directly relevant to a bill's probability of committee passage.

In Congress, committee chairmen and subcommittee chairmen are potentially powerful in a number of ways, including control of the delegation process by scheduling of hearings and mark-up sessions, influence on the sequencing of floor amendments, and influence on appointments to conference committees. Also, a committee chairman may sometimes have some discretion about which subcommittee to refer the bill to – a friendly subcommittee or a hostile subcommittee – if the subject domain of a bill is not completely clearcut (Tiefer, 1989). Likewise, some committee chairmen (e.g., Jack Brooks and John Dingell) also chair a subcommittee on their committee, and they may refer the most interesting pieces of legislation to that subcommittee (Tiefer, 1989).

Hypothesis #2: *Ceteris paribus*, a bill whose sponsor chairs the committee that considers it should have a higher probability of passing the committee stage than a bill whose sponsor does not chair the committee that considers it.

Hypothesis #3: *Ceteris paribus*, a bill whose sponsor is a subcommittee chairman on the committee that considers it should have a higher probability of passing the committee stage than a bill whose sponsor is not a subcommittee chairman on the committee that considers it.[4]

Because congressional committees use majority rule to decide which bills to report, the number of cosponsors who sit on the committee that considers the bill should also be an important variable. But, since all of the House committees, except for Standards of Official Conduct, are controlled by the Democrats for the congresses we examine, we would expect the party affiliation of the cosponsors to also matter. That is, we would not expect a bill to fare well that is cosponsored only by a large number of Republican members who sit on the committee that considers it.

Hypothesis #4: *Ceteris paribus*, the greater the number of Democratic cosponsors who sit on the committee that considers the bill the higher the probability of the bill passing the committee stage.

On the other hand, if the bill is cosponsored both by Democrats and by Republicans who sit on the committee that considers it, we would expect the bill to have a good chance of passing the committee stage.

Hypothesis #5: A bill with bipartisan support among the cosponsors who sit on the committee that considers it should have a higher probability of passing the committee stage than a bill with no bipartisan support.

3. Model specification

The model we estimate is

$$PASS = a + b_1ADA + b_2CHAIR + b_3CHAIRSUB + b_4DCSPS + b_5BI + \epsilon$$

where

PASS	is 1 if the bill passes the committee stage, 0 otherwise[5]
ADA	is the absolute value of the sponsor's ADA score minus the committee's median ADA score.
CHAIR	is 1 if the sponsor chairs the committee that considers the bill, 0 otherwise
CHAIRSUB	is 1 if the sponsor chairs a subcommittee on the committee that considers the bill, 0 otherwise
DCSPS	is the number of Democratic cosponsors who sit on the committee that considers the bill divided by the committee's size.
BI	is 1 if at least two Democratic and Republican cosponsors sit on the committee that considers the bill, 0 otherwise

a is the intercept, the b_i's regression coefficients, and ϵ is the stochastic disturbance term.

The expected signs of the regression coefficients for CHAIR and CHAIRSUB should be positive; i.e., if the sponsor chairs the committee or a subcommittee on the committee that considers the bill, then the probability of the bill passing the committee stage should increase. Likewise, the expected signs of the regression coefficients for DCSPS and BI should also be positive; i.e., if there is an increase in the number of Democratic cosponsors who sit on the committee that considers the bill or if there is a bipartisan support among the cosponsors who sit on the committee, then the probability of the bill passing the committee stage should increase. Finally, the expected sign of the regression coefficient for ADA should be negative; i.e., if the sponsor's ADA score is far away from the committee's median ADA score, then the probability of the bill passing the committee stage should decrease.

Table 1. Dependent variable is PASS

Independent variables	Coefficients/(t-statistics)	
	97th Congress	98th Congress
Constant	−2.14	−1.62
	(−11.71)	(−9.92)
ADA	−.00	−.00
	(−.70)	(−.02)
CHAIR	.73	.65
	(2.98)	(2.73)
CHAIRSUB	1.26	.66
	(6.76)	(3.91)
DCSPS	2.87	1.88
	(1.78)	(2.36)
BI	.77	.55
	(1.83)	(1.71)
LRI	.33	.15
LR-statistic	120	58
Observations	666	583

4. Empirical results

The model is estimated separately for the 97th and 98th Congresses. The data was collected by recording the characteristics of every 10th House bill, starting with HR 10.[6] The ADA scores come from Congressional Quarterly (3 July 1982 and 14 July 1984).[7]

To simplify interpretation of our results, we deleted the following bills from our sample: private bills, bills introduced by delegates and the resident commissioner (nonvoting members of Congress), clean bills, and bills that received action without being reported from committee. Neither clean bills nor bills reported to the floor without committee action were numerous in our sample. We deleted 2 clean bills and 4 bills that received action without being reported from committee from our sample for the 97th Congress. We also deleted 4 clean bills and 6 bills that received action without being reported from committee from our sample for the 98th Congress.[8]

The probit results are listed in Table 1.[9] The results show that all of the estimated regression coefficients have the expected signs. The results also show that all of the estimated regression coefficients, except the ones for ADA, have t-statistics with absolute values greater than one.

Moreover, not only are directionality and signs of all estimated regression coefficients between congresses consistent, but the magnitudes of the estimated regression coefficients are also remarkably consistent between the two con-

Table 2.
97th Congress

Initial value exogenous variable	Final value exogenous variable	Change[a] in probability of passage (percentage points)
CHAIR = 0	CHAIR = 1	10.7
CHAIRSUB = 0	CHAIRSUB = 1	20.7
DCSPS = 0	DCSPS = .03[b]	.7
BI = 0	BI = 1	14.1

[a] Final probability of passage minus initial probability of passage.
[b] One Democratic cosponsor sits on the committee that considers the bill.

Table 3.
98th Congress

Initial value exogenous variable	Final value exogenous variable	Change[a] in probability of passage (percentage points)
CHAIR = 0	CHAIR = 1	14.4
CHAIRSUB = 0	CHAIRSUB = 1	12.6
DCSPS = 0	DCSPS = .03[b]	.7
BI = 0	BI = 1	12.4

[a] Final probability of passage minus initial probability of passage.
[b] One Democratic cosponsor sits on the committee that considers the bill.

gresses. To compare the impacts of the explanatory variables in each congress, we calculated the change in the probability of passage with respect to a change in each explanatory variable (see Appendix for details). The results are listed in Tables 2 and 3.

Tables 2 and 3 show that the impacts of the explanatory variables on the probability of committee passage are almost identical in both congresses, except for the impact of the sponsor chairing a subcommittee that considers the bill. The tables show that the largest impacts occur if the sponsor chairs the committee or a subcommittee on the committee that considers the bill, or if there is bipartisan support among the cosponsors that sit on the committee. For example, in the 97th Congress, if a bill has bipartisan support this increases the probability of passage by 14.1 percentage points; likewise, in the 98th Congress, bipartisan support increases the probability of passage by 12.4 percentage points. Finally, the results show that there is only a small impact on probability of committee passage of the number of Democratic cosponsors sitting on the committee that considers the bill. In both congresses, each Democratic cosponsor increases the probability of passage by only .7 percentage points.

4.1 Robustness checks

Two control variables that we thought might be important were whether or not the sponsor introduced the bill at the request of another party and whether or not the bill was a duplicate of another bill that had been previously introduced. We tested the importance of these variables by including them in our regression model. Their inclusion did not change the signs or t-statistics of any of our original estimated regression coefficients. Since the estimated regression coefficients for these variables did not always have t-statistics that were greater than one, we concluded that these variables did not need to be included.

As another check to see if multiple referral bills (see note 5) confounded our results, we re-estimated our regression model with a different dependent variable. The new dependent variable equals 1 if the bill is reported from *any* of the committees that consider it, 0 otherwise. The new empirical results did not change the signs or t-statistics of any of the estimated regression coefficients.

Some bills deal with minor issues (e.g., granting a federal charter to the Italian American War Veterans of the United States), whereas other bills deal with major issues (e.g., simplifying the tax system). This means that two bills with the same sponsor and cosponsor characteristics may have completely different chances of passing the committee stage. To control for this potential bias, we included Congressional Quarterly's measure of the importance of a bill (16 October 1982 and 20 October 1984) as an explanatory variable. The inclusion of this variable did not change the signs or t-statistics of any of our original estimated regression coefficients. The estimated regression coefficients for this variable were positive and had t-statistics greater than one when the dependent variable was PASS. But when the dependent variable was changed the estimated regression coefficients had t-statistics close to zero. For this reason we did not feel it necessary to include this variable.

5. Comparisons with previous work

Browne (1985) finds three variables, other than those we consider, to be important: the party affiliation of the sponsor, whether or not the sponsor sits on the committee that considers the bill, and the number of cosponsors. We tested the importance of the first two variables by including them in our regression model. Their inclusion did not change the signs or t-statistics of any of our original estimated regression coefficients. Since the estimated regression coefficients for these variables had t-statistics close to zero in the model for the 98th Congress, we concluded that these variables were not important.

We tested the importance of the number of cosponsors by first including it in our regression model. The inclusion of this variable did not change any of

our previous results for the 97th Congress, but it did change the t-statistic of the estimated regression coefficient for DCSPS (Democratic cosponsors) in the 98th Congress: the t-statistic became less than one. On the other hand, the estimated regression coefficient for the number of cosponsors had a t-statistic of less than one for the 97th Congress, but greater than one for the 98th Congress. To see whether we should drop both variables (i.e., the number of cosponsors and DCSPS) from our model, we calculated LR-statistics. The LR-statistics (see note 9) for both congresses were significant, suggesting that at least one of the variables was important.

The inclusion of the number of cosponsors into our regression model assumes that we can add this variable as a additional explanatory variable; i.e., it will capture an effect that is not captured by BI (bipartisan support) and DCSPS. An alternative assumption is that this variable is just another way of proxying the importance of the cosponsors. Therefore, to test whether the number of cosponsors is important, we estimated a new regression model with the number of cosponsors replacing BI and DCSPS. The estimated regression coefficients for all the variables in this new model had t-statistics greater than one for both congresses. A J test (see Davidson and McKinnon, 1981 for details) to determine which model is correct – the model with the number of cosponsors or the model with BI and DCSPS – was inconclusive. Hence, it appears that either specification is a reasonable way to proxy the importance of the cosponsors. (A third specification, the number of cosponsors who sit on the committee that considers the bill, also appears to be a reasonable way to proxy the importance of the cosponsors.)

Crain, Leavens, and Tollison (1986) find the tenure of the sponsor to be an important variable. We tested the importance of this variable by including it in our regression model. Its inclusion did not change the signs or t-statistics of any of our original estimated regression coefficients. Since the estimated regression coefficients for this variable had a t-statistic that was less than one for the 98th Congress, we concluded that it was not a variable that needed to be included.

6. Conclusion

The empirical results show that chairmen and subcommittee chairmen appear to have a large amount of power; e.g., in the 97th Congress, the probability that a bill passes the committee stage increases by 10.7 and 20.6 percentage points respectively if the sponsor chairs the committee or a subcommittee on the committee that considers the bill. The empirical results also suggest that Democrats may not want to share credit with Republicans for "popular" legislation; i.e., even controlling for other factors, the estimated regression coeffi-

cients for the proportion of Democratic cosponsors sitting on the committee that considers the bill are positive and have t-statistics greater than one. Finally, the empirical results show little support for the claim that the only bills reported by a committee will be those supported by the committee's median voter: the estimated regression coefficients for the difference between the sponsor's ADA score and the committee's median ADA score is an insignificant predictor of likelihood of passage.

The empirical results in this paper are consistent with the assertion by Crain, Leavens, and Tollison (1986) that a sponsor's characteristics can be used to "identify which bills will succeed." However, direct comparisons with their work are not possible since they do not report coefficients for the committee stage of the legislative process.

Our empirical results on Congress can be compared with those of Browne's (1985) on state legislatures. Browne finds the following variables of importance: the sponsor's party affiliation, whether or not the sponsor sits on the committee that considers the bill, whether or not the sponsor chairs the committee that considers the bill, and the number of cosponsors. Although we find whether or not the sponsor chairs the committee that considers the bill and the number of cosponsors to be important variables, we find his other variables not to be important. We believe our results differ from Browne's because of the more complete multivariate design we use.

Notes

1. The sponsor refers to the first name that appears on the bill; the cosponsors refer to the other names that appear on the bill. Only the sponsor signs the bill and his name can never be deleted from it. On the other hand, the cosponsors can have their names added or deleted from the bill anytime up to the day the bill is reported to the House. To make the data collection manageable we recorded the names of cosponsors only if they appeared on the bill when it was first introduced.
2. A related potential problem in determining whether or not a bill will pass committee is that the bill may be effectively added as an amendment to another bill and be reported out in this fashion. Because this is a rare event and because it will at worst lead to some downward bias in the magnitude of estimated parameter, we will neglect the complication such amendments might cause.
3. We are indebted to an anonymous referee of an earlier version of this paper for calling to our attention the need to distinguish "clean bills."
4. There are explanations based on other than influence as to why hypotheses 2 and 3 might hold. The chairman and the subcommittee chairman may have a better idea of what the committee will pass, and support of a bill by a chairman or a subcommittee chairman may be associated with a higher probability of passing because these individuals have a better idea of what the committee will pass, not because they are more influential. Also, the chairman and subcommittee chairman may have more resources (e.g., staff) that they can use to draft their bills. Bills that they sponsor may have a higher probability of passing because they are better bills, and not because the members are more influential.

5. The House parliamentarian refers some bills to more than one committee. For example, in the 97th Congress, the House parliamentarian referred 655 public bills to more than one committee. PASS equals 1 only if the bill is reported from all of the committees to which it was referred.
6. The bill data comes from two sources: Commerce Clearing House (cosponsor names and clean bills), and U.S. Congressional Research Service (sponsor names, committee referrals, and committee action). The House data also comes from two sources: Joint Committee on Printing (member characteristics and committee characteristics), and Congressional Quarterly (ADA scores).
7. We calculated the committee median ADA scores by excluding nonvoting members.
8. The sample for the 97th Congress contains 666 observations; in 52 observations PASS equals 1. The sample for the 98th Congress contains 583 observations; in 62 observations PASS equals 1.
9. The likelihood ratio index (LRI) and the likelihood ratio statistic (LR-statistic) play the same role in the probit model as the R^2 and F-statistic play in the standard regression model. The LRI is

$$LRI = 1 - [L(\hat{b})/L(\hat{b}=0)$$

where L (b) equals the maximum value of the log-likelihood function, and $L(b=0)$ equals the maximum value of the log-likelihood function under the constraint that all of the regression coefficients equal zero. The LR statistic is

$$-2[L(\hat{b}=0) - L(\hat{b})] \sim X^2_k,$$

where X^2 represents the chi-square variable, and k represents the number of explanatory variables in the model. $L(\hat{b}=0)$ is -183 for the model for the 97th Congress, and -198 for the 98th Congress.

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Appendix: Calculation of likelihood contributions

The change in the probability of passage with respect to a change in one of the explanatory variables can be calculated using the following steps. First, set the explanatory variable that changes to its initial value. Second, multiply the estimated regression coefficients by the initial value of the explanatory variable that changes and by the specified values of the other explanatory variables. Third, plug the resulting sum from step 2 into the standard cumulative normal distribution function. This gives the probability of passage for the initial value of the explanatory variable.

Fourth, repeat steps 1, 2, and 3 setting the explanatory variable that changes to its final value. This gives the probability of passage for the final value of the explanatory variable. Finally, subtract the probability of passage for the initial value of the explanatory variable from the probability of passage for the final value of the explanatory variable. This gives the change in the probability of passage with respect to the change in the explanatory variable.

To calculate the change in the probability of passage with respect to each explanatory variable, we usually set the other explanatory variables equal to their average values. The only exceptions are that we set CHAIR equal to 0 for CHAIRSUB, BI equal to 0 for DCSPS, and DCSPS equal to .05 (the value of two Democratic cosponsors) for BI. In the 97th Congress, the average values of the explanatory variables are 30 for ADA, .06 for CHAIR, .16 for CHAIRSUB, .01 for DCSPS, and .03 for BI. In the 98th Congress, the average values are 33 for ADA, .06 for CHAIR, .21 for CHAIRSUB, .02 for DCSPS, and .04 for BI.