Journal of Agricultural and Resource Economics 22(2):281–295

Congressional Voting on Farm Payment Limitations: Political Pressure or Ideological Conviction?

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The determinants of House and Senate votes on congressional amendments to limit payments to farmers are investigated. One concern is that campaign contributions may influence politicians' votes. Lobbying activity, as measured by campaign contributions, can be separated from other determinants, but attempts to distinguish ideological motivations from passive constituency pressures suffer from theoretical and empirical shortcomings. So-called ideologically based decisions may reflect the ideology of the congressman's constituents rather than independent action on the basis of exogenous beliefs, while this ideology may itself be determined by politicoeconomic factors. A simultaneous relationship between money and votes is found in the House, but not in the Senate.

Key words: congressional voting, farm programs, ideology, lobbying, political economy

Introduction

A growing literature has sought to examine the determinants of congressional voting behavior (Chappell; Kau, Keenan, and Rubin; Welch; Vesenka; Abler). In each case, the determinants of a congressman's decision can be divided into three categories: (*a*) a response to active lobbying, which is usually measured by campaign contributions; (*b*) a response to passive constituency concerns, typically captured by measures of interest group size; and (*c*) ideological factors. Implicit in each of the aforementioned studies is the recognition that "capture" theories of government (most notably Stigler; Peltzman 1976; Becker), in which politicians respond exclusively to political pressure, suffer from limited explanatory power. The tendency has therefore been to rely upon econometric refinement to distinguish the political determinants of voting decisions from the ideological determinants. The overall evidence is mixed, with some studies finding political variables dominant (Chappell; Kau, Keenan, and Rubin) and others finding noneconomic ideological characteristics more important (Welch; Vesenka; Abler).

In this article, I argue that the distinction between passive political pressure and ideology is unhelpful, since it is impossible, both in theory and in practice, to separate the two effects. The ideology of congressmen may reflect the ideology of their electing constituents (either because the constituents are likely to elect politicians with similar views or because politicians respond to their constituents to ensure reelection), while this

The author is senior research economist, LMC International Ltd, Oxford, England. This study draws on the author's Ph.D. dissertation research, which was partially funded by the Australian Bureau of Agricultural and Resource Economics.

Without implication, I would like to thank Colin Carter, Alex McCalla, Colin Cameron, and two anonymous journal referees for their helpful comments and suggestions.

ideology may itself be determined by polticoeconomic factors (Peltzman 1984). In practice this means that only "active" lobbying, typically captured by campaign contributions, can be clearly distinguished from other effects. This distinction is important because political economy applications usually rely on proxies for interest group effectiveness rather than direct measures of lobbying activity. The luxury of data on campaign contributions brings econometric insight to the distinction between active and passive political pressures, though the empirical importance of the former has worrying implications for studies where data on lobbying activity are scarce and the political process is less transparent.

The Economic Theory of Regulation and the Nature of Ideology

Most investigations into the determinants of congressional voting decisions use the economic theory of regulation (Stigler; Peltzman 1976; Becker) as their frame of reference, either explicitly or implicitly. This theory considers the equilibrium level of regulation (protection) in terms of supply and demand. Regulation is demanded by interest groups that rationally weigh the costs and benefits of lobbying for protection and is supplied by politicians seeking to maximize their self-interest (primarily election or reelection).[1] The regulator sets protection such that the marginal political support elicited from the beneficiaries of policy is equal to the marginal political enmity generated by the losers.

In the context of voting studies, the level of regulation offered by the representative regulator is interpreted as the propensity of each politician to vote in favor of one interest over another. The balancing of marginal pressures results in a discrete vote one way or the other. In this study, the interest coalitions alternately support and oppose legislation to limit farm program payments to farmers with gross incomes above a threshold. The regressors in the voting equation thus capture the alternative manifestations of political pressure exerted by pro- and antipayment limitations interests.

In common with existing studies (e.g., Chappell; Abler), a simultaneous system is specified, where each congressman's vote depends on the contributions received from the affected coalitions, and the contributions of these coalitions depend on the congressman's anticipated voting decision. As with previous studies the economic theory of regulation is not being tested. This is because no alternative hypothesis is offered and because there is ambiguity about the signing of the regression coefficients on the variables relating to interest group size. Rather, the theory is used as a guide to the likely determinants of the congressman's voting decision.

Whilst the economic theory of regulation provides a convenient framework with which to analyze voting decisions and has proven adept at explaining a broad range of policy interventions, particularly in agriculture, it clearly represents a stylized view of government behavior. Accordingly, empirical work has tended to allow political decision makers some latitude for independent action. In practice, this means that ideological variables have been incorporated on an ad hoc basis.

This acknowledgment that ideology plays a role in determining congressional voting decisions deserves further scrutiny, since the expression of ideology may impinge upon

[1] In Becker's formulation, the government does not maximize an objective function explicitly. However, the balancing of political influence may be considered as the implicit outcome of such a process.

the decision-making process in a variety of ways. In the first instance, it is possible that congressmen may exhibit truly independent (i.e., exogenous) ideological characteristics. In other words, once elected, there may be a degree to which these congressmen act according to an independent set of values and beliefs.[2] At the same time, it is possible that a congressman's observed ideology may reflect the ideology of his/her electing constituents. This may happen because a given constituency is naturally more likely to elect like-minded politicians, or because the politician will attempt to mimic the ideological characteristics of his/her constituency to secure (re)election. In the latter case, the ostensibly ideological component is actually a *politically* determined response. Furthermore, the ideological profile of a congressman's constituency may be determined by two factors. It may have a moral dimension, reflecting the accumulated beliefs of the constituency (reinforced perhaps by an element of peer pressure). Alternatively, it may serve as a shortcut to reducing information costs, insofar as voters deem the costs of obtaining perfect information on legislative issues to be prohibitive. Indeed, Downs has argued that rational ignorance among voters will prompt them to elect representatives who they believe will represent their views on a broad range of issues.[3] It is possible, therefore, that congressional voting decisions that are ostensibly motivated by ideological factors may in fact reflect a response to constituency concerns, and that these concerns may result from a balancing of economic costs and benefits.

This study incorporates an ideological variable but also attempts to recognize its economic dimension. The chosen variable is an index of liberalism constructed by the pressure group Americans for Democratic Action (ADA) (see appendix). This variable records the historical tendency of congressmen to vote in favor of legislation that limits the extent of government involvement in the economy. A test is made for whether interest coalitions contribute to congressmen with a "free-market" voting record by incorporating the ADA index as an explanator of the scale of campaign contributions made to a particular congressman. By also including this index in the voting equation, it is possible to gauge whether this variable affects the probability of obtaining a favorable vote (i.e., whether the contributing coalition is using an appropriate yardstick).

Data Issues

The Choice of Legislative Amendments

Two votes are considered. These are 1990 House and Senate amendments to restrict eligibility for government farm program payments. The House amendment proposed to deny federal subsidies to all farmers with gross incomes over $100,000, while the Senate amendment would have excluded farmers with gross sales of over $500,000 from receiving program payments. The first amendment was defeated 159 to 263, while a motion to kill the second was agreed to 66 to 30.

The choice of these particular amendments reflects, in part, the limited number of closely contested amendments in the 1990 farm bill and the need to consider amendments

[2] Stigler suggested that legislators may have a "consumption motive" for voting. This implies some scope for "ideological shirking," or voting against constituent interests.

[3] In other words, the prohibitive cost of monitoring every issue leads voters to delegate their specific votes to the most generally preferred politician.

that are sufficiently clear in their potential impact to enable a clear delineation of interest group positions. The selection also permits a House-Senate comparison of political pressures.

The issue of payment limitations is further distinctive because it applied to all program crops (principally wheat, feedgrains, cotton, and rice), and previous studies have not ventured to examine amendments that cut across commodity lines. Yet provided one can identify an amendment's lobbying coalitions, one can assess the political forces that underpin noncommodity-specific legislation.

The Voting Equation

Political Action Committee (PAC) contributions from a coalition of producer groups are included endogenously in the voting equation.[4] Agribusiness contributions are included separately, to reflect the fact that these companies gain less obviously from policies that extend benefits to larger farmers and are often ambivalent in their support, or otherwise, for farm policy provisions.[5] These payments are treated as exogenous because they are likely to depend on a broader range of legislative issues. Campaign contributions for the 1989–90 election cycle are considered. All contributions are registered, by law, with the Federal Election Commission. A full listing of the PACs that comprise the two coalitions is given in the appendix.

The other variables are all exogenous determinants of the congressman's voting decision. The number of farms in the constituency with gross sales exceeding $100,000 controls for the influence that affected farmers exert on congressmen, independent of financial lobbying; while the number of farms not in this category is included to control for support provided by other farming interests (i.e., logrolling).[6] A dummy for committee membership measures the extent to which agriculture committee members are more likely to oppose payment limitations. There are 45 House committee members (out of a total of 435 members) and 19 Senate committee members (out of 100), so even if all oppose the legislation, this variable may not be significant in explaining the defeat of the proposed amendments. The proportion of the congressman's constituency living in rural areas is included to capture profarmer constituency pressures, while the ADA index is included to capture the so-called ideological factors discussed earlier.

The Contributions Equation

The propensity of the producer coalition to contribute to a congressman is hypothesized to depend on the likelihood of that congressman voting in their favor. In keeping with the economic theory of regulation, rational contributors implicitly calculate the prospects of receiving a favorable decision when deciding if and how much to give.

In principle, interest group coalitions have two immediate reasons for making contributions. One is to help secure the (re)election of their preferred candidate; the other is

[4] A Political Action Committee is the campaign fund of a sponsoring interest group, formed for the purpose of giving money to congressional candidates.

[5] The membership of these coalitions reflects testimonies made to the House and Senate agriculture committees prior to the formulation of the 1990 farm bill (Congressional Research Service).

[6] It is conceivable that farmers with sales of less than $100,000 per year could support legislation to limit payments to wealthier farmers. In practice, however, the fear that this move could signal the dismantling of the farm bill rubric meant that most farm group representatives opposed the legislation (CRS).

to influence the elected politician. A rational strategy would therefore involve computation of the expected return from each candidate, multiplied by their probability of election or reelection. In practice, there is little doubt which motive dominates. Interest groups do not contribute primarily to raise the probability of (re)election of their preferred candidate, since their marginal odds of influencing the outcome are slight. Rather, because incumbents are more likely to win, interest groups typically contribute to incumbents to ensure that their support is reflected in the return of favorable policies.[7] Even if they would prefer the opponent to win, they may contribute to the incumbent to temper his/her opposition to their cause. This is not to say that congressmen do not raise money in order to get reelected; indeed, the high spending by incumbents would suggest that campaign finance is important in this regard. But it would appear that there is an inherent asymmetry between the reasons for giving and for receiving.

A further complication arises because interest groups may contribute both to sway the wavering voter and to galvanize the active support of congressmen who are likely to vote in their favor anyway. For reasons of tractability, it is not possible to separate these two motivations. Both are captured by specifying that interest groups will contribute more, when the probability of them receiving a favorable vote is greater.

Other variables capture the exogenous determinants of contributions levels. The inclusion of total contributions received by the congressman's opponent at the last election controls for the fact that more money may be solicited from both sides when the congressman faces a well-financed opponent. The congressman's margin of victory in the most recent (general) election is included directly and also in squared form. On the one hand, contributors prefer to pay to congressmen who are more likely to win, since they are more likely to be in a position to return favorable votes; on the other hand, the returns may be higher to contributions made in a tight race, to the extent that congressmen are more appreciative. There are thus incentives to contribute both the larger the congressman's share of the vote *and* the closer the share to 50% (assuming a two-horse race). This nonlinearity can be captured by a quadratic in margin of victory. The congressman's seniority, as measured by his or her rank within the party, is included to capture the possibility that senior members may receive more money because of the influence they hold over junior members' votes. A committee membership dummy is included for the same reason, and also because one would expect committee members to be less inclined to reject legislation they had a role in formulating. This variable may be endogenous to the extent that congressmen inclined to vote against payment limitations are more likely to seek service on the agriculture committee. However, committee membership, though biased towards constituencies where farming is important, is likely to depend a broader range of agricultural policy issues. Accordingly, it is treated as exogenous in this specification. As noted previously, the ADA rating measures the extent to which the coalition considers the congressman's position on previous economic legislation before donating (the inclusion of this variable in the vote equation captures whether or not their assessment is correct). Finally, a dummy variable is included in the Senate specification, indicating whether the Senator in question was up for reelection in

[7] Despite a perceived "anti-incumbent" mood in 1992, reelection rates were 93% in the House of Representatives and 84% in the Senate. In 1990, incumbents received 77% of all PAC contributions, with this proportion rising to 88%, if open seats are excluded. The pro-incumbent bias was even more pronounced in agriculture: challengers received just 5% of the contributions made by agricultural PACs.

the year of the vote. A full listing of data definitions and sources is given in the appendix. A more thorough discussion of the data and PAC contributions is given in Brooks.

Estimation

A simultaneous probit-tobit system is specified such that the propensity of congressman i to vote in favor of farm payment limitations depends on PAC contributions from a coalition of program crop producers, while the propensity of each coalition to contribute also depends on the likelihood of the congressman voting in its favor. The structural equations are given by:

$$Y_{1i}^* = \gamma_{12} Y_{2i}^* + X_{1i}'\beta_1 + \epsilon_{1i}, \quad \text{and} \tag{1}$$

$$Y_{2i}^* = \gamma_{21} Y_{1i}^* + X_{2i}'\beta_2 + \epsilon_{2i}, \tag{2}$$

where Y_{1i}^* is a latent variable indicating the propensity of the ith congressman to vote in favor of payment limitations, and Y_{2i}^* measures the propensity of antilimitations interests to contribute to congressman i. The observed counterpart of Y_{1i}^* is given by:

$$Y_{1i} = \begin{cases} 1 & \text{if } Y_{1i}^* > 0 \\ 0 & \text{if } Y_{1i}^* \leq 0, \end{cases} \tag{3}$$

where $Y_{1i} = 1$ for a yes vote, and $Y_{1i} = 0$ for a no vote. Thus, a congressman votes yes if the propensity to do so is greater than zero, and no if the propensity is less than or equal to zero. The observed counterpart of Y_{2i}^* is defined such that:

$$Y_{2i} = \begin{cases} Y_{2i}^* & \text{if } Y_{2i}^* > 0 \\ 0 & \text{if } Y_{2i}^* \leq 0, \end{cases} \tag{4}$$

where Y_{2i} represents campaign contributions from antilimitations interests. In each case, contributions equal the propensity to contribute, unless the propensity to contribute is less than or equal to zero, in which case contributions are zero.

The symbols γ_{12} and γ_{21} are parameters, while β_1 and β_2 are vectors of coefficients of the exogenous variables, all to be estimated. The disturbance term $\epsilon_i = (\epsilon_{1i}, \epsilon_{2i})'$ is a random drawing from the two-dimensional $N(0,\Omega)$ distribution. The effects of interest in (1) are $\partial E[Y_1]/\partial Y_2^*$ *and* $\partial E[Y_1]/\partial X_{1j}$.[8] The former shows how the expected probability of a favorable vote changes with the propensity to contribute more money; the latter shows how this probability changes with increases in each of the exogenous variables. In each case, the expectations are evaluated at the sample means of the explanatory variables. The parameter γ_{21} measures the extent to which changes in a congressman's likelihood of voting in favor of the contributing coalition's position is likely to elicit more money.

Estimation follows the two-stage procedure recommended by Nelson and Olson. First, the reduced form equations are estimated with maximum likelihood. The reduced form equations are

$$Y_{1i}^* = \Pi_1 X_i + \nu_{1i}, \quad \text{and} \tag{5}$$

$$Y_{2i}^* = \Pi_2 X_i + \nu_{2i}, \tag{6}$$

[8] $E[Y_{1i}] = \Phi(\gamma_{12} Y_{2i}^* + X_{1i}'\beta_1)$, so by the chain rule $\partial E[Y_{1i}]/\partial Y_2^* = \phi(\gamma_{12} Y_{2i}^* + X_{1i}'\beta_1)\gamma_{12}$.

Table 1. 1990 House Payment Limitations Vote: Simultaneous Equation Results

Variable	Vote	Antilimits Contributions
Antilimits vote		0.210
		(4.39)*
Antilimits producer PAC contributions	0.340E−03	
	(2.57)*	
Agribusiness contributions	0.707E−03	
	(1.88)	
Number of farms with gross sales > $100,000	−0.101E−04	
	(0.07)	
Number of other farms	0.989E−04	
	(2.88)*	
Rural population (%)	0.461E−02	
	(1.03)	
Committee membership	0.977E−01	1.377
	(0.15)	(6.48)*
ADA rating	0.144E−02	0.327E−02
	(0.54)	(4.52)*
1/Senority		0.108E−02
		(1.04)
Margin		−0.114E−01
		(0.48)
Margin squared		0.312E−04
		(0.20)
Challenger receipts		−0.137E−06
		(1.56)
Party (Democrat = 1)		0.698
		(3.31)*
Constant	0.167	15.08
	(0.68)	(0.06)

Note: Absolute values of asymptotic *t*-ratios are given in parentheses. Asterisk means significant at the 95% level. For probit: 75% correct predictions.

where X_i is the union of exogenous variables in X_{1i} and X_{2i}. The instruments $\hat{Y}^*_{gi} = \hat{\Pi}_g X_i$ are then replaced on the right-hand side of equations (1) and (2) and treated as fixed regressors. The structural equations (1) and (2) are then estimated with maximum likelihood. Estimates of the structural parameters are consistent and asymptotically normal. The estimation procedure was performed in SHAZAM.

Results

The simultaneous equation results for the 1990 House and Senate votes are reported in tables 1 and 2, while the single-equation estimates are reported in tables 3 and 4. In each case a value of one was assigned to votes cast against the amendment to restrict payments to farmers. The results shed light on the relative importance of the factors that may

Table 2. 1990 Senate Payment Limitations Vote: Simultaneous Equation Results

Variable	Vote	Antilimits Contributions
Antilimits vote		−0.745E−01
		(0.55)
Antilimits producer PAC contributions	0.130E−04	
	(1.42)	
Agribusiness contributions	0.358E−04	
	(0.31)	
Number of farms with gross sales > $100,000	0.621E−05	
	(0.08)	
Number of other farms	0.326E−04	
	(2.18)*	
Rural population (%)	−0.351E−02	
	(0.31)	
Committee membership	0.172	2.154
	(0.19)	(5.33)*
ADA rating	0.416E−02	−0.234E−01
	(0.69)	(2.87)*
1/Senority		0.251E−02
		(0.19)
Margin		0.270E−01
		(0.11)
Margin squared		−0.217E−03
		(0.12)
Total receipts		−0.606E−07
		(1.01)
Party (Democrat = 1)		0.927
		(1.77)
Up-for-reelection dummy		1.558
		(4.67)*
Constant	−0.235	−1.507
	(0.42)	(0.20)

Note: Absolute values of asymptotic *t*-ratios are given in parentheses. Asterisk means significant at the 95% level. For probit: 81% correct predictions.

determine a congressman's voting decision. In keeping with the preceding discussion, active lobbying is differentiated from passive constituency influences, and ideological factors are recognized to have a political dimension.

The Importance of Campaign Contributions

In the House, there is evidence of a two-way relationship between money and votes. The gradient on contributions from producer PACs (i.e., $\partial E[Y_1]/\partial Y_2^*$) suggests that an extra $1,000 typically led to a 1.1% improvement in the probability of the congressman voting against the payment limitations amendment. At the same time, a 1% increase in the

Table 3. 1990 House Payment Limitations Vote: Single-Equation Results

Variable	Vote	Antilimits Contributions
Antilimits vote		1.080
		(5.70)*
Antilimits producer PAC contributions	0.139E−02	
	(4.43)*	
Agribusiness contributions	0.693E−03	
	(1.86)	
Number of farms with gross sales > $100,000	−0.275E−04	
	(−0.16)	
Number of other farms	0.120E−03	
	(3.27)*	
Rural population (%)	0.510E−02	
	(1.13)	
Committee membership	0.372	1.663
	(0.60)	(9.02)*
ADA rating	−0.102E−02	−0.148E−01
	(−0.45)	(−4.49)*
1/Senority		0.762E−03
		(0.72)
Margin		−0.117E−01
		(−0.49)
Margin squared		0.361E−04
		(0.23)
Challenger receipts		−0.121E−06
		(−1.40)
Party (Democrat = 1)		0.713
		(3.37)*
Constant	−0.487	−0.703
	(−2.67)*	(−0.78)

Note: Absolute values of asymptotic *t*-ratios are given in parentheses. Asterisk means significant at the 95% level. For probit: 76% correct predictions.

probability of a favorable vote typically elicited an additional $5,400 from producer PACs. There is no evidence of such a simultaneous relationship in the Senate. In this case, even the single-equation results show no evidence of money affecting votes or vice versa. Agribusiness contributions did not appear to be effective in either chamber, perhaps as a result of their historically ambivalent approach to farm programs.

The House result is stronger than that of other simultaneous equation studies (e.g., Kau, Keenan, and Rubin; Chappell; Abler) which tend to show that favorable votes attract more money, but not the other way round. Despite there being fewer observations, the failure to find evidence of even the former effect in the Senate is perhaps surprising. Anti-amendment voters received nearly 10 times as much on average, as pro-amendment voters. That votes were not significant in explaining contributions is probably due to the fact that committee members were heavily targeted and these all voted against the amend-

Table 4. 1990 Senate Payment Limitations Vote: Single-Equation Results

Variable	Vote	Antilimits Contributions
Antilimits vote		0.555
		(1.40)
Antilimits producer PAC contributions	0.814E−03	
	(1.89)	
Agribusiness contributions	0.661E−04	
	(0.62)	
Number of farms with gross sales > $100,000	0.682E−06	
	(0.01)	
Number of other farms	0.308E−04	
	(2.20)*	
Rural population (%)	−0.648E−04	
	(−0.57)	
Committee membership	0.372	1.922
	(0.45)	(5.57)*
ADA rating	0.206E−02	−0.194E−01
	(0.38)	(−2.50)*
1/Senority		0.618E−03
		(0.01)
Margin		−0.200E−01
		(−0.89)
Margin squared		0.165E−03
		(0.96)
Total receipts		−0.719E−07
		(−1.22)
Party (Democrat = 1)		0.716
		(1.42)
Up-for-reelection dummy		1.410
		(4.54)*
Constant	−0.842	−0.453
	(−1.52)	(−0.60)

Note: Absolute values of asymptotic *t*-ratios are given in parentheses. Asterisk means significant at the 95% level. For probit: 83% correct predictions.

ment anyway. Indeed, committee members accounted for nearly a third of all anti-amendment votes.[9]

The overall fit of the voting equations in terms of correct predictions compares favorably with other studies (e.g., Chappell; Abler). The second-stage probit yielded 75% correct predictions in the House and 81% correct predictions in the Senate. The insignificance of a number of key variables in the Senate suggests that multicollinearity may be a problem, with the observed variables proxying for unobserved lobbying activity. Indeed, comparison with the single-equation results shows that the lack of significance

[9] Yet committee membership is not statistically significant in explaining votes, because just 10% of representatives and 19% of senators serve on their chamber's agriculture committee, and there are too many noncommittee members voting the same way.

is attributable not only to smaller coefficient size, but also to larger standard errors. This would appear to be consistent with the notion that political variables and ideological factors are closely interrelated (and that the distinction may be largely arbitrary).

A possible explanation for the House and Senate difference is that PACs do not pay to congressmen unless they believe their contributions are likely to enhance the probability of a favorable vote. Thus, when money has no effect on votes, it is not surprising that votes have no effect on money either. Yet these results differ from those of Abler and Chappell, who found that favorable votes tended to draw more money, but not the other way round. This poses two questions. First, what accounts for the differences between studies?; and second, why does money appear to be important in one instance but not in the other? The answers are likely to be interrelated.

It has already been argued that agricultural PACs do not give money principally to exert an influence over electoral outcomes. Such an inference is inconsistent with both the heavy targeting of incumbents, and the fact that contributions to Senators are not geared towards those whose votes suggest sympathy for their cause. A more likely possibility is that congressmen return favors, but not always in terms of floor votes. Indeed, if PACs pay more to representatives who are likely to vote in their favor, then this indicates that their objective is not simply to buy votes.[10] Rather, it suggests that payments are made with the twin aims of obtaining the vote *and* the proactive support of the receiving congressman. With such motives, it is to be expected that PAC payments only explain voting outcomes to a limited extent. It is instructive to note that the congressmen best placed to provide proactive support are usually the committee members. In both the House and the Senate, committee members tended to receive more money, even after controlling for the fact that all voted against the amendments to limit payments to farmers. Members serving on the House Agriculture Committee received nearly 6 times more than anti-amendment voters not serving on the committee and over 50 times as much as pro-amendment voters. In the Senate, committee members received 5 times more than other anti-amendment voters and 20 times more than pro-amendment voters (table 5).

Another possible explanation of the results is that PACs may influence votes, but their effectiveness depends on the extent to which their expenditures are supported by supplemental lobbying. It is clear that PAC contributions represent just part of a composite lobbying strategy. To the extent that payments are simply the measurable aspect of lobbying, one would expect them to explain voting behavior only insofar as they mirror the overall pattern of lobbying pressures. The observed inconsistency of PAC effectiveness might therefore reflect that PAC payments are an important part of an effective lobbying strategy, but are not by themselves sufficient to buy votes. This may account for the House-Senate differences and would also explain some of the multicollinearity in the Senate case.

Other Influences

The number of farms in the constituency with gross sales exceeding $100,000 was not significant in explaining votes, but the number of other farms was in both instances. This suggests that farm-level opposition to the legislation extended beyond those who would

[10] If this were the case they would tend to pay more to congressmen whose probability of voting in their favor was close to 0.5 (which, typically, they do not). Stratmann (1992a) has tried to capture both motives through a switching regression, but his model is highly aggregated and does not specifically consider the effect of contributions on votes.

Table 5. Average Payments: Payment Limitations Legislation, 1989–90

Payment	Antilimit PACs, House ($)	Antilimit PACs, Senate ($)
To committee members	3,313	8,278
To antilimit voters	1,034	3,534
To antilimit voters not on committee	563	1,617
To prolimit voters	64	383
Overall	668	2,550

Note: Of the 45 committee members in the House and 19 members in the Senate, none voted in favor of the amendments to limit payments to farmers.

have been directly affected by its provisions. It also suggests that Representatives were more concerned about the "antifarmer" image (and arguably implications) of the legislation than the direct effect on larger farmers.[11]

Committee membership was not significant in either vote, despite the fact that all committee members voted against the amendment. Nevertheless, committee members tended to receive more money, presumably because of their power to exercise influence at other stages of the legislative process. The same effect applied with the ADA index, with "free market" oriented congressmen tending to receive less money in both the House and Senate. If this was because producer PACs considered such congressmen less likely to vote in their favor, then their assessment seems to have been misplaced. The lack of reciprocation may also reflect the spurious distinction between ideology and passive political pressure.

Finally, as one would expect, Senators running for reelection in the year of the vote tended to receive relatively more money from the producer coalition.

Conclusions

The results of this study suggest that campaign contributions have an uneven impact on voting decisions and that the strategies of donors appear to be governed by a complexity of factors. The two-stage estimates support the view that measurable lobbying activity needs to be differentiated from other political pressures and that ideology should be viewed as endogenous to the political process. Where available, data on lobbying activity can be used to isolate a component of political pressure. However, the widespread absence of such data means that many agricultural policies remain unexplained.

[*Received May 1995; final revision received May 1997.*]

[11] According to the congressional report on the 1990 farm bill proceedings, the amendment's chances of success were damaged by the perception that the sponsors, Richard Armey and Charles Schumer, were "antifarmer" and that the amendment, which was supported by the Bush administration, had been advanced primarily to reduce the agricultural budget. These results are supportive of such a suggestion (CQ 1990, p. 332).

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Appendix: Data and Variables

Vote: The votes considered are House amendment 266 (1990; yea=0) and Senate amendment 162 (1990; yea=1). Only yea and nay votes are considered. Paired votes, publicly announced positions and abstentions are all excluded from the sample. Source: *Congressional Quarterly Almanac 1990.*

PAC Contributions: Contributions made in the 1989–90 election cycle are considered. The aggregated coalition comprises PACs of the following organizations:

Producer Groups: American Cotton Shippers Association, American Rice Inc., Arizona Cotton Growers, Calcot, Cotton Warehouse Association of America, National Cotton Council, National Association of Wheat Growers, Plains Cotton Cooperative Association, Rice and Soybean PAC, Rice Growers Association of America, Riceland Foods, Supima Association of America, Producers Cotton Oil Company.

Agribusinesses: AG Processing Inc., American Maize Products Co., American Soybean Association, Archer-Daniels-Midland, Cargill, Continental Grain, Farmers Grain Terminal Inc., Harvest States Cooperatives, National Grain and Feed Association, Scoular Co. Source: *National Library on Money and Politics.*

Number of Farms with Sales Exceeding $100,000: Farms falling within SIC 01029. County-level data are aggregated to the congressional district level, by including all counties falling wholly or partially into a congressman's district. Source: *U.S. Department of Commerce.*

Number of Other Farms: Measured as the total number of farms (SIC 01001) minus those falling within SIC 01029. Source: *U.S. Department of Commerce.*

Rural Population: The ratio of the rural population to total population by county. County-level data are aggregated to the congressional district level by including all counties falling wholly or partially into a congressman's district. Source: *U.S. Department of Commerce.*

Committee Membership Dummy: A value of one is assigned to committee members, other congressmen receive zeros. Source: *Congressional Quarterly Almanac 1990.*

Constituent Ideology: The proportion of the constituency voting for George Bush in the 1988 presidential election (1990 vote). Source: *National Journal 1990.*

ADA Rating: Americans for Democratic Action publish a rating of congressmen according to their votes on key economic issues. Their chief concern is with the extent of government involvement in the economy, and unlike other groups' ratings, their index

avoids noneconomic issues such as abortion and foreign policy. Source: *National Journal 1990.*

Total Losers' Contributions: This measures the contributions received by opponents to the incumbent congressman in the 1989–90 election cycle. Because only one-third of the Senate is up for reelection every two years, this is replaced by the incumbent Senator's contributions in the Senate specification. Source: *National Library on Money and Politics.*