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## THE INFLUENCES OF IDEOLOGY AND ECONOMIC INTERESTS ON DAIRY LEGISLATION

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# THE INFLUENCES OF IDEOLOGY AND ECONOMIC INTERESTS ON DAIRY LEGISLATION

#### Abstract

This study attempts to determine the forces that constrain and influence legislative voting behavior on dairy policy. Three roll-call votes from the House of Representatives of the 98th Congress are analyzed using logit estimation procedures. The economic interests of dairy producers and the representative's political party are significant influences.

Key Words: dairy policy; limited dependent variable model; Roll-Call Votes

# THE INFLUENCES OF IDEOLOGY AND ECONOMIC INTERESTS ON DAIRY LEGISLATION\*

# Elaine Mullaly Jacobson and Robert D. Emerson

Governmental involvement in the pricing and marketing of agricultural commodities is highly visible and has increased in scope over the years. What began as an effort to develop agriculture primarily through research and education has evolved into an extensive program oriented toward the trade, production and marketing of agricultural commodities as well as food safety and nutrition and environmental safety and quality. The potential and actual effects of agricultural policies have been documented in numerous publications (e.g., Gardner, 1987a, and his references) but only recently have agricultural economists begun to examine how agricultural policy itself is formulated. Instead of assuming that governmental involvement in the agricultural sector is an exogenous phenomenon, these researchers examine how the economic market affects the policy agenda.

Rausser and Freebairn (1974) hypothesize the existence of a governmental policy preference function which provides a basis for evaluating the desirability of alternative economic outcomes. This policy preference function is the result of a bargaining game between political representatives and interested pressure groups. Rausser (1982) further develops the idea of a policy preference function. He conceptualizes a general equilibrium framework around four principal components: the economic system, lobbyists, legislators and the bureaucracy. In equilibrium, political economicseeking transfers (PESTs) flow from the economic system to the lobbyists who continue to pursue PEST activities while interacting with legislators and bureaucrats who then generate both PESTs and political economic resource transactions (PERTs). PERTs are motivated by market failure and increase allocative efficiency while PESTs serve to redistribute wealth from one group in society to another depending on the relative political power of the group. Classifying the effects of governmental policies as either PERTs or PESTs depicts governmental behavior as a continuous choice problem characterized as policy instrument change and a discrete choice problem represented by policy set change.

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Gardner (1987b) attempts to explain governmental intervention on an individual commodity basis. He hypothesizes that, given political forces, the commodity programs are attempts to redistribute income efficiently. Producer price gains generated by commodity programs as a percentage of the observed market prices are explained using variables associated with the cost to producers of generating political pressure and the deadweight losses of redistribution. Both of these variables are found to be empirically significant.

Each of the publications cited above provide insight into the causes of agricultural legislation but none explicitly examines the legislative aspect of agricultural policy. It is the legislator's behavior that is affected by the various political forces and which dictates whether or not a policy is adopted. Thus, an alternative phenomenon to examine is the voting pattern of the legislators.

#### **Political Economic Theories**

The traditional or public interest framework views governmental involvement as primarily for the protection and benefit of the public at large. The political actor seeks to maximize social welfare by intervening in the economic market when externalities are present. Legislative action, therefore, is motivated by externalities and serves to align market prices with the appropriate social valuations. Increased economic efficiency for society as a whole is the intended outcome of the legislative action.

Observations on the actual effects of legislative voting indicate that this theory does not adequately explain governmental involvement. The public at large is not typically the beneficiary of governmental policies but rather only a certain subset and policies do not always increase economic efficiency. Alternative theories were proposed to explain these observations. Downs (1957) and Buchanan and Tullock (1962) hypothesized that the political actor is guided by the desire to maximize his or her utility instead of social welfare. The public officials are explicitly assumed to be rational and self-interested. Stigler (1971) examined the political regulation of industry by regarding the public official as maximizing utility through electoral vote maximization. The commodity being transacted in the political market, according to the Stigler model, is the transfer of wealth. The electorate is the demander and its political representatives are the suppliers. The political market will transfer wealth to those whose effective demand is the highest in exchange for

votes or campaign contributions. Demand will be more effective the greater the potential economic impact of the outcome on the interest group and the greater the ability of the interest group in overcoming the free-rider problem. Stigler predicted that producers would be the beneficiaries of regulation. Later theorists (Peltzman, 1976 and Becker, 1983) hypothesized that public officials would maximize their electoral votes by balancing the marginal political return with the marginal political cost of redistribution. This allows other interest groups besides producers to be the beneficiaries of legislative voting. The Stigler-Peltzman-Becker theory is popularly known as the economic theory of regulation.

Empirical testing of the theory of regulation has yielded mixed results. Some researchers found evidence of support for the theory (Gilbert Becker; Coughlin; Peltzman, 1984 and 1985; and Silberman and Durden) while others found it lacking (Entman; Kalt and Zupan; Kau and Rubin, 1979 and 1984; Nelson; and Nelson and Silberberg).

The majority of dissenting writers focuses on the role ideology plays in the legislative process. They suggest that the public interest theory may have some validity after all. A rational legislator may indeed base a vote upon his or her purported social objectives. For example, a representative may vote to prohibit federal farm subsidy payments to corporate farms because he believes in the idea of the "family farm" and a "rural way of life".

#### The Role of Ideology

Ideological objectives do not contradict the economic view of a self-interested decision-maker. Becker (1982) extends the typical utility function arguments to include the utility levels of other people who are within the person's social environment. The successful advancement of a legislator's ideology may give him the satisfaction of knowing that he has improved the general welfare of others. Kalt and Zupan call the manifestation of altruism in the political sector "pure ideology".

Another possible source of ideological voting arises from the institutional arrangement of the political market. The legislator's reward for providing policies beneficial to economic interest groups occurs at election time in the form of electoral votes. Elections, however, are held infrequently and voters base their decisions on the entire set of the candidate's legislative votes. Communication

channels between constituents and their representatives are often inadequate. The constituents have poor incentives to be well-informed because information on the consequences of policy proposals is scarce and constituents are often ignorant of the issues and their legislators (Entman). These features of the political market allow for the possibility that legislators' ideological-based votes are not altruistically motivated. They could be investment motivated (for example, by the desire to be reelected) by relying on ideology to provide a shortcut to the service of their constituents' goals. Kalt and Zupan call this type of ideological voting "impure ideology". Peltzman (1984) argues that collinearity between measures of ideology and constituents' economic interests may be a problem if legislators use ideology in the "impure" sense. However, Kalt and Zupan contend that collinearity will not be a problem if single-issue legislation is examined rather than an aggregate bundle of issues.

If the legislators are utility maximizers, they will respond in a predictable way to changes in marginal costs and benefits. The opportunity cost of voting according to the legislator's personal ideology is greater the more identifiable the economic interests of the constituents in the outcome (Fleisher). Peltzman (1984) found that ideology plays a prominent role in voting on social policy issues such as abortion and school prayer where the economic distributional effects are unclear. Following this line of reasoning, Nelson and Silberberg looked at two categories of legislation: general and specific. General legislation includes bills without specific reference to special interest programs. Specific legislation involves increased federal expenditures in the legislator's own state or district. The beneficiaries are well identified in specific legislation and as expected the researchers found that personal ideology did not play as large a role in determining voting patterns.

The preceding discussion indicates that both the economic interest groups of a legislator's state or district and the legislator's ideology are relevant factors to consider when explaining legislative voting patterns. The following empirical analysis will examine the effects of both ideological variables and economic interests on legislative voting patterns on agricultural issues.

#### **Empirical Analysis**

#### The Model

The majority of studies which attempt to quantify the impact of various factors on voting behavior use cross-sectional Congressional roll-call votes. Conceptually, the legislative voting model is

#### $Y = \beta' X + \Gamma' Z + e$

where Y is the probability that a legislator will vote for the passage of a particular bill, X is a vector of the economic interests of the electorate in the outcome of the bill, Z is a vector of ideological variables, and e is an error term. In practice, neither X nor Z are observable. Instead, a model of the form

#### $y = \delta' E + \gamma I + u$

is estimated where y is a dummy variable (1 = a pass vote and 0 = a fail vote), E is a vector of economic characteristics of the legislator's constituency which should be correlated with X, I is a vector of ideological proxies and u is an error term (Peltzman, 1984).

While the approach outlined above could be used for any type of agricultural policy, the policy to be considered in this study is the dairy program. The dairy industry is perhaps the most highly regulated of any agricultural commodity in the United States. Government policies have had and will continue to have a major influence on the structure of the dairy industry through marketing orders, diversion payments, and other federal programs.

Most analyses of roll-call votes deal with legislation from the Senate. For this study however, legislation from the House of Representatives is examined. Representatives have a much more homogeneous constituency than senators. This homogeneity means that the constituents' economic and ideological interests are more clearly defined and the percentage of constituents in a representative's district who are aware of the issues is larger. Voting according to the representative's personal ideology should be easier to detect.

#### The Data

For this study, three roll-call votes of the House of Representatives during the 98th Congress are examined: vote 440, 442, and 443. Vote 443 is the final vote on the 1983 Dairy Production

Stabilization Act and votes 440 and 442 are on proposed amendments to the Act. The votes are summarized in the Appendix. These particular votes were selected because they dealt solely with dairy issues.

Two explanatory variables (RADA and VT72) were selected to account for ideological-based voting behavior arising from the representative's personal ideology and the constituents' independent ideology. RADA is derived from a voting index compiled by The Americans for Democratic Action (ADA). Each year the ADA rates the "liberalness" of a representative based on a variety of congressional votes. The higher the rating, the more liberal the representative. Using the ADA rating as a measure of ideology has been criticized on the grounds that it merely reflects constituents' economic and ideological characteristics (Peltzman, 1982). To isolate the representative's personal ideology, the ADA rating is estimated as a function of general constituent characteristics, the representative's party (Democrat = 1), and a measurement intended to reflect the independent ideology of the constituents. The residuals from this regression (RADA) are argued to better reflect the personal ideology of the representative (Kau and Rubin, 1979).

The effect of the constituent's ideology is measured by the percent of the district's electoral votes for McGovern in the 1972 presidential election (VT72). McGovern's candidacy was generally recognized as hopeless at election time, so voting for McGovern was most likely based on "pure" ideological motives.

The dummy variable PRTY (1=Democrat) is included to reflect voting based on party loyalty. Voting the party line can be rewarded in the form of appointments and political support.

The potential economic interest of dairy producers is reflected in KLBMLK<sup>1</sup>. This variable measures the volume of milk produced in each district. The greater the volume produced, the greater the probability that the representative will vote for the dairy legislation.

Finally, the dummy variable COMM is included to control for membership on the Committee on Agriculture, Nutrition and Forestry (1 = member of committee).

#### **Empirical Results**

To derive RADA, the ADA rating is regressed on several independent economic variables, the political party of the representative and a measure of the constituents' ideology. The results of this regression are reported in Table 1. The variables which are significant in explaining the ADA rating,

or the "liberalness" of the representative, are education, unions, political party and constituents' ideology. The percentage of blacks in the district is significant and negative. These results are somewhat different from those of Kau and Rubin (1979). They conclude that income and urban population are significant and the number of blacks insignificant. Constituents' ideology is not included in their model.

Each legislative vote was analyzed using a logit procedure. The estimates are reported in Table 2. The likelihood ratio test for overall significance of the logit relations indicates that all are significant at better than the 1% level (final row of Table 2). The model successfully predicted the vote 78%, 73% and 82% of the time on votes 440, 442 and 443, respectively. A test for the contribution of ideology to the explanation of voting patterns is obtained by testing the joint significance of the two variables RADA and VT72. The results are reported in Table 3. The ideological variables are statistically significant at better than the 1% level in only one vote, vote 440, and the successful prediction rate of the restricted model declined by only 1%, and 2% on votes 440 and 443, respectively.

The variable RADA is not significant in two out of the three votes. This result supports Nelson and Silberberg's findings that the opportunity cost to legislators of voting according to personal ideology is high. The economic interests of the constituents in the outcome of dairy legislation are well-identified and so the marginal costs are greater than the marginal benefits from voting according to personal ideology.

Constituents' ideology is not a strong influence on legislators when voting. VT72 is insignificant in all three votes. Perhaps the percentage of the district's electoral votes for McGovern in 1972 is not an accurate representation of the constituents' ideology in 1983.

The influence of the legislator's political party is strong in all three votes. This may be due to the presence of logrolling or vote trading. In order for a legislator to secure support for a bill of a specific nature, he often must engage in logrolling and the cost of doing so should be lower within party lines. Vote 442 is a "Republican" amendment and so the sign on PRTY is expected to be negative.

Dairy producer interests play a strong role in influencing the legislative votes in all three of the votes. Dairy farm organizations spent over \$1.5 million for the election campaigns of congressmen

and senators from 1979 to 1980 (Rausser, 1982). Three dairy Political Action Committees (PACs) were among the top ten contributors to federal candidates in the 1982 elections (Norton). Ignoring the dairy interests appears to be a costly activity and not one in which many representatives engage.

# Conclusion

The voting pattern on agricultural legislation is assumed to be a function of ideological and economic variables and the legislator's political party. The overall significance of the model was better than 99% in all three of the selected votes. The model correctly predicted the actual vote 78% of the time on average. The votes selected dealt with dairy policy and had an important economic effect on dairy producers. The measure indicating the dairy producers' potential economic interest in the legislative outcome was significant in all three votes. In cases such as this where the affected economic special interests are clearly identified, the ideological influences should not be a factor. In the model, the purely ideological variables measuring the representative's personal ideology and the constituents' ideology were not significant. When the effects of the legislation on the constituents are not quite so clearly identifiable, as is the case in a majority of agricultural policy votes, these ideological influences could play a much stronger role in swaying a legislator's vote. This is a consideration in future research.

# Notes

 KLBMLK is the product of the number of cows in each district (<u>1982 Census of Agriculture:</u> <u>Geographic Area Series</u>. USDC, Bureau of the Census) and the pounds of milk produced per cow by state (<u>Milk, Production, Disposition and Income: 1983 Summary, Milk Production Services</u>. USDA, SRS, CRB, May 1, 1984).

Variable	Coefficient	Std. Error	
CONST	-33 097	5 682	
%BLK	-0.156	0.065	
%URB	-0.314	0.055	
%FRM	0.005	0.286	
PERCAP	0.038	0.069	
%ED	0.586	0.197	
%AGE	-0.038	0.102	
%UNION	0.541	0.098	
PRTY	55.888	1.682	
VT72	0.751	0.089	

Table 1. Results of the OLS regression of the 1983 ADA ratings

#### R-squared 0.811

Variable Explanations

0/ DT TT	
%BLK =	the percentage of blacks in the congressional district
%URB =	the percentage of residents living in urban areas in the congressional district
%FRM =	the percentage of residents living on farms in the congressional district
PERCAP=	per capita income in the congressional district
%ED =	the percentage of persons over 25 years of age with four or more years of college education by district
%AGE =	the percentage of residents over 65 years of age by district
%UNION	= total union membership as a percentage of employees in nonagricultural employment by state
PRTY =	representative's party (1=Democrat)
VT72 =	the percentage of electoral votes for McGovern in the 1972 presidential election

#### Data Sources

ADA: <u>ADA's 1983 Voting Record: U.S. House of Representatives</u>. Americans for Democratic Action, Washington, D.C., 1983.

%BLK, %URB, %FRM, PERCAP: <u>1980 Census of Population and Housing: Congressional Districts</u> of the 98th Congress. USDC, Bureau of the Census.

%ED, %AGE: <u>1980 Census of Population and Housing: Characteristics of the Population</u>. USDC, Bureau of the Census.

%UNION: Directory of U.S. Labor Organizations: 1982-83 Edition

- PRTY: Barone, Michael and G. Ujifusa. <u>The Almanac of American Politics 1984</u>. Washington, D.C.: National Journal, 1983.
- VT72: Barone, Michael, G. Ujifusa and D. Mathews. <u>The Almanac of American Politics 1974</u>. Boston: Gambit, 1973.

Vote#	440	442	443	
Const	-4.852 (0.548)	-0.322 (0.393)	0.393 (0.449)	
RADA	0.020 (0.009)	-0.007 (0.007)	0.014 (0.008)	
VT72	0.060 (0.011)	0.004 (0.010)	0.014 (0.012)	
PRTY	1.166 (0.354)	-1.717 (0.242)	1.913 (0.291)	
СОММ	-0.394 (0.504)	-1.085 (0.450)	0.720 (0.581)	
KLBMLK	0.107 (0.024)	0.370 (0.187)	0.133 (0.042)	
No. of Obs.	417	413	416	
Prediction Rate <sup>b</sup>	78%	73%	82%	
Test Statistic <sup>°</sup>	77.68	77.90	63.24	

Table 2. Logit Estimates for Individual Votes<sup>a</sup>

a.

b.

Standard errors are in parentheses. Prediction rate gives the model's rate of successful vote prediction. Likelihood ratio test statistic, distributed as  $\chi^2(5)$ , tests for overall model significance. The critical values for  $\chi^2(5)$  are 9.24 at the 10% level, 11.07 at the 5% level and 15.09 at the 1% c. level.

Vote#	Unrestricted Model (UM)	Restricted Model <sup>a</sup> (RM)	-2(RM-UM) <sup>b</sup>	Prediction Rate <sup>c</sup>
440	-181.21	-198.30	34.18	79%
442	-236.30	-236.80	<b>1.00</b>	73%
443	-190.67	-192.80	4.26	80%

Table 3. Test statistics for ideology measures

a. The coefficients on RADA and VT72 are restricted to 0.

b. Likelihood ratio test statistic, distributed as  $\chi^2(2)$ . The critical values for  $\chi^2(2)$  are 4.61 at the 10% level, 5.99 at the 5% level and 9.21 at the 1% level.

c. The prediction rate gives the restricted model's percentage of successful vote predictions

#### Appendix

- vote 440 HR 4196 Dairy Production Stabilization. Oberstar, D-Minn., amendment to extend the 15-month paid diversion program to 21 months and to revise dates for authorized changes in federal dairy price supports. Rejected 93-325; R 19-142; D 74-183 (ND 69-102,SD 5-81), Nov. 9, 1983.
- vote 442 HR 4196 Dairy Production Stabilization. Clinger, R-Pa., amendment to exempt from the 50-cent assessment those dairy producers who did not increase production after the paid diversion program began. Rejected 159-255; R 101-59; D 58-196 (ND 48-119, SD 10-77), Nov. 9, 1983.
- vote 443 HR 4196. Dairy Production Stabilization. Passage of the bill to authorize a paid diversion program for dairy producers, a producer-financed dairy promotion program, reductions in the federal dairy price support, and also to retain an existing 50 cents per hundred pounds assessment on milk to help finance the diversion program, and to repeal a second 50-cent assessment. Passes 325-91; R 99-62; D 226-29 (ND 144-26, SD 82-3), Nov. 9, 1983. A "nay" was a vote supporting the president's position.

Source: <u>The Congressional Quarterly Almanac, 1983</u>. Washington, D.C.: Congressional Quarterly, Inc., 1984.

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