

# An Investigation of Differences in Agricultural Expenditure by State Government

Enrique Ospina and Ralph O. Gunderson

Agriculture department programs in 43 states surveyed offer similar services in regulation, market promotion, and natural resource conservation but are organized differently. Two OLS equations were estimated to explain state agriculture department expenditures as a function of gross farm sales, farm receipts mix, degree of government centralization, the proportion of metropolitan area residents, and tax capacity. A positive relation was found between state agricultural spending and gross farm sales and the percent of fruits/vegetables farm receipts. However, the results cast doubt over the Leviathan thesis of increasing government spending resulting from bureaucratic power.

*Key words:* state government, agricultural program, agricultural expenditure, department of agriculture.

Agricultural analysts devote a considerable amount of time and effort to policy research—particularly high on research agendas are the impacts and implications of federal farm policies. However, in recent years state governments' agriculture policies have received increased attention. Although states have always played important roles, new interests have forced them to broaden their view of possible state policies that can assist the agricultural sector in particular and rural economies in general (Batie 1988b; Nothdurft, Vaughan, and Popovich).

Analysts frequently refer to the public sector as though there is a single government. However, federal systems have multiple layers of jurisdiction with separate but related functions and taxing authority. The federal (central) gov-

ernment is distinctive from the states. The states, in turn, are differentiated from local units of government—counties, townships, cities (Chicoine; Jahr).

As the federal government struggles to reduce its budget deficit, the elimination of financial support for important development programs to agriculture and rural areas is likely to continue. The "new federalism" of the 1980s suggests that state governments participate more actively in deciding the future of their states. As a consequence, states must shoulder a greater portion of the burden for finding solutions to their own agricultural and rural woes (Batie 1988b; Chicoine; Jahr; Rabe).

The first section of this article is a discussion of state agriculture department programs and organizational structures and a sample of specific state government activities affecting the agricultural sector. The second section is devoted to a presentation of the normative and positive schools of thought that seek to explain public spending by government. Finally, an empirical model based on 1985 agricultural spending data for a sample of 43 states tests the significance of variables that represent the normative and positive approaches to explain-

---

Enrique Ospina is Program Officer/Agricultural Economics, Winrock International Institute for Agricultural Development. Ralph O. Gunderson is an associate professor of economics at the University of Wisconsin at Oshkosh. Seniority of authorship is shared.

This research was funded partially by a matching grant from the Winthrop Rockefeller Foundation.

The authors appreciate helpful comments by W. R. Bentley, D. W. Seckler, and the anonymous reviewers. The views expressed in this article are the authors' and do not reflect those of Winrock International or the Winthrop Rockefeller Foundation.

ing the role of state government in the agricultural economy.<sup>1</sup>

### Programs of State Departments of Agriculture

State agricultural agencies have myriad responsibilities in their often dual roles as regulatory and service agencies (Gunderson and Ospina). As regulatory agencies, they enforce federal and state laws designed to protect both farmers and consumers. In addition, they provide valuable services to producers and consumers. The use of terms regulatory and service is somewhat confusing because, depending on the viewer's perspective, they often represent the same activity. For example, when a milk inspector collects samples at a Grade A dairy farm, the producer may view this inspection as government regulation, but the consumer may consider the same inspection as a service provided by the government to assure wholesome milk on the dinner table.

Most state funds spent on agricultural programs regulate business practices, food, and agricultural inputs. Business practice regulations, enforced through inspections, and checks and laboratory tests, are aimed at maintaining accurate weights and measures and assuring conformance to product label declarations. Food regulations guarantee wholesomeness, proper sanitary conditions, and appropriate labeling and are enforced through inspection programs covering all the stages of production—from plant and animal disease control in the farm to quality control of meat packages at the supermarket. Agricultural input regulations ensure that farmers can obtain quality materials and protect the public from harm caused by improper use, storage, and disposal of such materials.

It is apparent that nonfarmers receive a significant portion of the services provided by state departments of agriculture, as evidenced by existing programs to promote farm products. Six of the 43 states surveyed spent over

\$1 million, while nine others spent at least \$.5 million in market development and promotion during fiscal years 1985 or 1986. Many efforts are quite specific such as the Virginia wine promotion program, while others have a broad scope such as development of foreign markets (table 1). In general, state agencies act as facilitators to bring buyers and sellers together by providing accurate information about prices, quantities available, quality, and location; by offering grading and inspection services; and by developing cooperatives and farmers' markets (Popovich 1988). State governments also promote their products by developing logos such as "Connecticut Grown" and "Taste of Texas," by creating agencies to pursue development of new crops, by participating in national and international food and agricultural fairs, and by operating domestic and foreign offices to seek clients in key overseas markets. Generally, the levels of financial support for these programs have increased in recent years (Gunderson and Ospina; McLemore).

Other state activities range from agricultural financing programs that have a spotty rate of success (Popovich 1986; White) to farmland preservation and conservation set-aside programs to protect soil and surface and ground water resources (Batie 1988a; Gunderson and Ospina; Jacobs and Taylor; Runge).

The economic rationale for the state agricultural programs and services described above is varied. In some cases state programs are designed to correct for the existence of externalities, for example regulation of pesticides, or asymmetric patterns of information, such as food labeling. In other instances states are attempting to perform a stabilization function, such as in the case of state farm financing programs.

### *Organizational Structure of State Departments of Agriculture*

Departments of agriculture have similar divisional functions across states. Interstate differences in organizational structure and in the scope of functions and operations in the department chief executive exist. In Delaware and New Mexico, for example, the chief agricultural official, who is appointed, has little opportunity to develop independent policies and is primarily an administrator. In contrast, the Georgia, North Dakota, and Texas com-

<sup>1</sup> The states surveyed were: Alabama, Arizona, Arkansas, California, Colorado, Connecticut, Delaware, Florida, Georgia, Idaho, Illinois, Kansas, Kentucky, Louisiana, Maine, Maryland, Massachusetts, Michigan, Minnesota, Mississippi, Missouri, Montana, Nebraska, Nevada, New Jersey, New Mexico, New York, North Carolina, North Dakota, Ohio, Oklahoma, Oregon, Pennsylvania, South Carolina, South Dakota, Tennessee, Texas, Utah, Virginia, Washington, West Virginia, Wisconsin, and Wyoming.

**Table 1. Expenditures for Agricultural Market Promotion, Selected States, Fiscal Years 1985 or 1986**

State	FY	Type of Program	\$000
Alabama	1986	Market Development	148
	1986	State Farmers' Market Authority	250
	1986	Montgomery Farmers' Market	150
California	1985	Farmers' Markets	519
	1985	State Export Development	300
Connecticut	1986	Market Development and Regulation	527
	1986	Aquaculture	25
Florida	1985	Domestic/International Market Development	566
	1985	Farmers' Markets	1,323
Georgia	1985	International Trade	170
	1985	Domestic Marketing	1,489
	1985	Major Farmers' Markets	3,313
Illinois	1985	Domestic Market Research/Development	200
	1985	Export Promotion	534
Minnesota	1985	Domestic Market Development	1,137
	1985	International Trade Development	1,487
	1985	Export Finance Authority	2,165
Mississippi	1985	Market Promotion	189
	1985	Trade Mart	132
	1985	Farmers' Markets	254
Missouri	1985	Domestic/International Market Development	869
New York	1986	Market Promotion	4,800
Texas	1985	Domestic Market Promotion	2,917
	1985	Export Market Promotion	697
Virginia	1986	Wine Promotion	140
	1986	Domestic Market Development	467
	1986	International Trade Development	650
Washington	1985	Foreign Market Development	850
West Virginia	1985	Farmers' Markets	730
Wisconsin	1986	Market Development	350
	1986	Hong Kong Office	100
	1986	World Dairy Expo	55

Source: Gunderson and Ospina.

missioners of agriculture, who are elected, have greater mandates that include being the leading advocate for the farm sector. Although it is tempting to attribute the larger roles to elected officials, appointed agricultural officials in California, Connecticut, Minnesota, and Oregon play important roles in agricultural policy development and advocacy (Gunderson and Ospina).

In addition, state boards and commissions of agriculture set policies and design the frameworks in which departments and agricultural agencies operate. The membership of these bodies usually represents a diversity of interests. The way members are selected differs from state to state, but in most states they are appointed by the governor and confirmed by the legislature with provisions requiring all regions

and major agricultural interests be represented. For example, the Kansas State Board of Agriculture is very populist in structure with a potential membership in the hundreds. On the other hand, the Board of Regents of New Mexico State University directs agricultural policy and activities in the state. Overall, these bodies have an opportunity for establishing coordination among agriculture related groups in the public and private sectors and for serving as forums for discussing issues of interest to the agricultural community.

Arizona, Arkansas, and Indiana do not have a central department, board, or agency of the state government that has the sole responsibility of responding to all agricultural interests and problems. Despite the lack of a centralized agency, these states offer essentially the same

services to the agricultural sector as do other states with one difference—services are provided by independent agencies, each with well-defined objectives and a tightly focused mandate.

### *New State Interests and Initiatives*

Federal government policies and the poor performance of the farm and rural economies during the 1980s helped stimulate questions about the adequateness of the state public sector to respond to emerging needs beyond the level of traditionally mundane agricultural services such as grain elevator and commodity inspections, grading, weights and measures, and certification. In this regard most states are becoming increasingly aggressive in promoting (defending) their farm economies. Three areas are fast becoming bandwagons of state involvement: diversification, international market development, and value-added processing. In all three areas the role of the state government can be either as a facilitator—providing information and assistance to interested parties—or as a promoter—advertising, financing, and actually helping market products.

Farm output diversification has become a priority of many states such as Iowa and Oregon which are promoting initiatives to stabilize farm and rural income (Gunderson and Ospina). However, not a single comprehensive program to integrate diversification as a strategic component of agricultural and rural development has been designed and implemented in any state (Smith).

International market development, particularly for high-value products, is another likely arena in which states are promoting their agricultural and rural economies. Many states are implementing innovative programs and using sophisticated tools to help exporters expand in targeted overseas markets (Popovich 1988).

Value-added processing—a philosophy something like, “Don’t sell your grain, feed it to the chickens; don’t sell the chickens, make frozen chicken nuggets,” is an attractive idea because of the potentially high returns additional processing of raw materials can bring to local economies (Connor). States including Michigan, Mississippi, Nebraska, New Jersey, and Texas are promoting traditional and innovative ideas for value-added processing through a variety of programs targeted to promote industry that brings the most benefits in

terms of jobs, income, and long-term growth potential to rural communities (Deaton and Johnson).

Given traditional state farm policies and newly developing farm programs in the states, an investigation of the factors “explaining” state government spending is of interest. No study of this subject has been published to this date. Previous and current work in the field of public goods, externalities, and public choice provide a rich background for explaining the variations in government spending by the states.

### **The Theoretical Role of Government: Normative and Positive Views**

Normative economic analysts have pointed out several roles that governments ought to play, primarily in cases of market failure. Of chief importance here is nonrivalry and nonexclusion in consumption (public goods) and the existence of externalities that hinder the efficient operation of the marketplace.

Nonrival consumption occurs when the consumption of a good or service by one individual does not reduce the consumption possibilities of another. A typical example in agriculture is provided by a farmer’s cattle which are protected from brucellosis by public quarantine, vaccination, or herd inspection programs. The benefits the farmer receives from these services do not diminish the benefits that other farmers obtain because their cattle also are protected.

Cases of nonexclusion occur when the purchaser of a product finds that it is very costly to exclude those who did not pay for the product from nevertheless consuming the product. For example, when a farmer’s taxes contribute to financing agricultural research, the benefits of such research are not kept from those who paid fewer taxes or none at all.

Products that are nonrival and nonexclusive in nature are difficult for the private sector to produce. Once the product is available, several consumers will benefit from it even if they pay no price at all. Thus the product is difficult to sell and the market is unlikely to produce it in an efficient quantity, if at all, even when the total benefits to consumers exceed total private costs. Commodity check-off programs organized and implemented by state commodity

organizations are examples of ways to produce nonrival research and market development.

Tullock's classic allegory of 100 farmers and the dilemma of building a needed road illustrates the inability of the market to produce nonrival and nonexclusive goods. Generally, the larger the affected group, the more difficulty it will have organizing itself voluntarily to provide the public good. Most groups in agriculture are large, for example producer associations and cooperatives, making it difficult for them to organize production of a public good among themselves.

Normative analysis arrives at the decision that government should intervene in the economy in still another instance—when externalities occur. These are costs or benefits imposed on uninvolved third parties due to some economic activity. In either case it is difficult for private markets to operate efficiently. An example of an external cost is the case of a farmer who applies pesticides to a crop to reduce pest damage. The farmer rationally should apply the chemical to the point where marginal costs and benefits are equal. It is possible that the chemical residues are carried to a nearby stream or eventually reach groundwater supplies thus harming third parties. Since all costs are not reflected in the market transaction, the government may establish policies to regulate the use of chemicals in a more efficient manner than is possible with the market.

While the existence of public goods and (or) externalities provide two compelling explanations for government programs, the "public choice" school addresses the issue of government intervention from a different direction. Public choice theory suggests that rather than hypothesizing what government ought to do, it is more instructive to hypothesize what actually is being done by government. For example, Tullock predicted that a political coalition of 51 farmers would vote to repair the roads. Since they pay only 51% of the cost, they vote to have the road maintained at a higher standard than if they paid the full cost.

Tullock drew the conclusion that a system of majority rule would lead to excessive spending relative to the Pareto optimal level of spending that would occur in a system of unanimous rule. This type of "logrolling" behavior is similar to the porkbarrel legislation often associated with interest group pressures in modern day politics. This is especially true in agriculture. Browne (p. 9) observed that "Al-

liances are nothing new in policymaking . . . Without cooperation, the pursuit of self-interest by each commodity group most probably would have brought an impasse in farm bill legislation." However, he concluded that these efforts to keep everyone happy result in a federal farm policy that attempts to do too much.

Another explanation for government growth set forth by the positivists is the Leviathan model. It is hypothesized that government programs exist and grow not because of demands from citizens, but rather by demands of government bureaucrats serving their own interests. Niskanen argued that income, reputation, and power of bureaucrats are positively correlated with the size of the agency. Consequently, they attempt to maximize the size of agency budgets.

Empirical studies directed at a study of the Leviathan model have had mixed results. Based on cross-section data on state revenues and tax revenues from an international sample of 43 countries, Oates concluded in 1984 that "Perhaps, after all, Leviathan is a mythical beast" (p. 756). More recently, however, Zax did not reject the Leviathan model on the basis of county data in the United States.

### Testable Hypotheses

The reasons given in the literature for the existence of government logically serve as the theoretical basis for explaining its size. That is to say, the well-developed theoretical basis of government in the economy yields testable hypotheses that serve to explain the level of state government activity in agriculture.

Keeping in mind the foregoing discussion of the states' regulatory and service functions to correct externality conditions and provide public goods, it is expected that interstate differences in agricultural expenditures are a function of the demand for these services and the cost of providing them. Figure 1 illustrates the relative positions in terms of expenditures of departments of agriculture and gross farm sales in each state surveyed. (Expenditures for California and Florida were too high to fit within the figure.) The figure suggests, but it is by no means apparent, that state-by-state variations in agricultural expenditures are positively related to the size of the farm sector measured by gross farm sales. Other things equal, a large farm sector generates more ex-

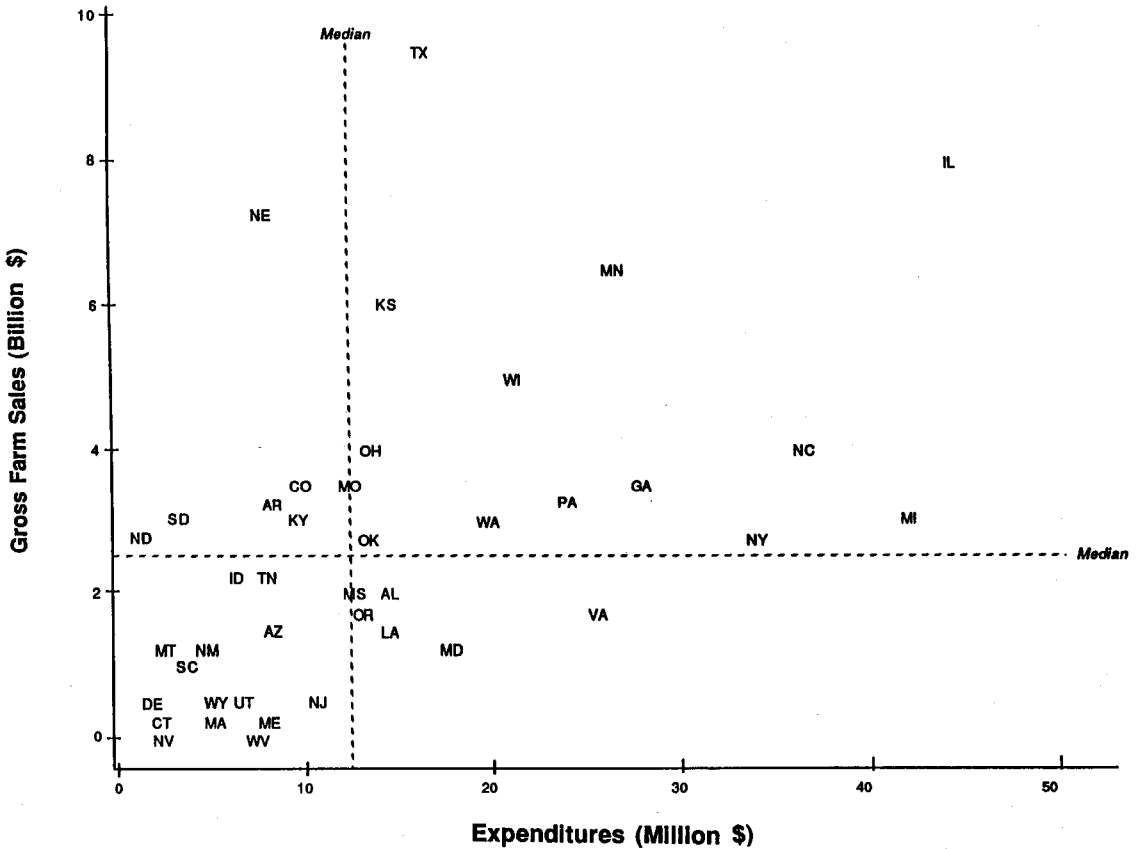


Figure 1. State gross farm sales and expenditures of state departments of agriculture

ternalities that require public attention and a higher demand for government services. Also, a large farm sector generates greater political clout that yields government programs favoring its own interests such as state promotions for local commodities. Thus, state agricultural expenditures are expected to reflect the size of the farm sector.

It is hypothesized that state agricultural expenditures also reflect the nature of farm production in each state. This is particularly relevant in activities that involve grading and inspection of agricultural commodities. Little empirical evidence exists, but discussions with state agricultural officials and examination of state documents suggest that the grading and inspection of fruits and vegetables is more costly than for other farm commodities. This is because fruit and vegetable inspection is a relatively labor-intensive process, while similar services provided for grain producers, for example, are more automated. If this is the

case, then those states which produce a high volume of fruits and vegetables tend to have larger state agricultural budgets than other states, *ceteris paribus*.

The unresolved issue of the Leviathan question offers another possible explanation for state differences in agricultural spending. In this regard it is hypothesized that those states with large agricultural departments relative to the rest of the state government will have larger agricultural budgets, *ceteris paribus*.

Finally, it is expected that the degree of urbanization of a state has a bearing on agricultural spending. Specifically, a highly urban state with a small proportion of rural voters would not be expected to easily gather political support for programs benefiting farmers. On the other hand, earlier discussion in this article has shown that a significant element of state agricultural activity is consumer oriented. Hence, urban residents receive benefits from agricultural spending. The direction of the expected

**Table 2. Estimated Spending, Departments of Agriculture, Selected States, Fiscal Year 1985**

State	Budget (\$000)	State	Budget (\$000)
Alabama	13,000	Nebraska	7,770
Arizona	9,045	Nevada	2,451
Arkansas	8,100	New Jersey	11,282
California	134,236	New Mexico	4,407
Colorado	9,598	New York <sup>b</sup>	33,969
Connecticut	2,426	North Carolina	35,678
Delaware	2,078	North Dakota	1,782
Florida	69,998	Ohio	13,180
Georgia	28,451	Oklahoma	13,723
Idaho	7,875	Oregon	13,650
Illinois	43,923	Pennsylvania	25,082
Kansas <sup>a</sup>	15,351	South Carolina	3,287
Kentucky	9,461	South Dakota	3,780
Louisiana	14,961	Tennessee	8,698
Maine	7,884	Texas	20,358
Maryland	18,330	Utah	6,000
Massachusetts	5,002	Virginia	25,945
Michigan <sup>b</sup>	42,006	Washington	20,000
Minnesota	27,817	West Virginia	7,463
Mississippi	12,890	Wisconsin	21,590
Missouri	12,970	Wyoming	4,489
Montana	2,423		

<sup>a</sup> Includes federal receipts.

<sup>b</sup> Fiscal year 1986.

Source: Gunderson and Ospina.

effect of urbanization on state agricultural spending is an empirical question.

### Variables

Based on the previous considerations, a relationship is defined to explain interstate differences in public expenditures in agriculture. The dependent variable is estimated expenditures of state departments of agriculture<sup>2</sup> (table 2). It is specified in two forms, total expenditures (*TOTSPD*) and expenditures per farm (*SPDFRM*).

There are five explanatory variables. The size of the state farm sector is measured by gross farm sales for 1982 (*GRFMSAL*) as re-

<sup>2</sup> State public funding in this article reflects direct commitments to agricultural programs in state departments of agriculture. It excludes programs not directly related to agriculture (for example, canine control and port inspection). Also, since state contributions to land grant schools, agricultural experiment stations, and extension services are not considered to be a part of agriculture department budgets in any of the states surveyed, they are not included in this analysis. Finally, federal contributions and commodity check-off funds also are excluded from this analysis.

**Table 3. Estimated Influences on State Agricultural Spending**

Explanatory Variable	Equation (1) <i>TOTSPD</i>	Equation (2) <i>SPDFRM</i>
Constant	3,527.68	-198.67
<i>GRFMSAL</i>	6.16 (8.87)* (.000)**	-0.011 (-.752)* (.457)**
<i>FRUTVEG</i>	686.93 (4.32) (.000)	25.44 (7.69) (.000)
<i>LEVIAT</i>	115.50 (.687) (.497)	-2.20 (-.617) (.541)
<i>MSA</i>	287.01 (2.29) (.028)	5.24 (2.02) (.051)
<i>TAXCAP</i>	-315.58 (-1.55) (.130)	1.78 (.419) (.678)
	$\bar{R}^2 = .76$ $F = 26.72$	$\bar{R}^2 = .70$ $F = 20.43$

\* Indicates *t*-statistic.

\*\* Indicates *P*-value or observed significance level for a two-tailed test.

ported by the Census of Agriculture (U.S. Department of Commerce 1984). The nature of farm production in the state is estimated by the percentage of each state's farm receipts that are from fruit and vegetable sales (*FRUTVEG*) for 1985 (U.S. Department of Agriculture). The ratio of agricultural expenditures to total state expenditures in 1985 (*LEVIAT*), an indicator of concentration of state agricultural spending, is used as a proxy for centralization of government in agriculture. The degree of urbanization in each state (*MSA*) is measured by the percentage of state residents who lived in metropolitan statistical areas in 1980 according to the Census of Population (U.S. Department of Commerce 1982). An additional explanatory variable, the tax capacity index of the Advisory Commission on Intergovernmental Relations, is used as a proxy for budget constraint (*TAXCAP*) in each state. This index is based on how much revenue a state could raise if it taxed all bases—personal income, retail sales, minerals—at the national average rate.

### Empirical Results

Table 3 presents the results of two OLS equations that explain the influences on state ag-

ricultural spending. The dependent variable in equation (1) is total agricultural spending (*TOTSPD*). The estimated coefficients indicate that the absolute size of the farm sector (*GRFMSAL*) is, as expected, a predictor of total spending. In addition, the farm receipts mix (*FRUTVEG*) is a highly significant predictor of total agricultural spending. This implies that governments in states with a high proportion of agricultural production in fruits and vegetables will have greater agricultural expenditures compared to those states with a lower proportion, all other things equal. This is explained by the relatively costly government activities associated with grading and inspecting fruits and vegetables. Equally interesting is the highly significant and positive relationship between total agricultural spending and the proportion of the state population living in metropolitan statistical areas (*MSA*). The provision of consumer services, such as safe and healthful food supplies and protection from hazardous farm chemicals, encourages urban residents to support agricultural programs. The coefficients of the budget constraint variable (*TAXCAP*) and the government centralization variable (*LEVIAT*) are not significantly different from zero.

Equation (2) shows the estimated influences on state agricultural spending after adjusting it by the number of farms in each state (*SPDFRM*). Somewhat surprisingly, the relation between agricultural spending per farm and the absolute size of the farm sector (*GRFMSAL*) is not significant and has an unexpected negative sign.<sup>3</sup> The influence of *FRUTVEG* on agricultural spending per farm is highly significant and positive as in equation (1). The *MSA* coefficient is also positive but not different from zero at the .05 level of significance. Finally, the *TAXCAP* and *LEVIAT* coefficients are not significantly different from zero.

### Concluding Remarks

These results stand alone in the field of agricultural policy as a model describing state activity. Nearly all previous agricultural policy

research has been directed at federal government activities. In the current environment of declining federal programs and budgets, additional attention needs to be directed to what state governments are accomplishing in agriculture.

These results indicate, as expected from the data presented in figure 1, that the total level of state agriculture department spending is positively related to the size of the farm sector. This certainly fulfills the expectations of the normative school of public policy that state agricultural spending represents the provision of public goods and a reduction of the effects of externalities desired by the public.

One of the principal models of the public choice theorists, the Leviathan thesis, argues that centralized government tends to grow faster than decentralized government. The results of this study, based on the lack of significance of the coefficient of the concentration of agricultural spending variable, cast doubts on this notion in state departments of agriculture.

This article also has identified many government agricultural program activities that benefit urban citizens. Thus, the *MSA* variable was included in the regression equations to reflect the influence that the urban beneficiaries of agricultural spending may have through the voting and legislative processes. The results of this study support the voting models of Downs and of Buchanan and Tullock who have predicted that larger groups offer higher benefits for their members because increases in voting power are associated with larger group size.

Because of the likelihood that farm legislation is influenced by lobbyists, it seems appropriate to concentrate on lobby groups to empirically test their significance. However, it is difficult to quantify the power of an interest group. A strong lobby in a state may employ only one or two individuals and be very successful, while a weak lobby may have amateur lobbyists promoting its cause (Ziegler and Baer).

Finally, this study admits to the shortcoming that the level of governmental activity—federal, state, local—is not fully reflected by a simple tally of total spending. Some of the most important areas of government intervention are in the forms of regulations which may cause only modest amounts of public spending but substantially alter economic behavior. The

<sup>3</sup> Alternatively, if the influence of the relative size of the farm sector (farm output as a percentage of gross state product) on *SPDFRM* is tested, the results (not shown) indicate no significant relation.



analysis represents an initial inquiry into the nature and causes of state agricultural spending. The reduction of federal government activism in agricultural policy and programs leaves a void which offers both opportunities and challenges for the states. Given the interstate differences in agricultural policy, further efforts should be focused on study of these differences and on assessing the effectiveness of programs.

[Received February 1989; final revision received May 1990.]

## References

- Advisory Commission on Intergovernmental Relations. *1981 Tax Capacity of the Fifty States*. Washington DC, 1983.
- Batie, S. S. "Agriculture as the Problem: The Case of Groundwater." *Choices* 4(3rd quarter 1988a):4-7.
- . "Political Economy of Rural Development: Discussion." *Amer. J. Agr. Econ.* 70(1988b):1097-99.
- Browne, W. P. "Agricultural Policy Can't Accommodate All Who Want In." *Choices* 4(1st quarter 1989):9-11.
- Buchanan, J. M., and G. Tullock. *The Calculus of Consent*. Ann Arbor MI: University of Michigan Press, 1962.
- Chicoine, D. L. "New Federalism and Rural America: Implications for Local Public Economies." *Amer. J. Agr. Econ.* 70(1988):1085-90.
- Connor, J. M. *Food Processing*. Lexington MA: Lexington Books, 1988.
- Deaton, B. J., and T. J. Johnson. "Attracting Value-Added Business: Agricultural Enterprise Development." Lexington KY: Center for Agriculture and Rural Policy, The Council of State Governments, Tech. Assist. Bull. No. 6, 1988.
- Downs, A. *An Economic Theory of Democracy*. New York: Harper and Row, 1957.
- Gunderson, R. O., and E. Ospina. "The Role of State Government in Agriculture." In *The Role of State Government in Agriculture*, eds., E. Ospina and C. S. Sims, pp. 3-49. Morrilton AR: Winrock International, 1988.
- Jacobs, J. J., and D. T. Taylor. "The Increasing Role of States in Water Management: The Wyoming Experience." *West. J. Agr. Econ.* 14(1989):261-67.
- Jahr, D. "Rural Concerns and the National Policy Environment." *Amer. J. Agr. Econ.* 70(1988):1078-84.
- McLemore, L. A. "The States' Role in Agricultural Marketing: Innovative Strategies." Lexington KY: Center for Agriculture and Rural Policy, The Council of State Governments, Tech. Assist. Bull. No. 5, 1988.
- Niskanen, W. A., Jr. *Bureaucracy and Representative Government*. Chicago: Aldine-Atherton, 1971.
- Nothdurft, W. E., R. J. Vaughan, and M. G. Popovich. "Creating an Entrepreneurial Farm Economy: A New State Policy Approach." Washington DC: Council of State Policy and Planning Agencies, 1986.
- Oates, W. E. "Searching for Leviathan: An Empirical Study." *Amer. Econ. Rev.* 75(1985):748-57.
- Popovich, M. G. "State Agricultural Export Promotion Strategies: A Review of Selected State Programs." Washington DC: Council of State Policy and Planning Agencies, April 1988.
- . "State Emergency Farm Finance: A Review." Washington DC: Council of State Policy and Planning Agencies, January 1986.
- Rabe, B. C. "Toward the Next Federalism." *Forum for Applied Research and Public Policy* 3(Fall 1988):5-15.
- Runge, C. F. "State-level Agricultural Policy in Minnesota: Adjusting to Change in the 1980s." In *The Role of State Government in Agriculture*, eds., E. Ospina and C. S. Sims, pp. 133-45. Morrilton AR: Winrock International, 1988.
- Smith, S. N. "The Changing Role of State Governments in Rural Development." In *The Role of State Government in Agriculture*, eds., E. Ospina and C. S. Sims, pp. 75-97. Morrilton AR: Winrock International, 1988.
- Tullock, G. "Problems of Majority Voting." *J. Polit. Econ.* 67(1959):571-79.
- U.S. Department of Agriculture. Economic Research Service. *Economic Indicators of the Farm Sector: State Income and Balance Sheet Statistics*. Washington DC: Government Printing Office, 1985.
- U.S. Department of Commerce. Bureau of Census. *1980 U.S. Census of Population*. Washington DC: Government Printing Office, 1982.
- . Bureau of Census. *1982 U.S. Census of Agriculture*. Washington DC: Government Printing Office, 1984.
- White, F. C. "The Role of State Government Agencies in Farm Financing." In *The Role of State Government in Agriculture*, eds., E. Ospina and C. S. Sims, pp. 115-31. Morrilton AR: Winrock International, 1988.
- Zax, J. S. "Is There a Leviathan in Your Neighborhood?" *Amer. Econ. Rev.* 79(1989):560-67.
- Ziegler, H., and M. Baer. *Lobbying: Interaction and Influence in American State Legislatures*. Belmont CA: Wadsworth, 1969.