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POLITICAL ECONOMIC MARKETS:
PERTS AND PESTS IN FOOD AND AGRICULTURE

by

Gordon C. Rausser

Political Economic Markets: PERTs and PESTs in Food and Agriculture

Gordon C. Rausser

"The most common and durable source of factions has been the
various and unequal distribution of property. . . . A landed in-
terest, a manufacturing interest, a mercantile interest, a monied
interest, with many lesser interests, grow up of necessity in
civilized nations, and divide them into different classes, actuated
by different segments and views. The regulation of these various and
interfering interests forms the principal task of modern legislation,
and involves spirit of party and faction in the necessary and ordi-
nary operations of the government. . . . The inferences to which we
are brought is, that the causes of faction cannot be removed, and
that relief is only to be sought in the means of controlling its
effects" (Madison's Federalist Paper No. 10).

1. Introduction

As the above quote suggests, Madison was instrumental in designing a system of

checks and balances to make it extremely costly for any interest group,

whether a majority or a minority, to use the political system to redistribute

wealth and income in their favor (Hamilton, Jay, and Madison). The tripartite

system of government (executive branch, the legislature, and judicial); the

division of the legislature in two houses; and the operation of the federal,

state, and local governments were designed to increase the costs faced by

agents seeking property rights to redistribute wealth and income. To be sure,

attempts to increase aggregate wealth and to control agents attempting wealth

and income redistribution through the political process are the fundamental

dilemmas of all political systems. Unfortunately, the wisdom revealed in

Madison's observations has been neglected in much of the analytical work of

economists.

Most economic analysis of public policy concentrates on various allocative

consequences of market failure. In food and agricultural systems around the

world, instances of market failures are easily identified. As Arrow has shown, a complete set of risk markets represents a sufficient condition under which a market equilibrium is a Pareto optima. Moreover, general equilibrium formulations with incomplete markets have clearly demonstrated that market failure is a fact of life.

In the most general sense, a government wishing to intervene to correct market failures must design a set of rules to reduce transaction costs of the private economic system. Policies resulting from this type of governmental intervention will be referred to as <u>political economic resource transactions</u> or <u>PERTs</u>. The net effect of PERT policies is to increase the size of the pie. Note also that, in the design and implementation of PERT policies, economic markets are viewed as separate from the political process.

The transactional cost reduction view of governmental intervention has a long history in U. S. food and agriculture. The U. S. "farm problem" has been described in one context or another by different types of market failure, viz., immobility of farm resources, instability, excessive market power of middlemen, inadequate returns for invested capital, unacceptable uncertainty, private risk aversion which exceeds society's risk aversion, and so on. Governmental intervention is introduced to provide a remedy to such problems through collective action. Much of this literature is based on the presumption that governmental intervention in some broad sense improves efficiency. This positive-sum gain view of governmental intervention also presumes a political economy which improves the allocation of resources. In one fashion or another, the policies introduced by the government reduce the transaction cost that would exist if the "invisible hand" were to operate unabated.

The determination of policy prescriptions for market failures involves the application of traditional welfare analysis. With this efficiency calculus, economists have offered simple solutions for any undesirable equity outcomes that might result, viz., perform pure transfers via lump-sum taxes and/or subsidies as the government policy instruments. This dichotomous treatment of resource allocation and wealth distribution has been challenged in some recent theoretical literature by a negative sum or, at best, a constant sum gain view of governmental intervention (Tullock). Here, the emphasis is not on market failure; quite the contrary, the emphasis is on government failure. Government policies are not introduced to improve efficiency but, rather, to redistribute wealth from one group in society to another. In much of this literature, a crude predatory theory of the state is advanced in which government is simply a gigantic transfer mechanism for redistributing wealth and income. The government has no separate autonomy; it is manipulated by powerful interest groups seeking to benefit their own welfare to the detriment of society as a whole. Government policies based on this perspective will be referred to as political economic-seeking transfers or PESTs.[1]

The government failure literature views the political process as a market where unintended results of individual efforts aimed at maximizing returns on opportunities are "bads" rather than "goods." Competition in political markets, in contrast to private economic markets, generates social waste rather than social surplus. Strategically, even if the state or government designs an efficient policy, private interest groups intervene in political markets to alter the tactical implementation of this efficient policy with resulting deadweight losses. In general, interest groups compete for political influence by spending time, energy, and money on the production of political

pressure to effectuate both the design and tactical implementation of governmental policies. The allocation of these resources is directed toward political gain-seeking transfers. In the context of economic efficiency or a first-best world, PESTs activities on the part of interest groups are purely wasteful.

The government failure literature has added much insight to positive as well as to potential normative analysis of governmental behavior. It has alerted us to transfer-seeking behavior on the part of interest groups, the role of political markets in transferring wealth, the potential waste that can result from a competitive political system, and the distributional consequences of governmental policy as well as their efficiency consequences. It has alerted us to the potential outcomes of replacing private sector instability or uncertainty with government administrative instability or, in other words, the replacing of one risk by another.

As with most extremes, it cannot be expected that either the government or market failure view of government intervention is strictly correct. Instead, truth lies somewhere between these extremes. This paper attempts to structure the analytical and empirical search by our profession for this truth. The focus of the paper is on a framework which embeds a number of distinguishable hypotheses which can form a basis from which to explain and forecast government behavior.[2] As a by-product of such analysis, it will also be argued that empirical estimation of multidimensional policy preference functions will allow our profession to perform the immensely important role of social critics. In fact, as Steiner (p. 31) noted some years ago: "Put formally, we now accept in principle that the choice of weights is itself an important dimension of the public interest." Ultimately, the integration of political and

economic markets and the endogenization of governmental policy require that the weightings used in different policy decisions or in the selection of various policy mixes be made explicit.

The proposed framework is based upon three premises: (1) political and economic markets are not separable, (2) pure transfers do not exist, and (3) we live in a second-best world. While various theoretical and empirical models that presume separability between political and economic markets provide useful insights, such models play little, if any, role in the actual selection and implementation of policy. Given the nonseparability perspective, it is no longer possible for economists to explain away events or the selection of particular policies by reference to political forces outside the realm of economics. Of course, it is presumptuous for us to believe that economics can explain all forms and shapes of governmental intervention. However, if we can explain a major portion of the variation in governmental behavior, then we obviously have more to offer in this knowledge domain than other fields of social science.

In the case of (2), welfare economists have found lump-sum transfers a useful device to maintain a presence on the Pareto frontier--frequently referred to as an efficiency frontier or the utility possibilities curve. However, the mere existence of transfers, given the integration of political and economic markets, invites PEST-related activities and, thus, introduces impurities in any transfers that might be conducted.

For (3), we continue to perform analyses as though a first-best world were achievable. However, measurements from an efficiency frontier that does not exist is hardly of social value. In general, the implications for national welfare of a struggle between various interest group coalitions are reversed

when we move from a first-best to a second-best world. Moreover, as demonstrated recently by Bhagwati, lobbying or PEST activities can be either a bad or a good in a second-best world. However, in a first-best world, such activities are by definition bads. Hence, policies resulting from PEST activities in a second-best world can increase, leave unchanged, or decrease the size of the pie.

Given the above premises, the remainder of the paper focuses on some illustrative cases in section 2 and on an operational paradigm for the integration of political and economic markets in section 3. An analytical framework that can be empiricized for given institutions is presented in section 4 along with elements of a potentially useful framework for changes in governmental institutions. Finally, the paper ends with some concluding remarks focusing on the implications for additional research, the potential integration of extension and research functions in this field of inquiry, and what difference serious attempts to advance knowledge on the behavior of political economic markets might mean to our profession.

2. Overview of PESTs and PERTs Activities in U. S. Food and Agriculture

Due to the recent reporting requirements, the role of political action committees (PACs) has become increasingly obvious. The question, nevertheless, remains: How important are PEST-related activities? Unfortunately, very few precise quantitative estimates are available. What is available, however, relates to the benefits that might be derived from allocating resources to PEST activities. For example, on the basis of a general equilibrium simulation model for the U. S. economy, Magee, Young, and Brock have argued that the value of resources allocated to PEST activities can be as large as 30 percent

of gross national product (their "black hole" result). Krueger found that import licenses provided a total value of rents to its recipients which equaled 7.3 percent of national income in India. In the case of Turkey, the figures are even more startling. Here, she estimated that the rents from import licenses in Turkey in 1968 were about 15 percent of national income. In Robinson and Tyson's analysis for Yugoslavia, they found that the "chase-able rents" generated by the rationing of foreign exchange averaged 8.6 percent of value added across all the sectors. These measures provide an indication of the type of incentives for the allocation of resources to PEST activities. They strongly suggest that resources will be wasted and output lost in pursuit of sizable potential gains.

In the case of the U. S. agricultural economy, we have a long history of both PERT and PEST policies. During the last century, government played a major role in reducing transportation and information costs which helped lead to a dramatic increase in the size of markets and the degree of specialization among individual producers and regions. The period 1850 through 1880 witnessed the emergence of a number of important institutions fostered by legislation with the intent of lowering transaction costs in the private sector (Morrill Act, 1862; U. S. Department of Agriculture, 1862; the Hatch Act, 1887; and the Smith-Lever Act, 1914). At the end of the century and the early 1900s, farm interests made more far-reaching demands upon the federal government. These interests sought fundamental changes in the rules of the game and in the use of federal power for distributing wealth and income in their favor. These were expressed in various forms but can be summarized as (i) easy money created by governmental action, (ii) government funds supplied for farm mortgages, and (iii) government guarantees of farm commodity prices.

There is little doubt that, during the 1920s and 1930s, farmers became one of the most well-organized economic interest groups. The National System of County Agents, the American Farm Bureau, and the U. S. Department of Agriculture (USDA) all combined with a clarity and singleness of purpose to create a number of PERTs for the U. S. agricultural sector. The grass-roots organization represented by the County Agent Extension System proved to be an effective vehicle for communicating new agricultural technologies and knowledge directly to farmers in a systematic fashion and communicating back to the USDA and colleges information on farmers' problems requiring research. During this period, farm interests were also effective in evading a number of governmental interventions with exemptions from antitrust, labor, and tax legislation.

Growing specialization within the agricultural sector, however, also led to more concentrated economic interests. The legislation of the 1930s created direct economic benefits or losses for particular groups and thus indirectly fostered PEST activities by the clientele of government agricultural programs. Beginning in the 1930s and through the postwar years, the USDA was transformed from a research and educational organization into a conventional government agency managing programs which provide direct economic benefits to specific interests.

If there is any doubt about the importance of PEST-related activities in food and agriculture, one only has to peruse popular periodicals over the last six months to eliminate such doubt. Some of the key illustrative cases that demonstrate this importance are the U. S. dairy program, the U. S. sugar program, and the federal government's role in western water development. Each of these case studies has a number of common characteristics which should be

incorporated in any analytical framework. Let us briefly examine each case in turn.

The redistribution to the U. S. dairy industry has become a very fashionable topic for much the same reasons that the huge public stocks of grains in the 1960s and early 1970s became a major political concern. The public stocks of manufactured dairy products and the associated wastage was certainly not expected by those agents instrumental in formulating the original enabling legislation. In essence, a policy disequilibrium has arisen and the political market is in search of a new set of more effective policy instruments. Analyses performed by economists have not been of great value in this particular search. Static welfare cost computations and income transfer measurements, along with prescriptions to reduce sharply the levels of intervention (Ippolito and Masson), have had little impact on political markets; government is simply not controlled by some benevolent despot heeding the advice of crown princes.

Dairy farm organizations spent over $1.5 million for the election campaigns of congressmen and senators alone in 1979-80. This figure does not include resources expended in direct lobbying costs (lawyers, offices, public relations, etc.); unreported individual farmer contributions; general contributions originating from the Farm Bureau and Cooperative Association; and in time and effort undertaken by various groups. Likewise, input-supplying and output-using industries, along with several consumer groups, have spent large sums of money in opposing dairy policies.

On the recent Frank-Finley Amendment to reduce dairy price supports, some interesting statistics have been compiled by Common Cause. This Amendment was defeated in the House by a sizable margin. Examining the contributions, it

turns out that the 243 members voting for the dairy industry received a total of $1,037,784 from the three major dairy PACs during the 1978-1980 elections averaging $4,271 each. The 153 members voting against the dairy industry received a total of $109,900 from the three major dairy PACs during the 1978-1980 elections averaging $718 each. These expenditures help explain the recent vote by the Senate Agricultural Committee which, in effect, rejected the Reagan Administration's proposal to trim the mounting U. S. surplus of dairy products. The Committee decided to maintain the current subsidy level of $13.10 a hundredweight for the next three fiscal years. The favorable response to redistributing wealth to dairy producers took place in a current environment in which the U. S. government is expected to spend about $2 billion during fiscal 1982 to remove 14.3 billion pounds of excess dairy products from the market.

The resources allocated to PEST activities by major dairy PACs makes simple economic sense. In a recent analysis by La France and de Gorter emphasizing the joint interaction of different forms of governmental intervention (dairy product price supports, federal fluid pricing system, import controls, and public storage of dairy products) and the dynamic linkages among private markets, the income transfers from consumers for the 1970-1980 time period were estimated at 43.2 billion (an annual average of 3.9 billion which represents 37 percent of average farm output value). For the income transfers to producers, the same categories are 33 billion, 3.0 billion, and 27.3 percent, respectively. The welfare or deadweight loss was estimated for the entire period at 10.2 billion, with an annual average of .927 billion (8.7 percent of output value). The figures strongly suggest that PAC expenditures by dairy organizations are indeed a wise investment.

It should also be emphasized that resources are expended outside the political system in response to the program parameters. A most obvious example is the blend price mechanism which gives producers incentives under competition to allocate resources in order to secure rents derived from Class I milk consumers. The huge transfers from Class I consumers to Grade A producers provide an incentive for Grade B producers to shift to Grade A production until the usual marginal conditions are satisfied. This response may well dissipate, if not completely eliminate, all rents above the blend price accruing to Grade A producers from Class I consumers. This social cost is in addition to the misallocation of consumption, overproduction of milk in aggregate, government purchases, storage and disposal activities, import controls, and administrative costs.

For the dairy program, some PEST activities can be beneficial depending on the form of intervention and the initial comparison point. Certain PERT or positive effects of the dairy program can be identified with technological efficiency gains (La France and de Gorter). Here, the comparison of productivity between Canadian and U. S. dairy industries is instructive. The Canadian government program includes marketing quotas with penalties imposed for producers who exceed their quota. The social or deadweight loss is estimated at 12 percent of output value in Canada. Due partly to output quotas in Canada, the dairy industry there is far less productive than its U. S. counterpart.

Recent sugar legislation provides an interesting illustration of some of the same observations noted for the dairy program. In 1981, sugar legislation was passed which specified two effective policy instruments for transferring wealth directly to sugar producers and indirectly to manufacturers of

high-fructose corn sweeteners. The policy instruments include price supports (initially 17 cents per pound) for domestic sugar, achieved through CCC purchases and stock-holding (resulting from "nonrecourse" loans) and a tariff composed of a duty and import fee. Recently, the maximum fee and duty tariff were not sufficient to cover the difference between world prices of sugar, which have fallen to as low as 7 cents per pound, and the domestic support price resulting in a policy disequilibrium. Hence, a Presidential proclamation reimposed the old system (pre-1974) of sugar import quotas. In a first-best world, the introduction of this additional policy instrument would never be optimal. However, in a second-best world, a sugar tariff, along with domestic price supports and uncertainty associated with the Treasury exposure to maintain specified price support, leads a political economic market to impose import quotas. The next potential disequilibrium may result from positive supply response on the part of domestic beet and cane growers.

Two interesting features of this particular illustrative example are worth noting. First, the imposition of the import quotas leads to competitive rent seeking on the part of exporting countries and also provides the Executive Branch, particularly the State Department, with some leverage in negotiating other features of U. S. foreign policy with various countries. The legal profession in Washington, representing various countries deserving a larger share of the specified quota, is also a beneficiary of this particular policy. To my knowledge, such distributional effects have not been seriously examined in the literature.

The second feature relates to the processing component and its role in either supporting or opposing various elements of current U. S. sugar policy. Within the sugar refining component, quotas provide a competitive edge to

those processors who have long-term contracts with domestic growers. Refiners who rely principally on imports, however, suffer from such quotas. For this reason, the U. S. Cane Sugar Refiners Association, a Washington-based trade group of so-called independent refiners (those without producing operations), brought suit to strike down sugar import quotas. To date, this effort has been entirely unsuccessful. Another concerned processing group relates to the substitutable product for sugar, namely, high-fructose corn sweetener. The processing component undertook enormous investments during the huge sugar price rise of 1973-74, suffered immensely as a result of the large dip in sugar prices through 1975-1978, and began a further series of expansions during the price rise of sugar over the period 1979-80. As a result, this particular interest group is especially supportive of any policy package that might increase domestic sugar prices. Inroads have been made by the high-fructose industry in the sweetener market largely because of the last major increase in sugar prices (1979-80).

Federal and state policies influencing western water development and utilization have a long and tainted history. Very recently, the western states' agricultural economic interests won an important battle in their decades-long, multimillion-dollar battle for greater access to reclamation waters subsidized by the federal government. Both the Senate and the House have passed bills, endorsed by the Reagan Administration, which amend the Reclamation Act of 1902 for the first time. This Act instituted the 160-acre limitation which our profession has analyzed on numerous occasions. However, the analytical work performed by professional economists played little, if any, role in the repeal of the 1902 Reclamation Act. The Senate bill permits farms up to 1,280 acres to use federally subsidized water, and larger farms

continue to be able to purchase water at a higher but still subsidized price. Moreover, both the Senate and House bills eliminate residency requirements allowing subsidized water for lands owned by absentee landlords. Both bills also include an additional interest rate subsidy on construction cost of federally supported water projects.

The above brief descriptions illustrate the role of economic interest groups in allocating resources to PEST-related activities. None of these cases reveals glaring examples of economic interest group failures. In our recent history, however, a few striking illustrations exist. These include the 1973 Food and Agriculture Act payment to wheat allotment holders and the ineffective market support price for cotton in the 1977 Food and Agriculture Act. Each of these two instances can be explained by the failure of a commodity-specific interest group to reach a unified position.

3. Toward an Operational Paradigm

The above illustrative examples reveal a number of common threads. The available literature examines some of these threads and neglects others. Most of the economic-oriented literature focuses on the efficiency norm, while the more politically oriented literature focuses on general and difficult to quantify norms such as freedom, participatory democracy, etc. (Lindblom). In the former, lobbying is a "bad"; in the latter, it is basically a "good." Hence, the integration of these two sets of literature is not a simple matter. However, pieces of the puzzle or clues to a solution of an operational paradigm may be found in the work on bureaucratic behavior (e.g., Niskanen); political parties (e.g., Downs); vote-maximizing politicians (e.g., Kramer); committee behavior (e.g., Fenno); legislative behavior (e.g.,

Mayhew); interest group behavior (e.g., Olson), regulation (e.g., Stigler, Peltzman); and geographic allocation (e.g., Buchanan and Tullock and also Weingast, Shepsle, and Johnson).

Various pieces of the above literature advance elements of an operational paradigm. It is our purpose to combine these various partial approaches into a general equilibrium framework capable of capturing the fundamental systematic forces affecting the form and shape of governmental intervention. For this purpose, the appropriate institutional detail in the design of the operational paradigm must be determined.[3] To explain the setting on various policy instruments, as well as the change in the set of policy instruments that are pursued by government, we shall argue that there are four principal components that must be considered in U. S. food and agriculture. These components include the economic system; interest group coalitions or, equivalently, lobbyists; legislators; and the Executive Branch or the bureaucracy. Along with these four components, the equilibrium flows as well as disequilibrium flows of PESTs and PERTs must be specified. PERT activities occur only in the public sector, while PEST activities originate in the private sector but can lead to PERT activities in the public sector. A policy equilibrium is defined to occur when there is no pressure for the mix of policy instruments or form of intervention to change. When a disequilibrium arises, the mix of policy instruments may change.

Various coalitions among agents that participate in the economic system are formed to allocate resources to PEST-related activities. These activities, in turn, influence politicians and bureaucrats to change the setting on given policy instruments or to alter the set of policy instruments. The flows of PEST and PERT activities in a policy equilibrium are simpler than in a

policy disequilibrium. In an equilibrium, PESTs flow from the economic system to the lobbyists who continue to pursue PEST activities but ultimately interact simultaneously with legislators, executives, and bureaucrats to generate both PEST and PERT activities. If a disequilibrium arises in the economic system, the flows of information can move directly from the economic system to legislators, executives, and bureaucrats, i.e., they have some independent autonomy. Moreover, for a major disequilibrium in the economic system, ideology, legitimacy, and agenda setting become important issues.

The above discussion refers only to activities; but there are also policies which can have PERT (lower transaction costs), PEST (wealth redistribution accompanied by efficiency losses), or a mixture of PERT and PEST effects on the economic system. A useful taxonomy of PEST and PERT policies depicts governmental behavior as a continuous choice problem characterized as policy instrument change and a discrete choice problem represented by policy set change. In the former category, instrument-lobbying and instrument-evading activities can lead to PEST policies composed of price or quantity distortions, PERT, or a mixture of PEST and PERT policies. Each of these categories should be self-explanatory except perhaps for the mixture of PERT and PEST policies. Here, the change in a policy instrument may have both PEST- and PERT-like effects. For example, price supports obviously involve a transfer of wealth to various commodity producers, but they also simultaneously reduce transaction costs by lowering the uncertainty that exists in the economic environment and thus allowing greater specialization, smaller information costs, etc. When a disequilibrium arises, the set of policy instruments is altered; and the new instrument package can have only PEST, only PERT, or a mixture of PEST and PERT effects.

There is presumed to be a criterion function governing the actual continuous or discrete choices. This governing criterion function may be defined as a political preference function reflecting the power and influence of various interest group coalitions, the allocation of resources to PEST activities, and whatever autonomy exists for legislators and bureaucrats. The general voting population has some influence only through the autonomy of elected officials or appointed bureaucrats. The greater this autonomy, the more likely PERT activities will occur. It also presumed that the interest groups compete to "purchase" votes by influencing the revealed "preferences" of voters with information, propaganda, and other appeals.

Political preferences have many goals, some partially competing with differing weights on each goal. Efforts are undertaken by economic interest groups to change preferences or weightings attached to goals or performance measures that relate to their well-being. How such weights evolve is a direct result of political economic demand and supply. On the supply side of this market, one of the most significant conceptual frameworks has been developed by Downs. On the demand side, the work of Olson is particularly relevant.

In Downs' conceptualization of political market supply, majority rule prevails where the government pursues policies until the marginal expected gain in votes equals the marginal expected loss in votes. In essence, the Downs' framework determines the supply of the collective good by evaluating the costs and benefits to the government at the margin of particular policy decisions. Olson concentrates on interest group behavior and its implications for political demand. His framework fails to evaluate demand in terms of both costs and benefits; instead, he focuses on the cost of various economic interest groups seeking political action. His work highlights the free-rider problem that results in attempts to form effective coalitions of economic interest groups.

Both the Olson and Downs' conceptualizations are useful in structuring an operational paradigm. Each of these formulations has been used by a number of economists in developing various versions of political economic behavior. Four different frameworks have been advanced by economists which may prove to be of some value in political economic markets related to food and agriculture. In previous work (Rausser, Lichtenberg, and Lattimore, hereafter RLL), we have referred to these frameworks under the following rubrics: theory of state, theory of economic regulation, rent-seeking interest groups, and "efficient" government redistribution.[4]

It would be useful if an empirically tractable paradigm could be designed that embeds all of the above special cases as alternative hypotheses. None of the frameworks draws a clear distinction between a given policy set and alternative policy sets (institutional change). In the following section, we will outline an analytical framework which is empirically tractable for the continuous choice problem (the level of governmental intervention) and another framework for the mixed discrete/continuous choice problem (form and level of governmental intervention).

4. Analytical Framework

For a given policy set, three alternative analytical perspectives are possible. First, we can focus directly on policy instrument behavioral equations; second, we can focus on the structure of the behavioral of all agents involved in political economic markets; third, we can focus on the reduced form of the structure which involves capturing the governing policy or political preference function. Each of these three approaches will be briefly examined here in the context of the general operational paradigm.

The behavioral equation approach is concerned only with how the relevant "inputs" are connected with the ultimate "output," the details of the process of conversion in each case being inside a "black box." Relevant dependent variables are the policy instruments (the level of price supports, quota levels, subsidy levels, etc.), and the explanatory variables include real resources allocated to influencing the outcome of the political process by each relevant interest group and measures related to transaction cost or, equivalently, deadweight losses or gains. This approach obviously takes the bureaucratic behavior; the structure of parties; and the behavior of legislators, lobbyists, and voters as given. Politics and ideology are thus taken as exogenous influences through the form and level of the specified behavioral function that relates inputs by the various interest groups and transaction costs to the policy instrument. The analogy with technology and the familiar concept of a production function is a direct one.[5]

The structural approach attempts to capture the various elements that appear in the "black box." Here, the institutional design must play a critical role. The entire sector of "market for governmental intervention," namely, the supply and demand side, must be specified. Each of the conceptual frameworks reviewed in footnote 4 concentrates only on the demand side emphasizing the role of economic interest groups. Supply side, or what many would refer to as the political side, requires the public sector rule-making technology involving at a minimum bureaucratic agencies, legislators and their committees, and administrative law procedures. The composition of each of these behavioral groups is a relevant empirical issue. Each interest group is assumed to maximize expected utility of its profits with the choice set defined to include the allocation of resources to PEST-related activities. In the case of the lobbyist, again, the utility function would seem appropriate

but now defined across cost of maintaining an effective coalition. On the supply side, "two piece utility functions" appear appropriate. That is, in the case of elected politicians, including members of the Executive Branch and Congress, as well as bureaucrats, utility will be defined as a function of two arguments: probability of election and a vector of elements related to transaction costs or the deadweight losses (gains) resulting from alternative policy instrument settings. If the second vector of arguments vanishes from these utility functions, we are left with a governmental supply of intervention which has no significant autonomy. In effect, the demand side determines the level of governmental intervention. Such a formulation would preclude any significant effect of political institutions.

Given an equilibrium concept,[6] the reduced form or governing criterion function can be derived. This function has been referred to as the the political preference function by Becker. As shown in RLL, this function can be represented in terms of performance measures for each relevant group of agents. If these performance measures are defined in terms of "commodity income" of each of the n identical members of the ith group, then political influence can be defined by the marginal political utility; and political power, by influence when all incomes are equal. Clearly, a large number of performance measures is possible. In any empirical specification of this relationship, the weights associated with the various performance measures will not be stable or constant parameters. Instead, these weights will move with changes in the allocation of resources to PEST-related activities; with the distribution of benefits and costs across members of a particular interest group, with changes in the cost of organizing direct support and/or opposition; and the like (RLL). The measurement and change in these weights would allow analysis of the public interest advocated by Steiner.

Taking the allocation of all resources to PEST-related activities as given, a solution to governmental intervention can be captured by combining the governing criterion function with the political opportunity set that defines the boundary for redistribution. The political preference function would be maximized by moving along the boundary of the opportunity set to the point of tangency between the boundary and policy difference curve. In other words, a unique political-economic equilibrium point would be determined by equating the marginal rate of political substitution with the marginal rate of redistribution. At this unique equilibrium point, unobservable or implicit relative political economic prices could be determined. Note also that the equality of the marginal rate of political substitution with the marginal rate of redistribution could generate a set of behavioral equations for the various policy instruments.

The empirical confrontation of the above formulation is obviously not a simple matter. As a profession, we have little experience with using data on PEST-related activities. In part, for this reason, it is expected that empirical models will require a fair amount of a priori structure (RLL). In estimating the boundary for redistribution, we must also empirically extract the resources allocated to PEST-related activities.

In estimating the policy or political preference function, a number of alternative approaches are possible. Available space precludes a complete description of the methodology for these alternative approaches.[7] One approach involves a specification of a Keeney-Raiffa multiattribute utility function and the use of revealed preference methodology to infer the conditional weights associated with the various prespecified performance measures. A second methodology uses the experimental economic approach, in particular,

contingent evaluation and hedonic methods, to infer the relevant empirical weights. This approach offers a great deal of promise since, in effect, the political supply and demand pertain to an exclusive collective public good with rivalry in consumption.[8] To date, no one has applied this methodology to political economic markets. Finally, it should be noted that the empirical verification of an estimated political preference function and an estimated opportunity set for redistribution can be easily performed. Specifically, we can compare the set of behavioral equations for various policy instruments implied by estimated policy preference functions and efficient boundary for redistribution with the directly estimated behavioral equations.

A number of major propositions or testable hypotheses can be derived from the above analytical framework. Here we will only illustrate the richness of the propositions that can be derived. First, the major issue of government autonomy can be investigated by statistical tests on the conditional weight associated with transaction costs in the governing criterion function. If the estimate is found to be significantly different from zero, this would imply rejection of the Stigler/Peltzman theory of economic regulation which presumes that only economic factors matter. Second, if the various conditional weights are statistically independent of the allocation of resources to rent-seeking activities, the political economic gain-seeking view can be rejected.

Testable hypotheses can be decomposed across political economic supply versus political economic demand influences. For example, a number of hypotheses explaining why governmental intervention is more favorable to the U. S. wheat sector than to the corn sector can be offered (de Gorter). First, on the political economic supply side, the influence of wheat producers on economic interests and elected officials, bureaucrats, and legislators is more

pronounced than corn due to geographic representation. More major wheat-producing states have agriculture as their top priority; and, proportionally, more members on Senate and House committees of agriculture are from major wheat-producing states than from corn-producing states. Opposition is less effective in the case of wheat than corn. Wheat consumers are more dispersed and wheat prices affect the entire population directly, while corn prices affect the relatively concentrated opposition of livestock producers. The share of the food bill is higher for corn due to its role in the production of meat; the income elasticity demand for corn is higher and the elasticity of demand is also higher for corn.

On the political economic demand side, it is far easier to form an effective coalition of economic interests for wheat producers than for corn producers. It is expected that Olson's cost determined by the number of firms, the size distribution of firms, and the geographic dispersion of firms all favor more pronounced governmental intervention in wheat than in corn. In addition, the more difficult entry and the level of uncertainty both favor more intense pressure for political action on the part of the wheat sector.

The above political economic demand and supply influences are reflected in the political preference function. The actual level of governmental intervention is also determined in part by the opportunity set for redistribution. For the latter relationship, once again, wheat is favored over the corn sector. In particular, as previously noted, the demand for wheat is more inelastic than for corn; the corn sector faces a steeper average cost function; the minimum optimal scale of farm size has increased more rapidly for wheat; changes in technology have favored corn through corn hybrid developments; and variable costs of production have increased more rapidly for corn due to more intense use of energy, land, and capital.

Turning to the more general situation of changes in the form of government intervention or, equivalently, a change in the mix of policy instruments, we face a number of serious complications. In effect, a change in the mix of policy instruments alters the rules by which the production and distribution of quasi-public goods or services are provided. Hence, movements across policy sets involve institutional change. The general approach of economists has been to treat institutions as exogenous, fixed, or, at most, varied parametrically. There is, however, a growing literature on the design and dynamics of institutional change. In modeling the dynamics of institutional change, benefit/cost, rent-seeking, theory of the state, and social contract approaches have been advanced.[9]

In the political science literature, analytical approaches have begun to focus on institutions and have brought some theoretical rigor to earlier descriptions (Shepsle and Weingast). Taking legitimacy and ideology as given, positive theories of governmental institutional change have concentrated on _agenda_ power. The components of agenda-setting (adding, deleting, ordering) and the manner in which they are institutionalized (bundling, distributing, sequencing) must be identified. The politics of institutional change may be represented as discrete choices over alternative governmental policy sets. Each policy set can be represented as an institutional game where the choice among the games is seen as a choice among equilibria.

As a first step toward a more general framework, the formulation advanced for continuous choices over policy instrument settings can be modified and extended to examine governmental institutional change. For each particular policy mix, a different possibility set for redistribution within the private sector must be specified. A disequilibrium under the current policy set

provides incentives for the allocation of resources to PEST- and PERT-related activities. These resource allocations result in an agenda composed of discrete alternative policy mixes.

In terms of the political preference function advanced for the reduced form to accommodate alternative policy sets, three levels of choice must be specified. The first level pertains to the agenda, the second level pertains to the selection of an alternative included in the agenda, and the third level specifies selection of the settings on policy instruments admitted by selected alternative. Each of these choice levels has been investigated in the literature separately but, to my knowledge, never in an integrated fashion.[10] Voting behavior of legislators must also be considered explicitly. As a mild simplification, committee voting might be allowed to determine the agenda; complete House and Senate voting could determine the selected alternative policy mix.

The appropriate methodology for estimating empirically the reduced form policy preference function is, once again, revealed preference or experimental economics. Discrete/continuous choice econometric formulations will prove to be of much value in implementing revealed preference framework (Duncan, Hanemann). Once such a function has been estimated, each discrete alternative policy mix can be combined with a different opportunity set for private sector redistribution. Each of these combinations can be used to derive an alternative to that of behavioral equations for the actual settings on the policy instruments. Here again, empirical verification can be conducted by comparing the derived behavioral equations with directly estimated discrete and continuous-choice behavioral equations. Directly estimated behavioral equations will involve econometric formulations along the lines of a "simultaneous probit tobit" model (Chappel).

5. Conclusion

The principal theme of this paper is that our research paradigm must expand if we wish to make a significant difference in actual policy analysis, selection, and implementation. A more pragmatic perspective is required which explicitly recognizes the nonseparability of political and economic markets, the non-existence of pure transfers, and the second-best world in which we live. The incorporation of each of these features in our research paradigms should allow our analyses to have a larger impact on government behavior.

The methodology outlined in section 4 is based on a conceptual formulation whose empirical counterpart leads to a rich set of testable hypotheses. Much can be learned from these testable hypotheses in our attempts to explain and forecast governmental behavior. Capturing the interactions between PESTs and PERTs will immensely improve our understanding of how PERTs become institu-tionalized and subsequently form the basis for effective interest group coali-tions and related PEST activities. The proposed framework can be employed in the context of both a given set of policies and alternative policy packages. For the latter, the analytical framework must deal squarely with the notion of institutional change. The application of this methodology will allow us to move in the direction of Ruttan's advice that we should produce institutional innovations in the same fashion that biological and physical scientists pro-duce technological innovations. In any event, empirical development of the frameworks advanced in section 4 is a necessary first step in the evaluation of the emergence and/or demise of government or quasi-government institutions.

Finally, agricultural economists have much to offer in analyzing the mar-kets for governmental intervention. Given the propensity of governments to

tinker with agriculture and food markets, the pursuit of conceptual and empirical frameworks to explain government behavior will prove to be fertile ground for the advancement of knowledge. The extension/researcher/policymaker trichotomy that exists among the membership of our profession, along with the network that has been developed at the local, state, and federal levels, will assist us in making serious advancements in the search for truth along the spectrum of the government and market failure extremes. It may will prove to be an area of inquiry where our profession can make great strides in pushing out the frontiers of knowledge.

Footnotes

[1]PESTs might be viewed as a dynamic counterpart of the static notion introduced by Bhagwati, namely, directly unproductive profit-seeking activities. This generic term refers to the analysis of phenomena such as lobbying for protection, competing for a share of industrial or import licenses, inducing legislators to enact monopolistic barriers to domestic industry, utilizing resources to evade "price" or "command" governmental regulations, and so on. These phenomena represent ways of generating income by undertaking activities which are directly unproductive, i.e., they yield pecuniary returns but do not produce goods or services that enter a utility function directly or indirectly via increased production or availability to the economy of goods that enter a utility function. Insofar as such activities use real resources, they result in a contraction of the availability set open to the economy. This set of activities is offered by Bhagwati as a generalization of Krueger's rent- or premium-seeking, Bhagwati and Srinivasan's revenue-seeking, Bhagwati and Hansen's tariff-evading, and Brock and Magee's tariff-seeking behavior. Much of this work focuses on international trade but is couched in the same type of

conceptual frameworks that have become known as the theory of economic regulation (Stigler, Peltzman).

[2]Armed with such empirical results, a distinct possibility exists for normative evaluations conditioned upon positive behavior in both the private and public sector markets. Many PEST activities are bads, while PERT activities are goods. Hence, tax subsidy schemes to influence or control such activities can be designed. In fact, as the proposed analytical framework will demonstrate, the weights associated with the welfare of various interest groups in political preference functions are directly related to PESTs and PERTs.

[3]For example, a recent theory of political behavior advanced by Becker neglects voters, bureaucrats, and politicians. Becker assumes extensive voter ignorance and pressure groups which, in effect, "purchase" favorable votes with their PEST activities. Politicians and bureaucrats simply enforce political rules; they are custodians of the political process. They do not try to outwit pressure groups but, instead, implement rules in a straightforward manner. In the case of U. S. agriculture at least, such a framework appears too simplistic.

[4]The theory of state framework has a radical economic flavor and its origins are Marxian. This framework presumes that government institutions emerge as a result of one dominant interest group with a significant monopoly power. The emphasis is on class interest, capital versus labor, with the capitalist interest using government for whatever purpose it might desire. The weakest link in these frameworks is the asymmetrical knowledge assumption; the capitalist or dominant class knows its own best interest and how to achieve that interest, while working classes are totally uninformed. There appears to be a

steadfast refusal to define rigorously the dominant class and its formation and maintenance as an effective coalition. One of the more interesting features of this framework is the qualitative inclusion of economic crises. Such crises presumed to involve discrete jumps which, in turn, lead to changes in the set of policy instruments. Hence, the notion of economic crisis is equivalent to what we have defined as a policy disequilibrium.

The two principal architects of the theory of economic regulation are Stigler and Peltzman. The focus of this theory is not on political power relationships; instead, such power relationships play a role analogous to taste in consumer choice theory. Government legislators and bureaucrats have no separate autonomy. The framework concentrates on the election process and attempts to capture the behavioral effects of changes in constraints under a regime of stable power relationships.

The rent-seeking framework originated with Tullock, but Krueger; Brock and Magee; Buchanan, Tullock, and Tollison; and the subsequent clarifications offered by Bhagwati and his associates are important contributions. In much of this work, the set of policy instruments are taken as given; and in some cases, even the setting on the policy instrument is taken as given. The focus is on the waste that results from PEST activities. In the work of Brock and Magee, however, it is possible to isolate, in a general equilibrium framework, key elements of political demand and supply of governmental intervention. In addition, from their general equilibrium model composed of two political parties, two economic interest groups (labor and capital), voters, and a two-sector trade model, a governing policy-preference function can be derived. Brock and Magee, however, do not focus on this relationship.

The origins of the "efficient" government redistribution framework appears in the work of Rausser and Freebairn and also Zusman. Here, the emphasis is on the governing political preference function for a given set of policies. Revealed preference is used empirically to infer the weights associated with performance measures representing the interest of various economic groups. In neither of these versions of the efficient government redistribution framework, however, does rent-seeking or PEST-related activities play a central role. More recently, Becker has employed this framework to model the political process assuming rational behavior by all participants. A similar formulation has been pursued by Gardner and de Gorter. In each of these frameworks, the economic system is represented by the constraint on redistribution from one economic interest group to another, i.e., a surplus transformation frontier. For each change in the set of policy instruments, a new surplus transformation function must be derived.

[5]For a survey of empirical results pursuing this approach in the context of food and agriculture, see RLL.

[6]The simplest equilibrium concept linking the various agents would be Cournot-Nash, i.e., the agents in each subsystem would take as fixed the choices of other agents. This concept has been employed by Becker. However, for large economic interest groups or lobbyists possessing market power, a more reasonable specification would involve some agents behaving as Stackelberg leaders. For example, Brock and Magee assume that both the lobbyists and the political parties act as Stackelberg leaders vis-à-vis the voters and the private economy. Rausser and Freebairn employ a similar specification within the context of a bargaining game and significant political leverage points. Zusman decomposes the interaction among the various agents

in terms of two games: a noncooperative game involving equilibrium threat strategies followed by a cooperative game. Finally, the most general equilibrium concept that is available in the literature involves the theory of noncooperative games with incomplete information recently developed by Harsanyi and Selten.

[7]The methodologies for estimating the political preference functions are described in RLL.

[8]Brookshire et al., provide a survey of this methodology.

[9]Among the best works on institutional change is the historical perspective provided by North and his associates. A review of this work over the last decade shows an evolution from a benefit/cost analysis of institutional change to the inclusion of property rights and, more recently, the recognition that ideology should be endogenized in the economic theory of institutional change. Unfortunately, the work of North provides no methodology for defining key variables and is basically tautological; institutions emerge or old institutions are transformed because the benefit of such a change exceeds its associated cost. In essence, all institutional change or progress is, by definition, desirable. Many of the formulations that have been advanced in the literature for institutional change are internally inconsistent, and it is not possible to derive analytical solutions or testable hypotheses from these frameworks.

[10]The first choice level has been examined by Shepsle and Weingast; the second level has been investigated by McFadden (1975, 1976) who uses revealed preference methodology for binary choices; and the third level has been investigated by the literature surveyed in footnote 4.

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