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**Political Preference Functions
and the Market for Public Policy Reform**

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1. Introduction

1.1. Demand for Reform

From Turkey to the Philippines and Guinea, from New Zealand to Peru, policymakers are reducing trade barriers, selling off state-owned enterprises, repealing government regulations, and otherwise opening their societies to increased opportunities for investment and economic growth. Even in Communist bloc countries, there is increasing evidence of reform of public policies. This is especially true in China, Russia, and selected eastern European countries. In the case of less-developed countries (LDC), many external influences exercised by the World Bank, International Monetary Fund (IMF), Agency for International Development (AID), and other bilateral donors have increased the demand for reform of public policies.

In the case of agriculture, the demand for reform has come from many sources. The willingness to pay for reform of agricultural policies in industrial countries is suggested by the estimates that have been made of the distortions that result from such policies. In the case of direct consumer and taxpayer costs, the Organization for Economic Cooperation and Development (OECD) has recently estimated that these costs are approaching \$280 billion annually, a figure double the level of five years ago. The general equilibrium effects of such policies show that they not only burden taxpayers and consumers but also adversely affect employment in the rest of the economy. Recent studies published by the Center for

International Economics in Australia and reported this last May at the American Enterprise Institute suggest that these costs are staggering.

According to the general equilibrium analysis that has been conducted and assuming agricultural protection in the OECD countries were eliminated, LDCs would gain \$26 billion and would experience a 2.4 percent per year reduction in external public debt (Loo and Tower). Coincidentally, industrial countries would gain \$17 billion from reduced needs of LDCs for aid. Using a similar model, Stoeckel and Breckling have estimated that, by removing protection in the four European Community (EC) countries, approximately 3 million jobs would be generated, and manufacturing exports would be increased by 5 percent. For the United States, Robinson, Kilkinny, and Adelman have estimated that the unilateral removal of agricultural protection will generate a \$10 billion gain in U. S. gross national product (GNP), a \$26 billion reduction in government deficits, and a \$36 billion increase in investment. These general equilibrium effects identify a number of other potential losers to current agricultural and food policies in the developed world.

The burden that is placed on various groups to finance the transfer of wealth and income to agricultural producers within the industrialized countries exceeds by an order of magnitude of at least two what farmers receive in the way of subsidization. Regardless of whether we believe the above estimates are reliable or accurate, there can be little doubt that the economic gains from effective reform of public policies which transfer income and wealth to agricultural producers far exceed the losses that would be experienced by these producers.

1.2. Supply of Reform

In light of the above demands, why is there so little public sector reform supply? Specifically, in light of the large potential benefits of policy reform, why is it as yet unrealized? An answer that provides many insights is provided by the notion of a *missing* market—not a conventional economic market but a political economic market. Political and economic markets *are not separable*.

The ubiquitous nature of governmental intervention in agriculture and the dominant role it plays in market dynamics argue for a serious examination of the linkages, both forward and backward, between economic markets and the formation of public policy. Political and economic markets are both forward and backward linked. The nature of this bicausal integration contradicts conventional treatments of agricultural markets and governmental policy.

Reform is not supplied, and the market does not emerge because the transactions costs are faced in the design and implementation reform is viewed as simply too large. The components of the transactions costs include limited information, inadequate institutional mechanisms for winners of the reform to be heard, inadequate compensation schemes to buy off the losers of reform, adjustment costs resulting from the change in policy, and the potential damage to the credibility of government in its design and implementation of reform policies.

1.3. Relevant Products

Much of the implicit analysis on the market for public policy reform is totally inappropriate because it incorrectly defines the relevant product. Most analyses of reform, particularly a transparency analysis, focus only

on PEST policies or political economic-seeking transfer policies. These policies are meant to redistribute wealth from one social group to another and are ostensibly unconcerned with efficiency. Other types of policies or products in the market for reform are PERTs or political economics resource transactions policies. These policies are meant to correct market failures or provide public goods to promote economic growth and are ostensibly neutral with respect to their distributional effects.

The distinction between the types of policies is briefly summarized by the popular metaphor of an economy as a pie: PERTs expand the size of the pie and PESTs allocate the portions served. This joint product approach involving both PESTs and PERTs rejects the extreme views found in the literature that focus either on government failure [rent seeking, directly unproductive profit seeking (DUPs), etc., associated with the names Buchanan and Tullock, Baghwati, etc.] or market failure (conventional welfare analysis where correct action is taken by disinterested government decision makers). We take the perspective in this paper that these extreme views only set the bounds on actual government behavior.

The above Buchanan *et al.* frameworks and all of these models which focus on government failure provide in most instances an unacceptable basis for prescription, namely, there should be no government or public sector. Equally unacceptable, standard welfare analysis provides a basis for a false prescription.

The PERT/PEST framework admits both market and government failure. This perspective is soundly supported by the empirical evidence on both market and government failures. It also provides a basis for prescription and the evaluation of policy reform. The prescription is simply

that policy which serves the public interest must minimize the adverse effects of both types of failure.

Even in a Marxian world, the emphasis on the control of surplus by a particular class also suggests that an efficiency-improving institutional change (reform of PERTs) cannot really be separated from that of redistributive institutional change (reform of PESTs) particularly when issues of collective actions, class capacity, mobilization, and struggle in the historical process are important. A shift in the focus of attention from the efficiency aspects of an institution to the distributive implications inevitably confronts us with the question of somehow grappling with the elusive concept of "power" and with political processes which much of neoclassical institutional economics fails to examine.

1.4. Coase Theorem

This theorem claims that complete competitive markets are not necessary for efficiency. Rather, if the market outcome is inefficient, then people will get together and negotiate their way to efficiency. Of course, it is a tautology that, if people negotiate efficiently, then every outcome will be efficient (else people will negotiate something better). We can always attribute inefficiencies to "bargaining imperfections" but, in many instances, it may not be useful to do so. Nevertheless, the theorem states that, if nothing obstructs efficient bargaining, then people will negotiate until they reach Pareto-efficiency.

In the case of agricultural policies, of course, many people must cooperate and, as a result, the negotiation process is far more difficult than if only a handful of people are involved. Getting many to negotiate successfully about supplying a public good is especially difficult.

The Coase theorem has often been used in *new institutional economics* to imply inferiority of government intervention to private property rights. Even when the market outcome is inefficient (as is the case with externality), people will supposedly get together and negotiate their way to efficiency under private property rights. Recently, however, Farrell has shown the implausibility of the Coase theorem even in a second-best sense. He formally demonstrates that, under incomplete information, voluntary negotiation under private property rights may be unable to perform as well as even an uninformed bumbling bureaucrat.

As Bardhan has recently noted in the context of path-dependent processes and multiple equilibria where a current institution is locked into a suboptimal local equilibrium on account, say, of self-reinforcing coordination effects, it may sometimes be easier for the State to orchestrate a mandated collective changeover to a superior equilibrium. Collective action orchestrated by the government can play a major role in the market for reform by lowering the transaction cost facing various interest groups.

1.5. Governing Criterion Function

Selected policies in a world of rational decision makers reflect an optimization game which can be modeled as a maximization of a reduced form *political preference function* or *governing criterion function*. Current policies maximize the governing criterion function, which does not necessarily represent the public interest or certainly a social welfare function.

Policies cannot be investigated or evaluated by some fictitious utilitarian criterion function. Moreover, policies cannot be based on laws written *de novo* on a "clean sheet of paper." Such a framework would

provide a guide for public policy in the Garden of Eden where only the public interest is given any weight.

An analogy can be drawn to Samuelson's net social payoff function in the context of pure economic markets. In the case of surely competitive markets, Samuelson showed that maximizing the net social payoff is equivalent to finding the price equilibrium in a particular market. Similarly, actual policy settings maximize the political preference function [(PPF) or the governing criterion function] reflecting the relative weight and influence of various interest groups (including the degree of government autonomy) in the policy formation process.

Policies are in place, in part, because they serve the interest of those with relative political power and influence. Current policies represent equilibrium outcomes (perhaps short run) in political economic markets. They are the net result of forces that come together in political economic markets.

1.6. Basic Premises

In evaluating the market for policy reform, a number of basic premises must be kept in mind. First, we live in a second best world. First best solutions are not achievable. Second, pure transfers do not exist. This means, of course, the decoupled policies will not be effectively implemented because of the nonseparability between political and economic markets.

Many reasons can be advanced for why pure transfers do not emerge in the real world. Most interesting in a world of imperfect information, governments have solved the problem posed by new welfare economics. Namely, when a policy change can be shown to increase the total size of the pie and benefits some parties more than other parties lose, governments

design coupled transfer schemes (PESTs). These coupled transfer schemes in effect implement actual compensation schemes rather than performing potential compensation evaluations as suggested by new welfare economics.

In a world of limited information, it can be shown under certain conditions that coupled transfers dominate pure transfers. As Blackorby and Donaldson comment, "If information about preferences is not publicly available to the government, the superiority of transfers of purchasing power over transfers of goods and services disappears" (p. 691). The reason for this result is that transfers based on personal characteristics will induce persons without those characteristics either to mimic the intended recipients and fool the transferring agency or to adopt those characteristics in reality.

1.7. Emergence of a Market for Reform

Transparency analysis addresses the limited information obstacles faced in supplying reforms. Transparency analysis, however, is neither necessary or sufficient for achieving policy reform. In essence, transparency analysis is the wrong solution to the wrong problem. The problem is that current policies are not only composed of PESTs but, as well, the associated PERTs. It is the mixture of the two policies that represent the problem, not just one component of those policies.

Even if the PESTs were the only problem, transparency analysis does not represent a complete solution. To achieve reform we must focus on the PPF or governing criterion function which rationalizes current policies. This forces an examination of institutional constraints and transactions costs faced by various groups entering and exiting the market for public

policy reform. A change in the transaction cost will alter the makeup of the PPF.

If diverse and unorganized groups are able to enter the political economic market through changes in institutions or transactions costs, they, too, will exert pressure. This exertion of pressure will alter the incentive for well-organized interest groups to also invest in such pressure. Both of the effects will change the weights or trade-offs that appear in the PPF across various interest groups.

In the final analysis, to achieve meaningful policy reform, the starting point must be the existing policy system, including the governing criterion function that rationalized whatever PESTs and PERTs policies are in place. Operationally, policy reform is piecemeal and dynamic in contrast to the once-and-for-always character of Utopian policy design. Simply put, the mechanics of reform must be conditioned by existing policies.

1.8. Transactions Costs and the Government's Role

If governments have sufficient autonomy or are exposed to external binding constraints, it is more likely to facilitate reform by bringing potential losers and winners together in one forum or another. By providing better information and designing effective adjustment schemes, the government can lower the transactions costs so that a market for reform is created.

The more creditable is government, the lower will be the cost of supplying the reform and the less waste will be generated by strategic behavior of various interest groups. A government with sufficient credibility can also design compensation schemes and institutions which can counter the opposition to proposed reform.

2. Multiple Products in the Market for Policy Reform

2.1. *PERT and PEST Policies*

The framework admitting both market and government failure distinguishes between PERT and PEST policies. PERT policies are those forms of intervention which correct market failure by reducing transactions costs faced by the private economic system. Examples of such policies include all types of public goods, basic research expenditures, generation of information, taxes or subsidies on externalities, adjustment policies to counter macroeconomic shocks which generate overshooting externalities, etc.

In contrast, PEST policies reflect political economic-seeking transfers which lead to government failure. In the formation of these policies, interest groups compete by spending time, energy, and money on the production of pressure to influence both the design and tactical implementation of policies.

Governments employ a portfolio or mixture of PERT and PEST policies. There is a wide scope of possibilities to interchange the use of PESTs and PERTs so as to acquire and maintain political power. The PERT/PEST integrated framework emphasizes transactions costs and provides the foundation for meaningful prescription. Government autonomy and credibility is enhanced whenever the public sector has actually adopted, or behaves as if it has adopted, such a framework. The framework has three major dimensions: the level of PEST intervention, the level of PERT intervention, and the choice of the policy instrument mix. The choice of the mix, of course, is a discrete selection problem.

2.2. Stylized Facts

Consider a public good that potentially can make both producers and consumers better off if there is some equal sharing of benefits. The market-exchange effects of this PERT equilibrium, however, are such as to make producers worse off than without its dissemination. Specifically, total wealth increases (the pie expands) but, due to an inelastic demand, the distribution of benefits changes to the detriment of producers.

Producers acting as a coalition may obstruct the implementation of the public good or PERT unless they are compensated in some form. One form of compensation is to introduce a PEST which transfers some wealth resulting from the new PERT equilibrium to producers. This transfer of wealth, the PEST, may actually be a means of securing the welfare-increasing policy even though it may *appear* as an inefficient rent-seeking based policy. As a result, the wealth transfer may be a crucial and Pareto-improving component of general policy.

Under these circumstances, one major implication is that the social costs of PESTs should not be judged in isolation. The benefit of what may nominally be a PEST may lie in the PERTs which it allows to exist. Correspondingly, the benefits of a PERT may be less than those observed directly. To assure the PERTs political viability, some social costs may be incurred in the implementation of inefficient transfer schemes.

There are a variety of transfer schemes, but they may be broadly categorized into two types—those which are not neutral with respect to production ("coupled" policies) and those which are neutral ("decoupled" policies). The existence of one or the other type may be explained by the

same underlying model of potential producer unwillingness to accede to supply-expanding public goods.

2.3. Case Study

To develop the above stylized facts in the context of a specific example, we focus on technological changes. Technological progress is, perhaps, the most apparent and historically relevant source of consumer welfare gains resulting from product expansion. Technological advances stem from the dissemination of research and development which is sponsored by the government as a public good. This research and development would not be generated from the private sector without government's involvement. This failure of the market place arises either because the benefits that are generated cannot be captured by private interests or because the minimal size and scope of the R&D effort is beyond the ability of private interests to undertake.

For the case of inelastic demand, wealth transfers need not be equally shared by producers. Some producers, innovators, are harmed less than the average because they can take greater advantage of the supply-enhancing technological advance. Wealth transfers weighted in favor of innovators may serve to break farmer coalitions obstructing the introduction of PERT policies with less expense to consumers and taxpayers. Those who expand production to a greater degree simply need less transfer payments to be made indifferent to the public dissemination of the advance.

Coupled policies target their transfers according to production levels. Hence, a wealth transfer through a per bushel payment, which just makes innovators as well off as without the technological advance, will transfer

less (per initial level of production) to those who will take less advantage of the introduced PERT. The popularity of coupled payments may be explained by this property of targeting transfers from consumers to innovators, to those less harmed by the dissemination of the advance, and thus to those who can most easily be induced to defect from a coalition that might obstruct the change represented by the introduction of a PERT policy. The limitation, of course, of coupled payments is that they may draw out more production at a greater cost than the marginal value of any extra consumption. One of the costs, therefore, of effectively targeting innovators is the associated excess production. As a result, the potential superiority to consumers/taxpayers of a coupled, distortionary policy must be judged both by its cost efficiency at making innovators indifferent to the PERT's equilibrium effects and by its tendency to encourage socially inefficient levels of production.

The key element in this setting is that consumers/taxpayers or the government does not know *a priori* who each innovator is, even though they may know the aggregate degree of supply expansion due to the dissemination of the technological advance. Because they do not know who might be harmed less by the future change and, thus, to whom the target payments should be made in order to break obstructing coalitions, the government must use some *a priori* rule to operate the PERT. The rule is either a decoupled lump sum per farmer payment (or per some other fixed unit), given to all producers, that just breaks the coalition or a coupled per bushel payment (or per some other farmer controlled variable), given to all bushels of production, that again just breaks the coalition.

In an earlier paper, "A Political-Economic Justification for Coupled Farm Policies," Foster and Rausser have shown that very reasonable conditions exist under which a per bushel scheme is superior to any pure transfer scheme that might be devised for consumers/taxpayers. This result follows from two major features of their theoretical model: (1) consumers/taxpayers only have to make a subset of producers indifferent to a technological change in order to break any obstructing coalition, and (2) *a priori* innovators are indistinguishable from noninnovators to the government or consumers/taxpayers.

^{Noting that}
~~More generally,~~ the cost of introducing a PEST includes administrative costs and deadweight losses. In the Foster and Rausser paper, the following proposition is proved.

Assume that consumers/taxpayers bear positive administrative costs of both disseminating a producer-harming technological advance and implementing a compensating wealth transfer scheme. If the producer lobbying costs are (1) greater than producer losses at the level of advance where consumers are just indifferent to disseminating the technology but (2) less than producer losses at the level of advance where consumers are indifferent to implementing the transfer scheme, then there exist four regions of program combinations as the level of technological advance moves from small to large.¹

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4
3
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- Region 1.** No dissemination of the advance (no PERT).
- Region 2.** Dissemination without wealth transfers (PERT alone).
- Region 3.** No dissemination (no PERT).
- Region 4.** The combination of both the dissemination and the compensating wealth transfers (both PERT and PEST).

This proposition is demonstrated in Figure 1. Some definitions are in order.

- Π_0 The farmer "lobbying cost" which is represented as proportional to initial profits Π_0 .
- Π_1 Producer profits after the technological advance.
- CS Consumer gains measured by the Marshallian surplus between equilibrium prices after and before the technological advance.
- B The measure of losses in farmer profits after the technological change less the cost of lobbying against the change.
- k The cost of disseminating the technological advance.
- t The implementation costs of the transfer policy scheme (PEST).

Consider the case of higher lobbying costs, $\hat{\Pi}_0$, that just makes the farmer indifferent to obstructing a technological change of level θ_2 . This lobbying cost is chosen such that θ_2 lies above the level θ_3 where consumers are just indifferent to implementing both the PERT and PEST.

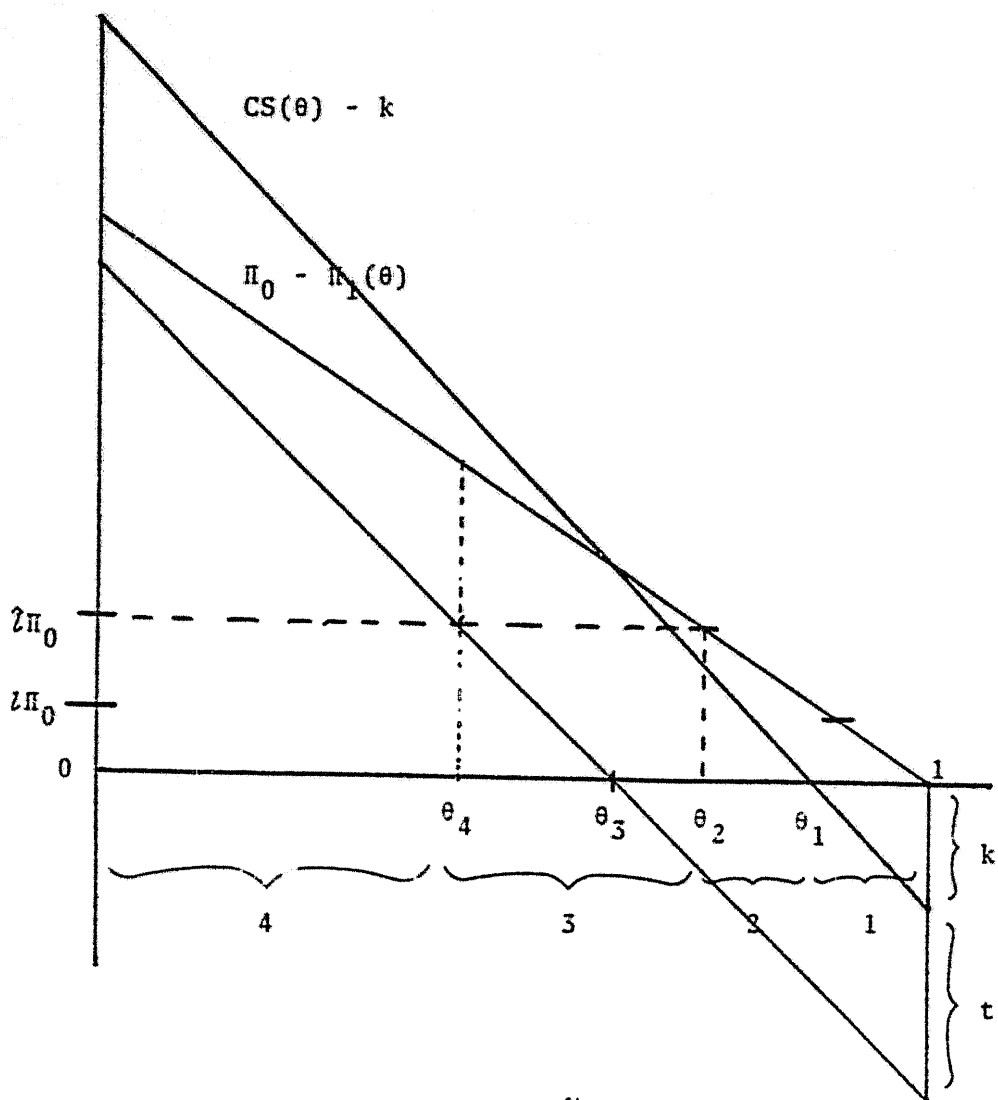


Figure 1

The mix of PERTs and PESTs under various levels of technological change

Consumers/taxpayers, however, will be unable to successfully transfer any benefits to farmers at level of $\theta > \theta_4$. Only for values of θ such that $CS(\theta) - k - t < B(\theta)$ will transfer schemes be successful.

Let's turn to the four regions depicted in Figure 1; values of θ above θ_1 will produce no dissemination (Region 1); for values between θ_2 and θ_1 , a pure PERT will exist (Region 2); for values between θ_2 and θ_4 , farmers will obstruct the PERT and consumers will be unable to successfully implement a PEST (Region 3); and for values less than θ_4 , it will be optimal to implement both a PERT and a PEST.

The above schematic representation demonstrates that there exist fairly simple conditions, e.g., producer blocking coalitions, under which consumers/taxpayers may wish to engage in costly welfare transfer policies in order to enjoy the benefits of some supply/expanding policy. The necessity of such a transfer scheme depends both on the harm suffered by farmers due to the equilibrium effects of the technological change and on the cost of obstructing the advance of dissemination.

As demand grows less inelastic, then the equilibrium effects become less harmful to farmers and the value of the technological change for which transfers are a necessary accompaniment grows greater ($\theta_4 \rightarrow 0$). Similarly, as the cost of farm lobbying grows greater, the larger the range of supply/expansion over which consumers may benefit from the technological advance without needing to share those benefits with farmers.

3. Public Choice and the Political Preference Function

In this section we present a model of political choice where both wealth-transfer policies, PESTs, and public-good policies, PERTs, are selected by a government to maximize its political support. This section presents a concrete model and draws out some of the implications of recognizing that governments choose a mixture of PESTs and PERTs.

The implicit weights placed on consumer and producer surpluses in government decisions are shown to result from the degree to which those surpluses affect political support. The weights on a sum of consumer and producer surpluses (the *implied* political preference function—PPF) reflect the degree of relative wealth transfers from one group to another, equal weights implying no transfers. We demonstrate that these weights shift with a change in the cost of interest group organizing due to, say, an institutional change. More precisely, the relative weight on each group in the PPF is determined by an index of relative costs of political organization.

A decrease in a group's organizing costs relative to the other group's costs increases its responsiveness to changes in its collective welfare (i.e., the cost decrease leads to an increase in its marginal political power). Such a cost decrease would shift wealth transfers in its favor and, in this way, the weight changes on that group in the PPF.² Policy reform, therefore, entails the alteration of the PPF through changes in the underlying costs to each group determining political support. Such changes in costs may ultimately be related to institutional reform or more simply to the subsidization of political activity.

The framework also demonstrates that judging the relative weights placed on consumers and producers based on PEST policies alone may be

misleading. These weights are local in the sense that they reflect constrained government trade-offs of group welfare for a given set of PERT policies. The implicit weights based on wealth transfers alone may favor one group, but the implicit weights based on the mixture of both PESTs and PERTs may indicate just the opposite. The primary implication of the model is that the introduction of an expansion of total social welfare biased toward one group (e.g., a consumer-biased PERT) leads to a change in the degree of wealth transfer in the favor of the *other* group. That is, a biased PERT such as a technical advance with inelastic demand yields an increase in the local PPF weight on the group not favored by the PERT. Moreover, although the local weight on a group may increase with the introduction of a pie-expanding PERT, the group's actual welfare may decline. The degree of wealth transfer relative to a noninterventionist state will increase, but absolute welfare of the PEST beneficiary will decline if the new noninterventionist allocation of surpluses is sufficiently to the disadvantage of that group.

3.1. Government Behavior

Consider a government in which politicians institute policies and programs in order to maximize the popular support from two groups, consumers and producers. The government realizes that its actions affect the two groups' economic welfare and that their welfare is directly related to their political support. A group's welfare is measured by its economic surplus, C or F , representing consumer and producer surplus measures, respectively. Given government actions, the levels of these surpluses are determined by the group's individual members acting in a decentralized way, consuming and producing in response to both market incentives and

government policies. The government's policies have differential effects on the two groups, some combinations of programs benefiting both and some benefiting one while harming the other. The government, therefore, must make a decision on the configuration of policy that optimally trades off consumer and producer support through manipulation of their welfare.

The government's choice problem is simply reflected through the effects of its actions on a government support function, $S = S[S_c, S_p]$. It is also hypothesized that there exists informed organizations representing each group's interests and that their political activities on behalf of their collectives' welfare affect the responsiveness of the group's supports to changes in the welfare measures. These organizations set the political environment, as it were, in which the government allocates society's total welfare between consumers and producers.

Following the discussion in the previous section, there are two types of policies available to the government in maximizing its support function through manipulation of consumer and producer welfare. Pie-expanding PERT policies increase the total available economic surplus, and distributional PEST policies effect transfers of surplus between groups with varying degrees of deadweight losses or waste. The choice of both types of policies is constrained by the current state of technology, the state of managerial ability of politicians, and the state of theoretical and conceptual foundations on which to build policy. We assume that this realistic constraint on the set of feasible government actions leads to a limit to the total available economic surplus possible and to a cost to transfers between groups.

PERT policies are not neutral with respect to the benefits accruing to each group. Indeed, as we discuss above, PERTs may be sometimes consumer harming and sometimes producer harming. We reflect the choice of a PERT by the choice of an index, E , such that as this index increases the total surplus available increases. For any given PERT (i.e., for any given level of E), the choice of the general design of the PERT will be made to attain any particular level of surplus transfer between groups with the least cost.³ The government recognizes that, through its design of the particulars of the PERT (e.g., the level of a price floor in combination with a level of import restrictions), it is setting both consumer and producer surplus levels.

There is in effect a surplus possibility frontier, or transformation curve, for every PERT policy that describes the highest possible level of one group's economic welfare for a given level of the other group's welfare, $C = C(F|E)$. This surplus transformation curve incorporates both the market structure of consumer and producer behavior as well as the available technology of welfare transfer.⁴ Two conditions on this surplus transformation frontier are assumed to hold: that everywhere the welfare of one group decreases at an increasing rate with an increase in the welfare of the other (i.e., $\partial C/\partial F < 0$ and $\partial^2 C/\partial F^2 < 0$).

Although the government's PERT and PEST decision is a simultaneous one, the problem may be viewed in two stages. First, for a PERT (a level of E), the government chooses a constrained support-optimizing level of consumer and producer surpluses such that those levels lie on the surplus transformation curve. Its allocation of surpluses is dependent on the degree of rewards (support increases) and penalties

(support decreases) offered by each group, and each group offers both greater rewards and penalties as it becomes more sensitive (or responsive) to changes in its collective welfare. At this stage, therefore, political organizations contend to enhance their clients' welfare by expending effort to make their respective groups more responsive, and their opposing groups less responsive, to government action. This first stage corresponds to more narrowly focused models of near-term rent seeking where interest groups struggle over known resources in a known political economic environment.

The second stage corresponds to longer term public decisions, to questions of infrastructure development, and generally to policies not subject to the same organization strategizing as in the first stage. In this second stage, the government must make a discrete choice of a PERT policy, of altering the surplus possibility frontier by moving from, say, E_0 to E_1 . This choice of PERT is not done in isolation: The choice of the best available PERT must also recognize the rent-seeking activities that occur which ever PERT is chosen. The government's decision to institute a PERT is, therefore, conditioned on the PEST (that is, there exists an optimal rent-seeking surplus trade-off for every E) as well as the PEST conditioned on the PERT.⁵

The government's policy choice problem can be graphically illustrated as in Figure 2. The surplus transformation frontier for two levels of E are labeled E_0 and E_1 , representing the movement from a lower level of total available surplus to a higher level due to the institution of a PERT. Without a PEST (without any transfers) the resulting equilibrium levels of consumer and producer surpluses occur at the point (C_M, F_M) where the

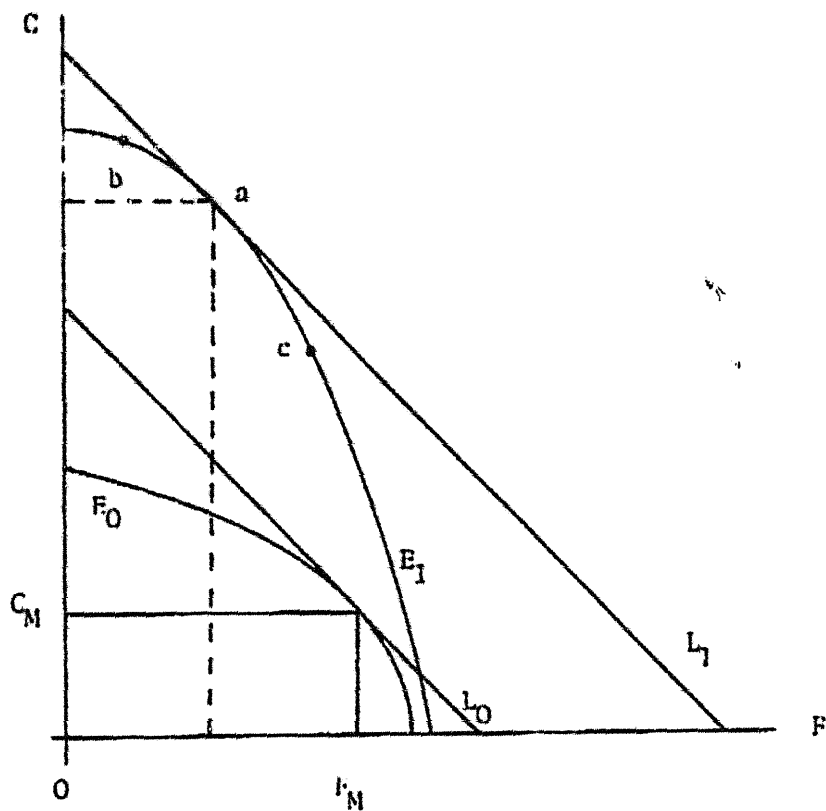


Figure 2
 Surplus Possibility Frontiers
 Under Alternative PERTs

surplus transformation curve has a negative slope of unity, that is, where $dC/dF = -1$. A pure transfer scheme, one which could transfer dollar for dollar from one group to another, would be represented by the lines L_0 and L_1 passing through the free-market equilibrium combinations on E_0 and E_1 . Note that, as we have drawn the transformation frontiers, the implementation of the PERT causes the free-market combination of surpluses to move to the point a in Figure 2, where there is a decrease in the free-market level of producer surplus. For example, such a producer-harming PERT would be the government's dissemination of a new supply-expanding technology that decentralized producers would adopt individually but which, in the presence of an inelastic demand, causes harm to the collective group.

The feasible means of surplus transfer dictates the concavity of the surplus transformation curve. The discovery of a more efficient method of transfer would lead to a shifting out of the transformation curve at every point except at the free-market, zero-transfer combination of group surpluses.⁶ Taking as given the sensitivity of group support to welfare changes, the government wishes to choose the optimal combination of consumer and producer surpluses that falls along the available transformation curve. It will do so in the familiar marginalist way: The last dollar transferred will just balance the additional decrease in losers' support, with the additional gain in beneficiaries' support generated by that dollar, less the waste of the transfer,

$$\frac{\partial S_c}{\partial C} \cdot \frac{\partial C}{\partial F} + \frac{\partial S_f}{\partial F} = 0. \quad (1)$$

Such a government choice would generally place the resulting combination of consumer and producer surpluses on one side or the other of the free-market point on the curve.

The relative weights on the two groups in the PPF will be a reflection of the government's allocation of surpluses which will, in turn, be the result of the political support offered by those groups. The PPF is a weighted average (here, arithmetic) of the group's surplus measures,

$$PPF = w \cdot C + (1 - w) \cdot F,$$

implying that in equilibrium the weights on the two groups that would be consistent with the maximization of the PPF are such that

$$-\frac{\partial C}{\partial F} = \frac{(1 - w)}{w}. \quad (2)$$

The surplus transformation frontier is a function of the particular PERT and the political support given by the two groups which is, in turn, a function of the costs of organizing activities, e_c and e_f , which we discuss below. Therefore, we may generally write $w = w(E, e_c, e_f)$. Note that this weight is a local representation, dependent of the level of E .

Once the PEST policy has been decided, given each PERT choice, the government then chooses the optimal PERT in seeking to maximize support. There is no straightforward rule of thumb for comparing between PERTs their constrained political equilibrium surplus combinations. It may be so that the government's optimal PERT/PEST mix leads to an increase in income transfers. For example, suppose that the best PEST policy has been decided for the case of E_0 in Figure 2 and the constrained optimal level of transfers to either group is zero or minimal—that is, the

political economic equilibrium is (C_M, F_M) . If the government chooses the level E_1 , the resulting combination of group surpluses may be at point c where one group may be harmed although that group may now receive significant transfers through the PEST. Indeed, more generally, it is possible that the deadweight loss per dollar transferred increases when moving from E_0 to E_1 . Therefore, the narrow focus on only the PEST and transfers to judge the relative power of interest groups may be misleading.

3.2. Strategic Behavior of Consumer and Producer Organizations

We assume that the support given to the government by each group is a function of its welfare as measured by its economic surplus and the effort expended by political organizations serving their clients' collective interests. These political organizations are considered endowed with the ability and information necessary to evaluate their clients' best interests in terms of seeking to maximize economic surplus.⁷ Thus, these organizations attempt to make their clients' support functions as sensitive as economically justifiable to changes in surplus and to make the opposing group's support function as insensitive. Because of the limited information to decentralized decision makers, changes in welfare may not be connected in their minds with political decisions that otherwise might be influenced by threats or encouragement. Indeed, the problem facing the decentralized decision maker may be the inability to distinguish welfare changes caused by his government and changes caused by persons or events unconcerned with his or her political constituency. It is the purpose of the political organizations serving the decision maker to provide such information and to provide confusion or misinformation to the decision makers not so served.

In particular, consider the case of a producer organization expending effort, e_f , to increase the additional political support producers offer for an increase in the group's welfare. That is, the effort is meant to make producer support more responsive to an increase in F and, thus, to encourage the government to increase F at the expense of C for a given P ERT. Similarly, the effort also mitigates any decrease in consumer support due to the change in surplus allocation. In marginalist terms, the producer's organization attempts to increase the marginal rate of producer support with respect to F , $\partial S_f / \partial F$, and reduce the marginal rate of consumer support with respect to C , $\partial S_c / \partial C$.

The consumer's organization expends a similar effort to increase the marginal rate of consumer support and reduce the rate of producer support. We take these marginal supports as functions of the group's collective welfare and the relative efforts expended by the organizations. That is, writing ρ as the ratio of consumer political effort to producer effort, $\rho = e_c / e_f$, represent the marginal rates of supports as

$$\partial S_c / \partial C = M_c(C, \rho) \quad \text{and} \quad \partial S_f / \partial F = M_f(F, \rho) \quad (3)$$

where $\partial M_c / \partial \rho > 0$ and $\partial M_f / \partial \rho < 0$.

Although the use of a ratio of organizational efforts can be generalized by separately including e_c and e_f in the above functions, this complication yields little intuitive value for our present purposes. Nevertheless, the reader may wish to note that the ratio ρ carries some implicit assumptions. First, a proportionate increase in activity by one organization in response to an increase by the other would leave unchanged the group's sensitivity to

welfare changes. Second, implicit here is that the organizations conduct equally effective political activities. For instance, an advertising campaign conducted by the consumer's organization would be just as effective as if the same campaign were conducted by the producer organization. In this sense the organizations can hide their identities or true purpose. Also implicit is that organizations' activities are not aimed at specific groups. That is, the effort of an organization is not tailored to influencing only the marginal support of a single group.

Although the efforts of each organization are equally effective, their marginal costs of effort are not. The unit costs of effort to the consumer's organization is represented by k_c and to the producer's organization by k_p . Differential costs of political activity may arise from several sources, the most important of which is the transactions costs of developing and maintaining politically cohesive groups. For smaller, more homogeneous groups, such as farmers in the developed world, the costs of organizing, identifying, informing, and coordinating group membership is relatively low. For larger, diverse groups, such as consumers in the developed world, costs of similar organizational activities are relatively large.

3.3. The Level of Wealth Transfer for a Given PERT and the Determination of the PPF Weights

In order for these political organizations to have a role in this model, they must anticipate the effects of their activities on the welfare of their client groups. That is, the organizations understand how their efforts alter government incentives to allocate welfare across groups. In this sense, each organization behaves as a Stackelberg leader with respect to the government's choice of optimal wealth transfer. Intuitively, the

organizations are setting the political terrain over which the government seeks to gather the greatest support. With respect to wealth transfers, the two organizations are gaming over the structure of support trade-offs—the iso-support curves of the government-choice problem—leaving the government to find the optimal "consumption" of consumer and producer surpluses along the surplus possibilities frontier, $C = C(F)$.

Each organization wishes to maximize its client group's economic surplus net of the cost of the effort expended. With knowledge of how changes in marginal rates of support affect government support and taking the activity of the opposing organization as given, each organization will expend effort until the marginal gain in its group's surplus is just equal to the unit cost of effort. From the government's decision rule given by expression (1), the definition of the marginal rates of support given by expression (3), and the surplus transformation frontier $C = C(F)$, we can find each organization's reaction function in terms of the PERT, E , and the political effort of the other organization,

$$\frac{\partial F}{\partial e_f} = \frac{1}{\Delta} \frac{p}{e_f} \left(\frac{\partial M_c}{\partial p} \frac{\partial C}{\partial F} + \frac{\partial M_f}{\partial p} \right) = k_f. \quad (4)$$

$$\frac{\partial C}{\partial F} \frac{\partial F}{\partial e_c} = \frac{\partial C}{\partial F} \frac{-1}{\Delta} \frac{1}{e_f} \left(\frac{\partial M_c}{\partial p} \frac{\partial C}{\partial F} + \frac{\partial M_f}{\partial p} \right) = k_c. \quad (5)$$

In equilibrium, the optimal level of effort of each organization must be consistent with the effort of its opponent and the government's actions consistent with that political activity.

From above expressions and the discussion of the implied political preference function, expression (2), we draw our first result regarding the local PPF weights,

$$(1 - w)/w = -\partial C/\partial F = \rho \cdot k_c/k_f. \quad (6)$$

That is, the relative weight placed on producers in equilibrium is proportional to the ratio of marginal costs of political activity. For given relative efforts in equilibrium (i.e., a fixed equilibrium, ρ), a greater marginal cost of effort by the consumer's organization, *ceteris paribus*, leads to a reduction in the PPF weight on consumer welfare.

The relative level of efforts expended by the two groups, however, will change with changes in the relative marginal costs of organizational activity. We may determine the equilibrium effects of an increase in relative costs by noting that expressions (1) and (6) must hold in equilibrium for every PERT and every ratio of costs, determining both the equilibrium levels of producer surplus [taking $C = C(F|E)$] and the ratio of political organizing efforts. Define the parameter $\theta = k_c/k_f$. From expression (1),

$$dF/d\rho = - (1/\Delta) \cdot (\partial M_f/\partial \rho + \partial M_c/\partial \rho \cdot \partial C/\partial F) < 0 \quad (7)$$

where $\Delta = \partial^2 S/\partial F^2 < 0$.

From expression (6),

$$d\rho/\theta = - \rho/(C_{ff} \cdot dF/d\rho + \theta) < 0 \quad (8)$$

where $C_{ff} = \partial^2 C/\partial F^2 < 0$.

Hence, we may state the following intuitively appealing result:

Defining the (local) weights on group welfare in the PPF as those consistent with government wealth transfer policy for a given PERT, an increase in an organization's marginal cost of political activity, relative to the opposing organization's cost, will decrease the weight on its client group's welfare.

In particular, a decrease in the relative cost of political activity of the consumer's organization will increase the relative effort that organization expends relative to the producer's organization and this, in turn, will lead to an increase in the consumer group's welfare (and a decrease in F). As C increases and F increases, the degree of wealth transfer moves in favor of consumers and, thus, the weight on the consumers in the PPF increases.

3.4. The Introduction of a Pie-Expanding PERT

Consider the government's decision to introduce a PERT policy which expands the surplus transformation frontier at every point. That is, the government may move from the selection of E_0 to E_1 , implying that, for every F , $C(F|E_1) > C(F|E_0)$. Furthermore, consider the case of a consumer-biased change in PERT policies. We define such a biased shift such that the difference $C(F|E_1) - C(F|E_0)$ grows as F decreases. In terms of incremental expansions of the surplus transformation curve, a consumer-biased shift implies $\partial^2 C / \partial F \partial E < 0$.

Intuitively, a consumer-biased shift would result in a free-market equilibrium where consumers are better off but producers are worse off. Furthermore, in terms of wealth-transfer policies, a given increase in producer welfare through a PERT will come at a greater decrease in

consumer welfare under E_1 than under E_0 ; thus, the marginal loss in consumer support for the marginal transfer from any level of C would be greater. In effect, the producer's organization would find it more difficult to induce the government to transfer additional income from consumers from given levels of surplus allocation and political activity.

Suppose that, in this second stage of public policy-making, the government accepts the PERT; that is, let $S[S_c(C_1, \rho_1), S_f(F_1, \rho_1)] > S[S_c(C_0, \rho_0), S_f(F_0, \rho_0)]$. We are interested in the resulting degree of wealth transfers that take place under these new political economic conditions. In terms of the PPF, how do the constrained weights on group surplus change with the move to E_1 ? The answer is that the local weight on producer surplus increases although producer surplus may decrease with the move from E_0 to E_1 .

We now prove this result. Note that the PPF weights are indicated by the value of ρ —the relative organizational efforts—in equilibrium as indicated in expression (6). The weight on producers increases if $\rho_1 > \rho_0$; that is, if the equilibrium allocation of surpluses is such that the slope of the surplus transformation curve is greater under the new PERT, $-\partial C(F|E_1)/\partial F > -\partial C(F|E_0)/\partial F$. For example, in Figure 2 an initial equilibrium of (C_M, F_M) would imply $\rho_0 = 1$. The weight on producers would increase ($\rho_1 > 1$) with a new equilibrium at point c . To show this, suppose the opposite case, that $\rho_1 \leq \rho_0$, which implies that, since the move from E_0 to E_1 is consumer biased, producer surplus must fall and consumer surplus must rise, $F_1 < F_0$, $C_1 > C_0$. In other words, if $\rho_1 \leq \rho_0$, then the new equilibrium under E_1 would be represented by a point such

as b in Figure 2. Concavity of the marginal support functions assure that, if $p_1 < p_0$,

$$M_c(C_1, p_1) < M_c(C_0, p_0) \text{ and } M_f(F_1, p_1) > M_f(F_0, p_0); \quad (9)$$

thus, $M_{f1}/M_{c1} > M_{f0}/M_{c0}$.

From the government's optimal allocation of surpluses under each PERT, however, $p\theta = M_f/M_c$, and we have a contradiction. Hence, we may state the following result:

Government choice of a consumer-biased PERT leads to an increase in the (local) weight on producers in the PPF.

Intuitively, the conditions expressed by (9) imply that consumer sensitivity to surplus changes falls the greater that group's welfare and the lower the relative level of pro-consumer political activity. Similarly, producer sensitivity rises the lower that group's welfare and the higher the relative level of pro-producer activity. In equilibrium, one would not observe both a decline in producer welfare, an increase in pro-producer effort, and at the same time a decrease in that group's sensitivity to changes in its welfare. The result simply says that, in general, government's will place less weight on any interest group that grows more satisfied and expends less lobbying effort.

This is not to say that both consumer and producer welfare grow but that the degree of wealth transfer (from the noninterventionist point) grows in the producer's favor. In fact, the equilibrium surplus to producers may

fall with an introduction in the PERT at the same time the constrained weights on producers may increase in the PPF.⁸

4. The Market for Reform

The PPF is a reduced-form expression of the more complicated (and richer) structure of a political system. Therefore, when speaking about reform (and almost always one is referring to ending wealth transfers), one is implicitly, if not explicitly, speaking about changing the weights on groups in the PPF. Grudging reforms, forced on a political system by an outside government or international body, will fail if these underlying weights remain unchanged. Such reforms will be temporary reactions to external demands and, once those demands abate, the political system will likely return to its previous policy equilibrium. Only if outside pressures force the restructuring of the weights of institutions would such reforms be permanent.

Indeed, unless the weights in the PPF change, unsustainable alterations in agricultural policies should not be termed reforms at all. To move from a current mixture of policies to sustainable reforms entails the movement from one policy equilibrium to another. The emphasis of this perspective is on a government's problem of selecting the mixture of public goods and transfers that maximizes its political support. Simply put, reforming food and farm policies implies changing the forces conditioning government behavior.

The movement from one equilibrium to another, with a new discrete selection of a PERT and PEST mixture, is equivalent to eliminating a missing market. As with the Coase theorem, if all parties negotiate

efficiently, then the existence of incomplete political economic markets is not an obstacle to efficient policy reforms. However, due to transactions costs and incomplete information, the Coase theorem does not provide an attractive solution. In this instance we are left with no alternative but to turn to collective action or government behavior to effectively lower the transactions costs and provide more adequate information so that a market for reform naturally emerges. For this argument to make sense, we must appeal to the economies of size, the willingness of governments to impose effective penalties and rewards, and new negotiation techniques.

The demand for reform is an increasing function of the degree of social waste generated by wealth-transfer programs but the supply of reform is not. Much like the demand for goods imagined, but yet beyond the present state of technology to produce profitably, the demand for reform will remain unfulfilled without a change in a country's political technology. The reform of agricultural policies must come through changes in the means of compensating groups who would otherwise be losers or through institutional changes in the relative costs of political activity by groups paying the compensation (typically consumers). If we do not see a supply of reform, then we must not despair for the economic rationality of governments. We must, instead, be Edisons and invent the intellectual and political machinery that will allow reform to be profitably supplied.

From the perspective developed here, reforms that lessen the distortionary and inefficient aspects of agricultural policy may be induced from two important sources—the development of less wasteful means of compensation and the lowering of costs associated with making those paying the compensation more sensitive to government decisions.

Developing better compensation schemes may be thought of as finding improved means to negotiate the allocation of society's welfare. There appear to be valuable transactions that can take place between consumers and producers, involving the savings of many wasted resources, and yet these transactions remain unnegotiated. This is, in part, because there are no satisfactory means of satisfying both groups due to the inadequate stock of ideas. Rather than altering the political power relationships between groups, reform may be accomplished by demonstrating the feasibility of alternative, more efficient programs of wealth transfer.

In the framework of the model in section 3, the introduction of a less wasteful transfer scheme would be an expansion of the surplus possibility frontier at every combination of consumer and producer surplus levels involving a welfare exchange. Such an alteration in the surplus transformation curve would imply that the PEST more closely approximates a lump-sum transfer. In an world of perfect knowledge, where every imaginable type of policy is possible, nondistorting lump-sum transfers would be the government's optimal means of allocating society's welfare. In the real world, however, a lump-sum transfer most often is not a practical means but rather a standard by which we can measure how advanced is the state of the art of wealth transfers.

A second means of obtaining sustained reforms is a change in the relative costs of organizing those who would benefit by those reforms. By increasing the responsiveness of a group—in particular, consumers and taxpayers in the developed world—to changes in its welfare, the government would take advantage of present transfer mechanisms but move the allocation of surpluses to less wasteful combinations. Reducing

the costs of organizing the beneficiaries of reform may be done in several ways—from direct subsidization to the reform of the institutions in which political activity takes place.

The direct subsidization of efforts to increase the sensitivity of consumer/taxpayer groups in the developed world may, at first glance, seem to hold little promise. Nevertheless, some countries do have institutional arrangements to keep watch over consumer interests, and the experience of Australia, for example, could serve as a model for other nations. One should note, however, that the expense of decreasing the cost of pro-consumer activity and increasing the cost of pro-producer activity must be borne—at least in part if not in full—by those potential winners *outside* a political system targeted for reform.

The point is to move to a new political equilibrium, and this implies changing the structure on which outcomes hang; after all, for the case of constant political technology, if changing the relative costs of political activity were a simple matter of decisions made within the political system, then presumably it would already have been done. External groups—even entire nations—who would gain coincidentally with the strengthened political power of internal groups, must therefore carry part of the responsibility of beginning the reform process, and they must be prepared to share in the direct expense of increasing pro-reform activities.

There are, in addition, less direct ways of lowering the cost of organizing pro-consumer activities such as the provision of information regarding the welfare effects of government policies. This indirect means may be broadly termed "transparency analysis" and has developed a great many proponents in the last several years. Although greater information

to potential beneficiaries of reform may be necessary to motivate opposition to the present state of wealth-transfer schemes, there are significant reasons to believe that transparency analysis will not be sufficient. First, to place all the emphasis on making transparent the effects of a government's agricultural policies implies a severe lack of intelligence on the part of those who bear the cost of wealth-transfers. Yet, food and farm policies have been in place for decades, consumers especially have enjoyed ever-cheapening food prices, and the developed world goes on in apparent good order despite the years of social waste. Second, transparency analysis is subject to the same politicization and manipulation as other information and misinformation supplied to interest groups.

5. Conclusions

This paper presents a new perspective, rich in insights, on policy reform. The formal framework focuses on the political economy of policy reform. A straightforward model of policy-making is developed, where governments seek to maximize support from different social groups through the judicious combination of both PERT and PEST policies. Particular attention is paid to the degree of wealth transfers (the PEST) as total social welfare increases (the PERT). The model demonstrates that, in the case of competing interest of two groups, the weight given to one group in the allocation of economic surpluses will increase as total welfare increases with a bias toward the other group. The essential result is simply that the policies accomplishing the wealth transfers cannot be isolated from policies providing public goods. Practically speaking what may appear to be socially wasteful and incoherent agricultural programs may actually be

rationally designed schemes of compensation for larger, longer term policies which expand society's economic pie.

It is the responsibility of good governments to select an optimal portfolio of PERTs and PESTs, to balance economic possibilities with political demands. How governments weigh the welfare of different constituencies depends on many elements, as discussed in the paper, but it is important to note that the weights that might be inferred from observation of "inefficient" welfare transfers are often globally incorrect. Yet, those local, or constrained, weights do reflect an underlying political-economic structure—the surplus possibility frontier, the relative cost of political activity, and so on.

The framework uses the notion of a *missing market*, where adequate demand for reform exists but there is insufficient supply. The current political preference or governing criterion function underlies this missing market for policy reform. To the degree that the existing policy configuration is sustainable, the current political preference function is the basis for a stable policy equilibrium. This policy equilibrium can only be altered by changing some element or elements of the underlying structure that results in the current political preference function. With changes in the political preference function comes the potential for the emergence of a market for reform and a new policy equilibrium. The analysis of these changes in the framework developed in this paper can be conducted using the machinery of new institutional economics and modern industrial organization.

Footnotes

¹Small θ indicates "large" technological changes and θ near unity indicates "small" changes.

²In our model, here, it is the marginal rate of political support with respect to a change in a group's welfare that is important in choice not the absolute level.

³We will set aside for the present discussion the possibility that the government might purposefully introduce a degree of waste into surplus transfers for strategic ends. Such additional waste may result (1) from the usefulness of a more wasteful transfer mechanism to differentiate between decentralized decision makers and, thus, more cheaply counter political opposition by dividing and conquering and (2) from the usefulness of a more wasteful mechanism to encourage further rent-seeking activities of interest groups and, thus, perhaps to increase the government's political support. The first possibility is discussed and analyzed at considerable length in Foster and Rausser.

⁴Here we are abstracting from the implementation costs of the transfer scheme and which group bears these costs. It is reasonable to assume that all groups share in these costs in the proportion that their memberships have in the total population. Thus, we assume that the group's shares of the implementation costs are not subject to strategic behavior and that they may be incorporated into the surplus transformation curve.

⁵As in the case of implementing the PEST, we assume that the cost of implementing the PERT is borne by each group in some fixed proportion

and not subject to strategic behavior. Thus, we assume that these costs may be incorporated into the degree of the outward shift of the surplus transformation frontier.

⁶Such a change in the transformation frontier would itself be a PERT and more generally should be subject to acceptance or rejection in the government's optimal selection of policies. Allowing that a more generalized view of the strategic government behavior is possible (following the remarks in footnote 2), we shall nevertheless confine ourselves to a choice among PERTs that leads to expansion of the transformation frontier at every point, that is, PERTs that we refer to as pie expanding. We assume that any more efficient means of deviating from the free-market equilibrium of group surpluses is immediately adopted.

⁷A political organization may not strictly be the agent of a group's collective interest but rather have coincidental interests. The knowledgeable, but politically weak, organization may attempt to make its decentralized (distracted), but politically powerful, partner more responsive to government actions through the collection, analysis, and dissemination of information. Thus, in this way a political symbiosis is obtained which can be modeled as an organization and its client group.

⁸A sufficient condition for an incremental increase in E to lead to a decline in producer surplus is found from the expressions defining the political economic equilibrium (1) and (6). After some comparative statics manipulations,

$$dF/dE = -(A \cdot C_{fe} - \theta \cdot B)/(C_{ff} \cdot A - \theta \cdot \Delta)$$

where $A < 0$ is the derivative of expression (1) with respect to p , B is the derivative of (1) with respect to E , and $\Delta < 0$ is the second-order condition of the government's optimization problem. Now the denominator of the above expression is positive, so a sufficient condition for the entire expression to be of negative sign is if $B < 0$; that is, if

$$B = \partial M_c / \partial C \cdot \partial C / \partial E \cdot \partial C / \partial F + C_{fe} \cdot M_c.$$

Intuitively, producer welfare will decrease in equilibrium if the percentage decline in consumer sensitivity to a welfare change is *less* than the increase in the slope of the surplus possibility frontier (i.e., it becomes more negative).

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