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Working Paper Series

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THE POLITICAL FEASIBILITY OF RURAL POVERTY REDUCTION

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Alain de Janvry and Elisabeth Sadoulet

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California Agricultural Experiment Station
Giannini Foundation of Agricultural Economics
July, 1989

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by

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and
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Abstract

[Policies oriented at the reduction of rural poverty will only be introduced if politically feasible. Computable general equilibrium and multimarket models have been widely used to measure the complex economic and welfare effects of these policies. Based on the body of theoretical and empirical knowledge on the determinants of influence by groups in civil society and on the role of the state in policy-making, an index of the political feasibility of policy outcomes is constructed. Use of this index with data from India and Ecuador allows to identify a number of promising avenues to politically feasible reforms, in particular by choosing policies that induce the emergence of supportive coalitions dominated by the nonpoor. The general equilibrium effects and the leakages of antipoverty instruments are key in inducing emergence of these coalitions.]

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THE POLITICAL FEASIBILITY OF RURAL POVERTY REDUCTION

1. Explaining government behavior toward poverty

Like economic growth rates, poverty rates differ significantly across countries, even at equal levels of per capita income. The determinants of poverty are highly complex but can generally be attributed to the following four categories: (1) the distribution of access to assets; (2) the choice of development strategy and of macroeconomic policy; (3) differentials in the definition of and access to public goods and to institutions; and (4) existence and implementation of welfare programs. Antipoverty initiatives have been implemented by modifying any of these four causes. Significant advances have recently been made in understanding the determinants of poverty and in analyzing the effectiveness of alternative approaches to poverty alleviation [Streeten (1979a, b); Adelman (1985)].

What is far less understood are the reasons why the degree of commitment to poverty alleviation and the ways of approaching it vary so greatly across governments. In other words, why do governments face up so differently to poverty, with responses spanning from repression of the demands of the poor, to benign neglect, and to different degrees of involvement in poverty alleviation programs? Why do they choose such markedly different instruments ranging from pure transfers of goods or income, to asset redistribution, use of price distortions, choice of rate and bias of public goods, changes in access rules to institutions, and promotion of labor intensive development strategies? While important contributions have been made in explaining the economic rationality of public choice and in advancing the theory of the state [Buchanan (1980), Downs (1975), Olson (1965), etc.], this has not been properly applied to providing an understanding of the political economy of poverty alleviation interventions. It is the objective of this paper to help bridge this gap.

We start by noting that poverty is highly socially differentiated and that both the determinants of poverty and the consequences of antipoverty policies and programs are

highly complex. We choose, for this reason, a multisector approach using computable general equilibrium (CGE) or multimarket models in order to trace out, as completely as possible, the growth and welfare effects of policies across economic sectors and types of households. A well-established tradition indeed exists in using these models for the assessment of the growth and welfare effects of policies [Adelman and Robinson (1977); Dervis, de Melo, and Robinson (1982); and Taylor (1982) on CGEs and Binswanger and Quizon (1984) and Braverman and Hammer (1986) on multimarkets]. We add here a third dimension for the evaluation of policies, namely, a measurement of their relative political feasibility. This political feasibility index we propose contains a theory of the making of policy and can be used to predict, ex ante, the likelihood that particular policies will emerge. This paper is devoted to the construction of such an index and to its use to analyze the political feasibility of rural poverty reduction and the trade-offs that these policies create between growth, welfare, and political support.

Since a political feasibility index is too demanding to estimate econometrically, there are two approaches that we can combine to specify and quantify this index. One is to use the vast theoretical and empirical literature on collective action and the ideas that it suggests as to what should enter in this index and what is the relative importance of its components. The other is to calibrate ex post the index on some well-known policy patterns that the index should be able to correctly predict.

In this paper, we consequently proceed, in Part II, to review the literature on the politics of policy from which we derive the components of a political feasibility index and some idea of the relative order of magnitude of its components. In Part III, the index is presented and the logic of its structure justified. In Part IV, the index is validated by being confronted to some well-known patterns of policy formation that it should predict. Finally, in Part V, we use CGE and multimarket models for India and Ecuador to calculate the growth, welfare, and relative political feasibility of alternative approaches to rural poverty alleviation. We derive from this some general implications as to which policies are likely to

be the most effective and realistic. This allows us to go beyond the classical basic needs literature which, with the exception of some of Streeten's (1987) work, generally fails to assess the political realism of antipoverty approaches and advances voluntaristic proposals with little chance of implementation.

The reason why we focus on rural poverty is that it remains pervasive in the LDCs and its incidence much higher than in the urban sector. In countries with GNP per capita under \$750, the share of population below poverty line was 60 percent in the rural sector and 36 percent in the urban sector according to latest estimates [UNICEF (1984)]. Thus, in spite of rapid urbanization and international concerns with the excessive size of cities, world poverty remains a fundamentally rural phenomenon. Even on a continent like Latin America, where most countries are in the World Bank category of Middle Income Economies, the share of rural population in absolute poverty was estimated to be 65 percent in 1980 and that in destitution 33 percent [FAO (1988)]¹. And it is not clear that rapid economic growth in the 1970s was able to reduce the incidence of poverty. Compared to 1970, absolute poverty in 1980 in Latin America increased by 4 percentage points while destitution decreased by only 1 percentage point. The economic crisis of the 1980s has brought per capita incomes back to what they were in the mid-seventies and poverty rates are commonly believed to be significantly higher today than they were in 1980 [Pfeffermann (1986)].

2. The politics of policy: Suggestions from the literature

If we turn to the literature on endogenous government behavior to find out what types of reasons have been advocated to explain the origins of public policies and programs directed at poverty alleviation, we find basically four contrasted streams of thought: (1) rent seeking through the exercise of pressure and influence [Becker (1983), Zusman (1976), Roe and Yeldan (1988)]; (2) insurance against large losses [Horowitz (1988)]; (3) altruism and interdependent utilities [Hochman and Rodgers (1969), Giertz and

Sullivan (1977)]; and (4) autonomy of the welfare state. The inertia of past institutions also has an important role to play [Nugent (1986)].

In explaining what motivates public policy toward poverty alleviation, there is a key difference between programs that originate in altruism, interdependent utilities, or the autonomous welfare state as opposed to those that originate in pressure and influence or in the fear of large losses. In the former, programs are handed down to the poor and they can create net social gains in utility or social welfare. Maximization of the donors' utility function or of the state's criterion function implies an optimum level of welfare expenditures. The main issue is one of efficiency in the choice of instruments in order to minimize the opportunity cost of achieving a unit of welfare. In the latter, it is necessary for the poor to exercise pressures and threats, presumably because the programs either create net social gains but there are losers among the nonpoor, or because they create net social losses and there are trade-offs between efficiency and equity. It is the political economy of these latter determinants of public policy toward rural poverty which we consider in what follows.

If political demands for poverty alleviation have to originate with the poor, either through the direct exercise of pressure or indirectly through coalitions with other groups, an index of the political feasibility of poverty alleviation policies should be based on the following elements:

- A theory of aggregation explaining the basis on which individuals form interest groups.
- A theory of triggering mechanisms explaining why interest groups eventually transform into pressure groups.
- A theory of the effectiveness of collective action and the exercise of power over the policy-making process within a given institutional context.
- A theory of the economic rationality of rent seeking and the determinants of the expected payoff of success for the poor.

- A theory of the role of institutions in the transformation of pressure into influence and of the relative autonomy of the state.

2.1. Theory of aggregation

In theory, groups should form to exercise pressure on the basis of common interests and shared ideology. This has been described in the "social distance hypothesis" according to which the shorter the social distance (a weighted measure of differences in relevant attributes), the more an individual cares about the interests of someone else and is willing to defend those interests [Lindert (1989)]. On an economic basis, individuals should aggregate into groups based on the similarity in the way their real incomes are affected by a particular policy instrument that will be the object of collective action. Among producers, the theory of transactions costs thus gives us a basis for aggregation. Households characterized by similar transactions costs, that define for them the optimum rate and bias of public goods, should aggregate to lobby for public goods such as agricultural technology [de Janvry, Fafchamps, and Sadoulet, (1989)]. Larger interest groups can thus form in more homogenous populations and when transaction costs are more even across firms.

In previous analyses of the political economy of public choice, groups have been defined in terms of the subsidized versus the taxed when the policy instrument is income transfers [Becker (1983)], large versus small farmers when the policy instrument is land reform [Horowitz (1988)], agriculture versus industry when the policy instrument is the terms of trade [Roe and Yeldan (1988)], and producers versus consumers when the policy instrument is the price of a commodity [Zusman (1976), Beghin (1988)]. In practice, the most functional rule for aggregation is to group individuals by levels of control over assets (farm size, capital ownership, and human capital) and by similarity in their sources of income. This is the rule which is used in the following empirical studies using CGEs for India and Ecuador.

2.2. Theory of triggering mechanisms for collective action

Social groups can be defined in terms of shared interests for collective action. Yet, this does not imply that interest groups will actually organize into pressure groups [Naert (1985)]. Several triggering mechanisms of social aggregation for collective action have been identified in the development literature concerned with grassroot movements. They include:

i. The sudden deterioration of income as a result of swings in the economy or of aggression [Hirschman (1970)]. The aggressor may be nature, the landlords and other dominant groups, or the state.

ii. The role of catalysts: Leadership is key in social mobilization. In the rural areas, the exercise of leadership often results from the transfer of prior experiences derived from activism in social movements in other sectors of the economy. Nongovernmental organizations also have an important role in serving as organizers and advocates of grassroot movements [Wells (1983)].

iii. Greater difficulty in "exit" behavior, making imperative the use of "voice and loyalty" [Hirschman (1970)]. Lack of exit opportunities, in the sense of not being able to withdraw from interaction with those in power [Lindert (1989)], induces the dominant groups to tax these groups inversely proportionately to their abilities of exiting and to their ability of exercising political voice. Conversely, the poor with little ability to exit will have greater incentive to attempt to acquire political voice through collective action.

iv. How the gains and losses from change are seen to be shared in the population. While permanent mass poverty may be endured passively, relative deprivation, in the sense of unequal participation to economywide gains or losses, is likely to induce resentment and recriminatory behavior among those who lose most or gain least.

Observations of collective action by the poor tend to indicate that their mobilization is more reactive than anticipatory. It responds to large sudden deteriorations in their

welfare. As a result, poor people's movements tend to be forceful and sharply focused in their demands but discontinuous in their activities. In constructing influence indexes, we will consequently use the proposition that there exists an asymmetry in the forms of exercising pressure between the poor and nonpoor. For the poor, large welfare losses (a sharply nonlinear loss function) are a determinant of mobilization and the number of poor that engage into collective demands is more important than the financial resources which they can commit to lobbying. For the nonpoor, pressure is motivated by the expectation of gains or losses which induces a more proportional response than among the poor, and this to both expected gains and losses. In addition, the magnitude of the pressure they can exercise depends more on the quantity of financial resources which they can mobilize, and hence on their income status, than on the size of the coalition.

2.3. Theory of collective action and the exercise of power

There exists here a vast literature on the determinants of success in collective action. Much attention has been given to the free rider problem as an important determinant of group failure in exercising pressure [Olson (1965), Nugent (1986)]. The likelihood of controlling free riding requires:

- i. Smaller group size: While small is, for that reason, powerful, there are economies of group size for collective action as the number of votes and the number of members from whom financial contributions can be gathered increases. An optimum group size thus exists that balances the losses from free riding to the gains from membership as group size increases.

- ii. Greater group homogeneity: If groups are organized on the basis of common interests, based in particular on social distance and transactions costs, here again economies of size have to be balanced against losses from greater heterogeneity of interests as group size increases. A shared ideology is, in particular, a powerful mean of reducing transactions costs internal to a group and, hence, free riding as well [Leff (1986)].

iii. Group members that have been longer together or share greater geographical proximity: This allows a better level of information on the expected behavior of group members and thus imposes checks on free riding.

From a more general standpoint, the theory of collective action is based on the **concept of power** both over other groups and over the state, a concept that has been much used in political economy and, yet, in generally logically loose if assertive terms [Bardhan (1988)]. Recent advances in games theory and in the theory of transactions costs have helped clarify a number of aspects of how power is exercised. Some of the aspects of power which are relevant here are the following:

i. *Everyday forms of exercising power*: The theory of public choice focuses on the exercise of pressure through time and financial commitments to lobbying. There are, however, both less and more dramatic forms of exercising power than this. Everyday forms of power include worker resistance through shirking, abuse of the employer's assets, sabotage, stealing products, slowdowns, etc. These actions can be concerted and thus pertain to collective action. The employer's response is to motivate workers through efficiency wages set above market equilibrium. Unemployment created by disequilibrium wages gives the employer countervailing power in deciding who is going to work, and thus capture the incentive rent, and who will be dismissed [Stiglitz (1985); Bowles and Gintis (1988)]. Control over the assets gives the power of selective exclusion. For peasants, everyday forms of resistance to impositions by the state or the landlords take the form of returning to production for only self-sufficiency, concealing part of the product, or disappearing in the thick of the bush to escape tributes [Scott (1985)]. The collective effect of these diffused acts of resistance is the form of bargaining that weakly organized groups may pursue. The implication is that political calculus by leaders will necessarily be crude compared to a situation where pressure is exercised by formal lobbying [Hopkins (1984)]. With groups' reactions more difficult to forecast, the likelihood of political miscalculations also increases.

ii. *Dramatic forms of exercising power:* Riots, strikes, rebellions, and *jacqueries* are other ways of exercising power [Piven and Cloward (1977)]. Their accounting enters in the determinants of collective action through the probabilistic benefits and costs which they imply. The probabilistic outcomes of dramatic behavior tend to be all-or-nothing for the opposing parties or the freezing of progress in the social programs of the state [Horowitz (1988)].

iii. *Power from ability of financing election campaigns and bribing bureaucrats:* Funds and bribes are made conditional upon satisfaction of specific wishes expressed by the donors. The exercise of pressure and influence is thus fundamentally determined by the relative economic power of different groups. This is because capital markets are largely failing to finance investment in rent seeking with the result that credit for lobbying is not available. Capturing the expected gains from lobbying thus heavily depends on the distribution of wealth and economic power.

iv. *Power from differential ability of handling time:* Key to the resolution of conflict is the relative ability of the contending partners to hold on to positions and wait. This will be determined by the opponents' relative discount rates and relative constraints in access to resources. Asymmetry in the distribution of the assets is, here again, important. Access to loan capital, relative levels of accumulated savings, existence of union strike funds, and the relative ability of taking risks will determine the likelihood of a win.

v. *Power from access to information:* The level of information on the expected gains from collective action is highly unequally distributed across the population. While the richer and more urbanized segments of the population may be able to anticipate with a fair degree of accuracy the consequences from implementation of the policies they are pressing for or against, this is not the case for the poor. At the limit, the poor, especially in the rural sector, may be fully unaware of the potential benefits to them of some policy interventions. In this case, they will only support interventions that create gains for them if other groups of potential gainers mobilize their support. For policies that create losses,

imperfect information implies that small losses are likely to go unanswered while large losses will induce a sharp response.

vi. *Power from control over information:* Control over information and the media is important in bargaining. It allows to establish one's reputation and legitimacy with a broader constituency with which coalitions may be sought. Reputation is indeed key in bargaining as it allows to make credible pre-commitments [Dixit (1982)]. Investing in reputation building is thus a rational aspect of the management of collective action. Investing in selectively informing government and public opinion is also important in influencing government and in generating public support for particular policies.

vii. *Power due to changes in competitive structures and in relative factor scarcities:* Monopolistic positions in markets give not only the ability of setting prices but also of establishing the bases for rent seeking, particularly if the market controlled is of strong public interest. Oligopolistic or monopolistic trade unions thus have the possibility of effectively organizing strikes. National strikes can seriously discredit a government which needs to make concessions in order to preserve its legitimacy. Rising labor scarcity will not only raise wages and workers' incomes through market forces but also endow them with more power in collective bargaining.

viii. *Power through coalitions:* The poorest, particularly in the rural areas where they are geographically dispersed, are rarely sufficiently organized to exert direct influence on national policies [Nelson (1988)]. This does not mean that they have no influence but that it is usually exercised indirectly by membership to coalitions with betterly organized groups. It is often these other groups that take the initiative of mobilizing the support of the rural poor. The political feasibility of antipoverty programs will consequently critically depend on the eventual coincidence of interests with groups of rural or urban nonpoor.

ix. *Power through balkanization of the state:* Pressure groups can in some situations gain direct access to the decision-making process of the state. Corporatism is the ultimate manifestation of this arrangement. In this case, interest groups no longer exercise

pressure on government, but become part of decision making in specific areas of government intervention. They then become an instrument of government as they pledge to enforce the results of the negotiation with their rank and file [Naert (1985)].

2.4. Expected payoff of success for the poor

The theory of rent seeking also tells us that the expected payoffs from collective action determine the intensity of pressure. The way in which these payoffs and the expectations about them are formed gives important clues for the specification of a political feasibility index.

i. A well-established result from collective action is that the expected payoffs are high if the receiving coalition is small while the taxed constituency is large. This has been used to explain the apparent paradox of urban success over the terms of trade for agriculture in the LDCs and rural success in the MDCs. Since the poor in the LDCs are principally rural and are many, this would explain their lack of success in turning the terms of trade in their favor and in gaining access to food subsidies.

ii. Tracing out the growth and distributional implications of antipoverty policies and programs is extremely complex because of the general equilibrium and time effects which they create. There are in particular trade-offs between short-run welfare--achieved, for example, through food subsidies--and long-run growth and employment if the welfare funds are invested in labor-intensive industries or in the support of industries such as staple foods and the urban informal sector in which the poor are important producers. The discount rate applied to calculating the present value of these two programs is crucial since their benefits materialize at different points in time. If capital markets are imperfect and, in particular, if the poor have a lesser or no access to capital markets, their discount rates are higher and they will tend to opt for programs with short-run payoffs. In addition, there is an important element of risk in opting for a growth strategy as opposed to guaranteed short-run transfers: growth may fail, information about the future is imperfect, and the benefits

of growth may accrue to others. The Sri Lanka experience where welfare was voted down in favor of job creation is an important laboratory to understand the political economy of this choice [Edirisinghe (1987)].

iii. Finally, all programs involve management costs and leakages. Effective transfers via subsidies are only a fraction of cost because of bureaucratic costs and losses. The management of targeted food subsidies in Colombia has, for example, costs which are superior to the value of the food distributed [Taylor, Horton, and Raff (1980)]. The higher these deadweight losses, the less the expected payoff per unit of cost devoted to the exercise of pressure. Bureaucratic inefficiencies are thus an important deterrent in the implementation of antipoverty programs.

2.5. Role of regime and state autonomy

Both the way in which pressure can be exercised and the way in which pressures combine into influence on government depend on the nature of the political institutions and regime in place. In more democratic regimes, the role of numbers is more important in policy-making. Under elite rule, the role of economic power will tend to dominate over the role of numbers.

Finally, the state has a certain degree of autonomy relative to civil society that allows it to formulate its own goals and pursue them in balance with the demands of civil society. In periods of transition between forms of social organization, for instance immediately after the end of colonial rule, and in periods of economic or political crisis, the state eventually acquired a considerable degree of autonomy. This was the case of the governments of Nehru in India, Nasser in Egypt, and Cardenas after the Mexican revolution [Hamilton (1982)]. The exercise of autonomy requires strong legitimation of the state or the use of force, a high degree of cohesion among government factions and state institutions, and a weakening of interests traditionally dominant either through the rule of numbers or the rule of economic power. These regimes were all able to supersede the

interests of the dominant groups and to introduce sweeping social reforms, sometimes oriented at poverty alleviation like in India and Egypt. In other situations, a high degree of state autonomy was used to promote industrialization "from above" in countries such as Japan, Germany, and Turkey (Trimberger, 1978).

The degree of state autonomy and the relative roles of numbers versus economic power in the determination of influence also change with the political cycle. In election years, the role of numbers increases while the relative autonomy of the state declines. Small interest groups such as agriculture in the United States thus tend not to do as well in obtaining price support in presidential election years [von Witzke (1988)]. Between electoral periods, by contrast, the need for financial support in view of future elections and the needed cooperation of the economically powerful groups for the success of economic policies imply that the weight of economic power increases. Government itself is less subject to scrutiny, and its relative autonomy is enhanced.

3. Constructing an index of the political feasibility of policies

Before investigating empirically the political feasibility of alternative approaches to rural poverty alleviation, it should be clear from the long list of relevant arguments reviewed above that the predictive capacity of public choice models applied to this question will inevitably be rather low. For this reason, most models have confined themselves to stressing the relative sizes of coalitions in explaining influence [Olson (1986)]. In addition, the complexity of the intersectoral, interpersonal, and intertemporal processes involved together with (ideally) the specification of transactions costs, formation of expectations, and effects of risk are, at this stage, beyond the profession's modeling capabilities.

The complexity of the economic trade-offs induced by antipoverty policies and programs requires multisectoral modeling. Ideally, the allocation of resources to the exercise of pressure by groups in response to the anticipated pay-offs from lobbying, the aggregation of group pressures into influence over the state, the government's

own-objectives, and the criterion function representing the political process should be included in these models [Roe and Yeldan (1988)]. Short of doing this at this moment, we use the results obtained from CGEs for India [de Janvry and Subbarao (1986)] and Ecuador [Kouwenaar (1988)] and from a multimarket for India [Quizon and Binswanger (1986)] to derive ex post the political feasibility of alternative public policy approaches to rural poverty alleviation.²

3.1. A theory of public policy with costly ex-post redistribution

If ex-post redistribution of income were politically feasible and economically costless, the making of any public policy that has an impact on production (e.g., the choice of the bias of public technology) would be determined by the quest for maximum efficiency in resource use, even when transactions costs exist in production, i.e., even when there is nonseparability between efficiency and equity. In this case, the political feasibility of a policy would be measured by the net social gains that it creates. Redistributive struggles would only occur ex post relative to policy and to production. We use this ideal case as the starting point for the construction of a political feasibility index.

Following Becker's model, the government's criterion function is specified as the weighted sum of the rates of change \dot{y}_k in real income (or in utility) that a particular policy creates for group k ,

$$\dot{U}_g = \sum_k I_k \dot{y}_k$$

where the weights I_k represent the relative levels of influence that each group has on government. Since the exercise of influence is a zero sum game, the sum of the influences is equal to one, i.e.,

$$\sum_k I_k = 1.$$

With ex-post redistribution possible and the state consequently seeking maximum economic efficiency, the weights attributed to the changes in real income of each group are their shares in GNP. We thus have,

$$I_k = \frac{n_k}{n} \frac{y_k}{\bar{y}}$$

where n_k is the size membership of group k , n total population size, y_k the average income level in group k , and \bar{y} the average per capita income in the population. The government's criterion function thus becomes the rate of change in GNP since

$$\sum_k I_k \dot{y}_k = \frac{\sum_k n_k dy_k}{n \bar{y}} = \dot{GNP},$$

where dy_k is the change in real income of group k induced by the policy.

There consequently exists a theoretical justification other than the one-dollar-one-vote interpretation to weight each group's real income effect by its share in total income. If ex-post redistribution were credible and costless, income shares would effectively reflect the implicit influence which each group has on the making of public policy. There would be no conflict involved in the making of policy, only in ex-post redistribution of the maximum level of GNP thus achieved.

Credible commitments and zero redistribution costs thus give us a norm to construct a political feasibility index. This is what we call the "efficiency model" of policy formation. In this index, the weights are

$$I_k = N_k P_k$$

where N_k represents the role of numbers in the exercise of influence (n_k/n) and P_k the role of economic power in the exercise of influence (y_k/\bar{y}). An index of the political

feasibility of policies when ex-post redistribution is either not credible or too costly will be constructed in deviation from this pure case index.

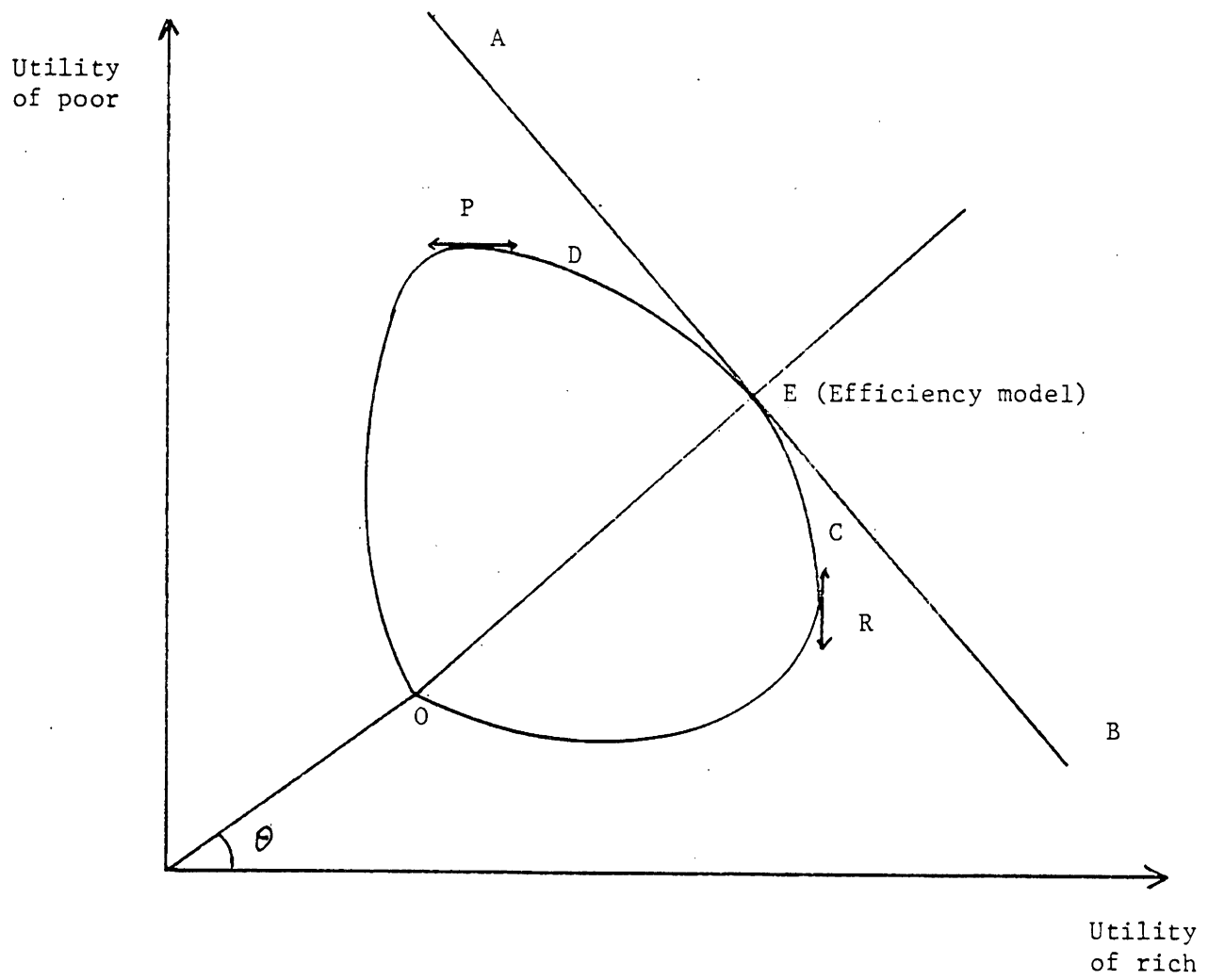
Based on the review of the literature in section II, the elements that will be introduced to adapt the efficiency model index to this situation are:

- i. The role of numbers, modified by the formation of coalitions and the effects of free riding.
- ii. The role of economic power, modified by the availability of information and the existence of trigger mechanisms.
- iii. The expected payoffs from the successful exercise of pressure, given the differential level of information available to groups, and the feelings of deprivation that unequal payoffs may create.

Figure 1 helps contrast the different solutions to the political economy of policy which different specifications of the political feasibility index provide. The utility frontier between the rich and the poor, measured in the utility or real income space, which a particular policy initiative [e.g., the definition of the bias of technological change in de Janvry, Fafchamps, and Sadoulet (1989) measured by tangent of θ in Figure 1] can create is represented by OREP. If only the rich mattered, the optimum policy would be R while, if only the poor had a say, it would be P. The maximally efficient solution is at E. If ex-post redistribution were costless, it would occur along line AB. Any point on this line could be reached and the chosen point would depend on the relative power of rich and poor.

If ex-post redistribution involves transactions costs, the locus of redistributive possibilities is no longer straight line AEB. If this locus is between AEB and REP, maximum efficiency and ex-post redistribution should still be sought. If, however, this locus is on or inside REP, redistributive struggles have to take place before policy is defined. An index of political feasibility is thus needed to determine which point between R and P will be chosen by the state.

Figure 1. The Political Economy of Public Goods With and Without Ex-post Redistribution



If economic power has a heavy weight in policy-making, the solution will be at C, somewhere between R and E. If, by contrast, numbers matter a great deal in policy-making and there are many more poor than rich, the solution will be at D between E and P.

If the government has a certain degree of autonomy relative to pressure groups, the government's criterion function is a weighted average of the rates of change in real income for each social group (\dot{y}_k) and the rate of change in the state's own objective induced by the policy (\dot{G}):

$$\dot{U}_g = \sum_k I_k \dot{y}_k + I_g \dot{G}$$

with

$$\sum_k I_k + I_g = 1.$$

The degree of relative autonomy of the state is measured by the share I_g of total influence which is controlled by the state. If the state gives itself, as an objective, the maximization of global efficiency, then its weight pulls the solutions away from C or D towards E in Figure 1.

3.2. *Specification of a political feasibility index*

In the following "general influence index," we modify the role of numbers, of economic power, and of the formation of expectations regarding the real income effects of policy. We introduce these modifications in deviation from the efficiency index with the result that, when these modifications are nonoperative, the general influence index reduces to the efficiency index.

The general influence index is composed of the following seven elements that specify the influence weights for each social group:

i. *Group size and the advantage of numbers*: A larger group increases the ability of exercising direct pressure by enabling to collect more membership fees and to mobilize more votes. The direct effect of numbers on influence (N_k) is represented by

$$N_k = \left(\frac{n_k}{n} \right)^{\alpha_N}.$$

The elasticity α_N is used to reflect the role of political regime in the exercise of influence. It is set equal to one under democratic regimes where numbers matter in policy-making and less than one under authoritarian and elite rules regimes where the role of economic power dominates that of numbers.

ii. *Indirect influence through coalitions*: While the rural poor may mobilize directly in response to large losses, they rarely do so in response to expected positive gains because of lack of information and organization. When policies that could create positive gains for them also benefit groups of nonrural poor, it is these latter groups that are the activists and that take the initiative of mobilizing the potentially benefited rural poor in support of these policies. In this case, the influence which the rural poor derive from numbers only materializes through coalitions with the other groups. We can thus postulate that the nonrural poor gainers of a particular policy will appropriate the support provided by the numbers of rural poor gainers proportionally to the distribution of gains from the policy across nonrural poor. This is represented by the following index of the effect of coalitions on influence (C_k):

$$C_k = \delta_{1k} \left(1 + \frac{\delta_{2k} \max(0, dy_k)}{\sum_h \delta_{2h} n_h \max(0, dy_h)} n_{rp} \right).$$

In this index:

δ_{1k} is a dummy variable that takes the value 0 if k is a rural poor group that gains from the policy, and 1 otherwise;

δ_{2k} is a dummy variable that takes the value 0 if k is a rural-poor group and 1 otherwise; and

n_{rp+} is the number of rural poor gaining from the policy.

iii. *Group size and the cost of free riding*: Following Olson (1965), a larger group size increases the likelihood of free-riding behavior which reduces the effectiveness of numbers in exercising pressure. The index of the effect of free riding on influence (F_k) is thus represented by

$$F_k = 1 - \delta_{2k} \beta_F \left(\frac{n_k}{n} \right)^{\alpha_F}.$$

The dummy variable δ_{2k} eliminates free riding in collective action by the rural poor. This is because there is a strong element of collective good behavior in their political activism. They mobilize only sporadically and in response to large losses but, when they so do, free riding does not occur.

In this index, the elasticities α_F and β_F should be moderately greater than one and will be taken equal to 1.2.

iv. *Exercise of economic power*: The ability of exercising pressure by financing election campaigns, bribing bureaucrats, gaining control of information to influence others, and holding out in negotiations are all related to economic power which, as we have seen, is fundamentally determined by the inter-group distribution of the assets. We use as a proxy the group average per capita income relative to the average per capita income in the country. The effect (P_k) of economic power on influence can thus be represented by:

$$P_k = \left(\frac{y_k}{\bar{y}} \right)^{\alpha_P}.$$

The elasticity α_P of economic power on influence should be significantly larger than one and will be taken equal to 1.5 in the following analysis.

v. *Formation of expectations regarding the gains from the policy:* Groups will mobilize to exercise pressure in response to the expectations they form regarding the changes in real income that the policy in question may bring about. Since the availability of information is highly unequally distributed across groups, we can postulate that the richest and best informed groups may approximate rational expectations with an elasticity γ_E . The poorer a group, the less informed it is and the less the expected gains or losses from the policy are relative to rational expectations. Full ignorance leads to predicting the status quo. The index of the effect of expectations on influence (E_k) can thus be represented as:

$$E_k = 1 + \varepsilon_E \left(\frac{y_k}{y_{\max}} \right)^{\gamma_E} |\dot{y}_k|^{\phi_k},$$

where y_{\max} is the per capita income in the richest social group.

The scaling parameter ε_E and the elasticity γ_E of the role of income in the formation of expectations should be moderate and will be taken equal to 0.5 in the following empirical analysis.

vi. *Triggering mechanisms and asymmetric loss functions:* We have seen that the poor do not mobilize to exercise pressure in the same manner as the nonpoor do. While the poor have a symmetrical and gradual loss function centered on the pre-policy equilibrium point, the poor have a highly asymmetrical loss function with:

- No direct response to potential positive gains, as explained above.
- A response to expected losses that is highly exponential: small losses hardly induce a response while the intensity of response increases very rapidly with the size of the expected loss.

To represent these differential triggering thresholds, the exponent ϕ_k in the E_k index can thus be expressed as:

$$\phi_k = \alpha_T + \beta_T \left(\frac{y_{\max} - y_k}{y_{\max} - y_{\min}} \right).$$

The strength of the triggering mechanisms vary between $\alpha_T + \beta_T$ for the lower income group and α_T for the higher income group. The parameters α_T and β_T are taken equal to 1 and .8, respectively.

vii. *Perceived relative deprivation in sharing the gains or losses from change:* While gains above the average level induced by a policy, or losses smaller than the average, may not stimulate a differential response of the groups thus affected, greater losses or smaller gains relative to the average effect of the policy are strongly resisted due to the feelings of relative deprivation which they arouse. The effect of relative deprivation on the exercise of influence can thus be represented by:

$$D_k = 1 + \varepsilon_D \max \left(0, \frac{\bar{y} - y_k}{\bar{y}} \right)^{\alpha_D},$$

where \bar{y} is the average income effect induced by the policy.

The scaling parameter ε_D and the elasticity α_D of influence with respect to relative deprivation should be small and will consequently be taken equal to 0.5.

The overall influence weight for group k is thus:

$$I_k = a N_k C_k F_k P_k E_k D_k$$

and the government's criterion function is

$$\dot{U}_g = \sum_k I_k \dot{y}_k + I_g \dot{G},$$

where a is a normalization factor. The state's own objective may be to minimize its deficit (the government's change in real budget balance induced by the policy in the India and Ecuador CGEs) or to seek global efficiency and thus to maximize the size of GNP (the change in real GNP induced by the policy in the India multimarket). The exercise of influence being a zero sum game, the sum of the influences is equal to one,

$$\sum_k I_k + I_g = 1,$$

which determines a .

Calculating the changes in government utility induced by different poverty alleviation programs will reveal their political feasibility. The structure of gains and losses across groups will also reveal the type of coalition that the rural poor should seek in order to enhance the political likelihood of program implementation.

3.3 Ex-post validation of the political feasibility index

While we can rely, as we have done above, on the theories of public choice, collective action, and the state to specify the structure of an influence index, full estimation of the parameters in this index is impossible due to lack of degrees of freedom. In order to validate the choice of a particular set of parameters, what can be done is to verify the predictive power of the model on specific instances of well-established political choices which the model should replicate.

One of the best-established policy contrasts between MDCs and LDCs is the way they handle their agricultural policies [Krueger (1988); Anderson and Hayami (1986); Olson (1986)]. The MDCs tend to protect their agriculture, turn the terms of trade in favor of agriculture, and incur high government costs in supporting farm prices. Rural households gain proportionately to the share of agriculture in total income, and urban households lose because of high food prices and because of the tax burden required to finance the farm subsidies. The LDCs, by contrast, tax their agricultures and subsidize their consumers. Farmers lose proportionately to assets and the landless also lose as employment opportunities in agriculture decline. The urban households benefit from cheap food proportionately to the budget share of food and employers benefit from low wage costs. The government incurs some cost of food subsidies.

We use in Table 1 the population and income structure for India [Binswanger and Quizon (1984)] to characterize the LDC context and that for the United States for the MDC context. The agricultural protectionist policy is characterized by a 12 percent increase in farm income paid for by an income tax levied on the urban population. The food subsidies experiment simulates a 10 percent subsidy on food expenditures of the urban population paid for by the rural population proportionately to their agricultural income. With different population distributions, income source structures, and shares of food in consumption expenditure in the two country types, these programs have very different impacts on the different income groups. However, both of them are conceived as pure redistribution schemes at no cost to the government. By construction then, their economic efficiency indexes are equal to 0.

Calculating the influence weights and the government criterion function for agricultural protectionism versus taxation in these two structural contexts should reveal the political superiority of protectionism in the MDC and of taxation in the LDC. The results indeed show that taxation in the LDC is politically feasible, while, by contrast, protectionism is politically justified in the MDC. Protectionism in the LDC and taxation in the MDC are both politically infeasible. We use this result as a confirmation of the predictive ability of the general influence model we developed and proceed to use it to analyze the political feasibility of a variety of antipoverty policies and programs.

4. The political feasibility of alternative antipoverty programs explored in CGE and multimarket models

Table 2 gives the elements that enter in the construction of the influence weights for each social group: the share of population, per capita income relative to average in the population, and the percentage change in real income induced by each poverty-alleviation policy relative to the base run without such policy. It also gives the effect on government

TABLE 1

Model Validation: Agricultural Protectionism versus Taxation in MDC and LDC

	Population		Income/average income per capita		Real income effects of:			
					Agricultural protectionism		Agricultural taxation	
	MDC	LDC	MDC	LDC	MDC	LDC	MDC	LDC
	percent				percentage change over base			
Rural 1	6.0	20	19	45	1.20	8.9	-6.3	-2.5
Rural 2	4.9	20	48	71	.89	9.0	-4.7	-2.5
Rural 3	6.0	20	81	88	.86	8.9	-4.5	-2.5
Rural 4	5.9	20	160	159	.83	9.4	-4.4	-2.6
Urban 1	18.3	5	25	69	-.19	-24.1	4.2	8.1
Urban 2	19.4	5	65	91	-.19	-24.1	2.1	7.8
Urban 3	18.5	5	111	139	-.19	-24.1	1.5	7.2
Urban 4	21.0	5	212	249	-.19	-24.1	0.1	5.9
Government net saving					0	0	0	0
Efficiency model					0.0	0.0	0.0	0.0
General influence model					0.1	-16.4	-2.1	1.4

TABLE 2

Impact on Real Income of Alternative Programs of Poverty Alleviation

INDIA - Binswanger and Quizon								
Population (percent)	Income/ average income per capita	Food subsidies				Irrigation	Fertilizer Subsidy	
		Foreign supply aid	Foreign supply tax	Domestic supply tax	Domestic supply procurement			
(percent change over base)								
Rural 1	20	0.45	17.6	16.1	10.1	13.8	2.9	-0.4
Rural 2	20	0.71	10.7	8.3	8.9	10.4	1.7	0.8
Rural 3	20	0.88	-0.9	-4.1	0.7	-3.2	0.9	1.5
Rural 4	20	1.59	-3.8	-9.1	4.8	-5.7	-0.7	2.5
Urban 1	5	0.69	20.1	18.1	-2.8	7.3	6.0	0.6
Urban 2	5	0.91	16.9	14.1	-7.0	4.8	5.7	0.7
Urban 3	5	1.39	6.6	2.7	-15.7	-3.7	5.2	0.6
Urban 4	5	2.49	2.8	-4.1	-14.5	-2.2	3.5	0.4
Total	100	1.00	4.0	0.0	0.5	0.3	1.7	1.3
Gross national product per capita			4.0	0.0	0.5	0.3	1.7	1.3

INDIA - de Janvry and Subbarao							
Population (percent)	Income/ average income per capita	Productivity growth in agriculture, flex prices	Productivity growth in agriculture, price support	Urban food subsidies replaced by:			
				Income transfer to poor	Producer subsidy	Rice irrigation	
(percent change over base)							
Landless	8.4	0.55	7.8	7.4	0.8	0.1	0.3
Small farms	23.6	0.44	3.0	8.1	1.3	0.4	0.1
Medium farms	25.2	0.73	-1.9	8.9	0.2	0.7	0.4
Large farms	11.3	1.78	-6.0	9.4	0.4	0.8	0.5
Urban workers	17.8	1.77	6.9	3.1	-0.9	-0.6	-0.6
Urban marginals	11.2	0.71	3.9	3.9	-0.7	-1.3	-0.9
Urban capitalists	2.5	2.77	2.8	3.9	-0.6	-0.3	0.1
Total	100.0	1.25	1.8	-7.1	-0.1	0.0	-0.1
Government budget			-4.0		0.1	0.1	1.4

ECUADOR - Kouwenaar						
Population (percent)	Income/ average income per capita	Urban housing aid funded	Producer subsidy tax funded	Rural development for small-scale agriculture	Land reform and livestock productivity	
						(percent change over base)
Rural <1 ha	16.3	0.49	2.4	10.1	7.7	7.0
Rural 1-5 ha	18.3	0.47	-0.1	18.0	6.3	5.4
Rural 5-20 ha	9.2	0.70	-3.0	16.6	4.0	-0.4
Rural >20 ha	5.7	1.27	-2.2	8.6	0.2	0.0
Rural non-ag	8.4	0.94	5.8	-6.9	7.8	1.4
Urban illiterate	2.6	0.66	5.0	7.0	4.6	0.8
Urban low educ.	25.2	1.05	3.0	-7.7	2.9	0.5
Urban med educ.	10.7	1.92	-0.2	-10.2	0.3	-0.3
Urban high educ.	3.6	3.61	-0.5	-7.8	1.7	-0.1
Total	100.0	1.00	1.1	-1.5	3.2	1.2
Government real savings			15.0	22.4	4.5	6.9

Sources:

Binswanger and Quizon, Distributional Consequences of Alternative Food Policies in India, World Bank,

Agricultural and Rural Development Department, report ARU 20, August 1984

de Janvry and Subbarao, Agricultural Price Policy and Income Distribution in India, Oxford University Press, 1986.

Kouwenaar, A Basic Needs Policy Model: A General Equilibrium Analysis with Special Reference to Ecuador, North-Holland, 1988

(percentage change in GNP per capita, in budget deficit, or in government real savings) induced by these policy changes.

In India, rural population has a very heavy weight--and more so in the multimarket (80 percent) than in the CGE (68.5 percent) due to different definitions of rural population--while it is equally split between rural and urban sectors in Ecuador. In India, the rich are the large farmers, the urban formal sector workers, and the urban capitalists. In Ecuador, they include the large farmers and the medium and high education urban groups. In all countries, the rural poor are the landless workers and the small farmers, but not the rural nonagricultural households in Ecuador. Basically, all the policies considered reduce poverty among the rural poor except for: (1) fertilizer subsidies in B&Q-6, as fertilizer is labor saving and leads to falling employment for the Rural 1; (2) irrigation in d&S-6 due to the negative price effect created by rising supply on the income of small farmers; and (3) the urban housing program in K-1 that reduces the real income of family farmers (1-5 hectares) due to the inflationary impact that it creates. The questions we consequently address are: (1) what is the overall political feasibility of each antipoverty policy given the specification of influence developed in the previous section; and (2) what type of social alliance should the rural poor seek in order to increase the likelihood that any of these policies be implemented? The overall political feasibility of each policy is measured in Table 3.

Some of the conclusions that can be derived from these simulations are the following:

(1) **Pareto optimal policies:** These antipoverty policies have a very high likelihood of implementation both in purely economic terms (efficiency model in Table 3) and also through the forces of the political economy (general influence model in Table 3). Among all the antipoverty policies analyzed, the only Pareto optimal cases are rural development in Ecuador (K-3) and productivity growth in agriculture with price support in India (d&S-2). There is, however, an important difference between these two cases. In the first, the program is funded by reallocation of public investment with a constant level of total

TABLE 3

Political Feasibility of Alternative Poverty Alleviation Programs

	Efficiency model	General influence model
INDIA. Binswanger and Quizon (B&Q)		
1. Food subsidies: Foreign supply & aid	4.0	10.7
2. Food subsidies: Foreign supply & tax	0	-2.0
3. Food subsidies: Domestic supply & tax	0.5	-7.6
4. Food subsidies: Dom. supply & procurement	0.3	-1.9
5. Irrigation	1.7	3.3
6. Fertilizer subsidies	1.3	1.6
INDIA. de Janvry & Subbarao (d&S)		
1. Productivity growth in ag. with flex prices	0.7	1.3
2. Productivity growth in ag. with price support	3.6	4.5
3. Food subsidies cut & investment in industry	0.72	1.14
4. Food subsidies cut & transfer to all poor	-0.07	-0.27
5. Food subsidies cut & producer subsidies	0.04	-0.20
6. Food subsidies cut & irrigation (medium farms)	0.23	0.16
ECUADOR. Kouwenaar (K)		
1. Urban housing & aid	3.9	4.3
2. Producer subsidy & tax	3.3	5.2
3. Rural development	3.4	4.1
4. Land reform & productivity growth	2.3	1.6

Parameter values:

$$\alpha_N = 1, \alpha_F = 1.2, \beta_F = 1.2, \alpha_P = 1.5, \gamma_E = 0.5, \varepsilon_E = 0.5, \alpha_T = 1.0, \beta_T = 0.8, \alpha_D = 0.5,$$

$$\varepsilon_D = 0.5, I_G = 0.2$$

investment. The economic expansion which this reallocation of public investment induces enhances government real savings. The program is thus not only Pareto optimum for civil society, but also for government. Clearly, its political feasibility can only be high. This is not the case for the program of productivity growth in India with government supporting prices through storage of surplus grains. In this case, the cost to government is quite high. While the program is Pareto optimal for civil society, its political feasibility depends on the degree of relative autonomy of the state, where the weight that government attaches to a rising deficit can be taken to reflect the cost to future years or generations. With $I_g = .2$, the current gains for interest groups far overwhelm the losses for government, making quite high the political feasibility of the program. Clearly, the lower the relative autonomy of the state or the lower the weight which government attaches to the welfare of future generations, the greater the acceptability of transferring to the public budget the costs of the program. Further instances of these ideal situations evidently need to be sought to identify politically feasible approaches to poverty alleviation.

(2) **Policies with a zero opportunity cost on domestic resources:** This is the case with food subsidies in India (B&Q-1) and urban housing programs in Ecuador (K-1) which are aid financed and with disembodied productivity growth in agriculture (B&Q-5 and d&S-1 and 2). Even though these programs have no significant direct domestic resource cost, negative income effects on some groups can result from general equilibrium effects on prices and employment. This is the case for the rural rich when food subsidies based on foreign supplies lower the domestic price of food (B&Q-1); when irrigation or technological change depress farm prices in a closed economy (B&Q-5, d&S-1); and when a targeted housing program induces inflation throughout the economy (K-1). Because these programs always create large net social gains, their economic feasibility is highly positive. In addition, the substantial net social gains which they create overwhelm the negative influences which the group-specific losses induce. In the general influence model, these antipoverty approaches consequently tend to dominate the political agenda.

International aid for poverty alleviation and very high rate of return productivity gains that benefit the poor as producers and/or consumers (agricultural research) are thus prime candidates among politically successful poverty-alleviation approaches.

(3) **Rural versus urban alliances in the incidence of costs:** Who will pay for the poverty alleviation policy, and the political weight that those who bear the cost have, are key to political feasibility and to choice of strategic alliances by the rural poor. This is clearly seen in the financing of food subsidies in India by excise taxes (B&Q-3) versus procurement levied on the large farmers (B&Q-4); and in reallocation of the urban food subsidies budget to rice irrigation (d&S-6). In the general influence model, food subsidies financed by procurement are more feasible than a scheme financed by excise taxes because the urban alliance dominates due to its considerable economic power, and this in spite of its very small number. If, however, only efficiency effects were taken into account, taxation would be more feasible than procurement as it is the rural alliance that dominates. The political feasibility of alternative means of financing food subsidies thus crucially depends on which political alliance dominates. The rural poor need to secure the political feasibility of these programs by seeking alliances with the rural rich when the subsidies are financed by tax and with the urban poor when they are financed by procurement.

Economic feasibility is insured for a program that eliminates urban food subsidies and reallocates the budget saving to investment in agriculture (d&S-6) since welfare costs go into inducing growth. Even though the urban marginals and workers lose from the elimination of food subsidies, their relatively small influence compared to that of the urban capitalists and rural rich who benefit from growth makes the program politically feasible. In all cases, since the urban poor are hurt, the rural poor have to seek alliances with the rural rich and the urban capitalists. Political feasibility, in turn, depends on political institutions and, more specifically here, on the relative importance of economic power as opposed to the power of numbers in the exercise of influence.

(4) **Rural versus urban alliances in the incidence of benefits:** Programs that create benefits for the nonpoor *through general equilibrium effects* also have a high likelihood of political success. This is the case for productivity gains in food production (B&Q-5 and 6; d&S-1) that lower food prices and raise urban real incomes. Reducing poverty by raising the productivity of labor of the poor thus has a high likelihood of political acceptance among the consumers of what the poor produce or the employers of these consumers if real wages do not rise proportionately to the fall in the consumer price index. In addition, the stronger the linkage effects between the incomes of the rural poor and the production of nontradables, the larger will the domestic multiplier effects be and, consequently, the higher the likelihood of political feasibility. Political acceptance of antipoverty programs is thus also obtained among the producers of what the poor consume. If the alliance between rural poor and urban dwellers dominates the political agenda, political feasibility for this approach exists. This is the case when the rural poor are numerous, eventually surrendering the influence of their numbers through coalitions with the nonpoor gainers, and when urban interests are economically powerful and politically active, a likely combination.

Another source of leakage of benefits that creates political feasibility is when *access to the antipoverty instrument is not confined to the rural poor* and benefits some of the politically important nonpoor. A fertilizer subsidy financed by aid and accessible to all farmers (B&Q-6) creates benefits for medium and large farmers that mobilize a rural coalition and make political feasibility very high, particularly if lobbying is dominated by the economic power of the large farmers. Urban food subsidies with foreign supply and aid (B&Q-1) similarly create important benefits for the urban nonpoor by loose targeting. Much has been said about the importance of targeting in antipoverty programs: the economically optimum targeting requires minimizing the joint cost of the subsidy (hence, tighter targeting) and of the management of a needs tests (hence, looser targeting). In terms of political economy, maximizing political feasibility may well require a looser targeting in order to

allow leakages toward the politically relevant interest groups. Food subsidies in India thus have strong support from the urban workers and bureaucrats who have access to the program in spite of not being in a critical nutritional situation. Increasing the targeting accuracy of an antipoverty program may delegitimize it in spite of lowering its costs.

5. Conclusion

Policy reforms and, more specifically, anti-rural poverty initiatives can only be implemented if politically feasible. While economists have learned to calculate the growth and welfare effects of policy reform, using in particular CGE and multimarket models, the calculus of political feasibility is still in its infancy. After reviewing the body of theoretical and empirical knowledge on the determinants of influence and on the role of the state in policy-making, we have specified a general influence model that attempts to quantify the political feasibility of alternative policy reforms directed at poverty alleviation. This has allowed to identify a number of promising avenues to politically feasible reforms, in particular by choosing policies that induce the emergence of supportive coalitions dominated by the nonpoor. This is the case when the nonpoor gain through the general equilibrium effects created by antipoverty programs, either because they are the consumers of what the poor produce or the employers of these consumers or because they are the producers of what the poor consume. Coalitions with nonpoor are also induced when weakly targeted antipoverty instruments leak benefits to the politically relevant groups, suggesting optimum targeting rules for both economic efficiency and political feasibility.

Footnotes

¹Absolute poverty is defined as the level of income below which a set of basic necessities cannot be afforded. Destitution is the income level below which not even a minimum food diet can be purchased.

²Dervis, de Melo, and Robinson (1982) used, similarly, three alternative political feasibility indexes to weigh the real income effects of alternative policies. A first index uses as weights the shares of population, thus capturing the one-person-one-vote concept of democratic politics. A second index uses as weights the relative shares of income which defines political power as economic power. And the third index is one of elite politics where the economic interests of the top 5 percent of the overall personal distribution of income set the political agenda.

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