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GATT Agricultural Policy Reform : a United States Perspective

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1. INTRODUCTION

Seven years ago, the Uruguay Round began in Punta del Este with much promise. In contrast to prior negotiation rounds, the US government made agricultural reform its top priority in the Uruguay Round. What set this round apart from previous negotiating rounds was the explicit recognition that trade reform in agriculture requires reform of the underlying domestic agricultural policies. These special features of the Uruguay Round –namely, its focus on agriculture and on the reforms of each country's internal subsidization policies– are also largely responsible for the stalemate that continues to plague the Uruguay Round. Even though agriculture is one of 15 separate negotiation groups in the Uruguay Round, it nevertheless for some time blocked trade liberalization in a number of important areas such as intellectual property, services, government procurement and investment, tropical products, textiles, market access, custom evaluation, and dispute settlement.

In 1985-86, the Reagan administration, recovering from being soundly defeated in its second attempt (the first attempt occurred in 1981) to reform U.S. agricultural policy unilaterally, turned to international negotiations as the vehicle to implement its strategy of domestic policy reform. As noted by Rob Paarlberg (1992), "what couldn't be obtained directly from congress could perhaps be achieved indirectly, through GATT". Initially, Reagan administration officials were delighted with the framework adopted in Punta del Este for the Uruguay Round negotiations. The fundamental core issue of the round was assigned to agriculture, a position it maintained over seven long years of unsuccessful negotiations.

Essentially, Reagan administration officials seized upon an opportunity to sidestep the domestic political-economic forces, specifically the commodity interest groups and well-established supporting institutions, that have always dominated the design of U.S. agricultural policy. These same officials were even more delighted with the adoption of the so-called Congressional "fast track" ratification procedures that require that Congress either accept or reject the entire GATT agreement without revision. Ex ante, this meant that the battle lines would be drawn differently than if only agricultural issues were under examination. A coalition of interest groups that would determine whether a GATT agreement was accepted or rejected would be dominated by interests quite different from those that have prevailed in past debates over pure agricultural legislation. This all presumed that the Uruguay Round could be successfully completed and that an external agricultural code would necessarily be imposed as a constraint on future domestic U.S. farm legislation.

Unfortunately, the Reagan administration, following 1986, largely withdrew from pursuing an active strategy of significant unilateral reforms, placing almost all their eggs in the GATT basket. This position has been largely maintained by both the Bush and the Clinton administrations. Although these officials recognized the importance of multiple issues, expanding the policy space, trading off policies, and changing the interest group landscape in the congressional forum, they seem to have dismissed the importance of these same factors in the GATT forum where agriculture has been treated as a separable negotiating issue¹. Moreover, these same officials paid insufficient heed to the possible influence and power that could be exercised by domestic commodity interest groups on the actual GATT negotiation process and thus the potential formation of an external agricultural code for all contracting countries.

Given this perspective, this paper focuses on four major themes. First, contrary to the hopes and dreams of both the Reagan and Bush administrations, and more recently the Clinton administration, an external GATT code cannot be designed independently of internal political-economic forces. Second, the differences that arise between industrial and agricultural sector outcomes in the GATT are sourced largely in the rela-

¹Rausser and Simon (1991 ; 1992) show, in the context of a generic multilateral bargaining model, what disastrous consequences can arise from such a negotiating rule.

tive complexity and institutional structures of internal domestic support policy for each sector. Third, sustainable reform can be achieved only by simultaneously pursuing both unilateral policy adjustments and multilateral external codes that can be imposed as constraints on the future dynamics of internal political economic forces. Under a unanimity negotiation rule, external codes cannot be formed unless countries that suffer significant consequences have found a politically robust "way out" of their internal subsidization programs. Nowhere is this more apparent than in France. Fourth, any reform package must recognize that both productive (PERT) and predatory (PEST) policies are jointly determined and thus both unilateral and multilateral proposals must formally integrate the inherent complementarity and/or substitutability of these two types of policies. These basic themes are used to examine the historical performance of the United States over the 7 years of the Uruguay Round and a generic political-economic model that should prove useful in examining agricultural policy reform and trade liberalization in the current environment.

2. EMPIRICAL FOUNDATION FOR MTN

Over the last decade, numerous empirical studies on agricultural policy reform provided incentives for the Reagan, Bush, and Clinton Administrations to forge ahead. The empirical foundation for a global perspective was sourced in the structural adjustments that would occur and the positive spillover effects that could be generated from agricultural trade liberalization. Basically, these studies simply provided formal justification for what the leaders of these administrations already knew was the right answer.

On the domestic macroeconomic front it was demonstrated that the macroeconomic economy had disastrous effects on the US agricultural sector in the early 1980s (Rausser et al. 1986) and that agriculture can cause disequilibriums in the macroeconomic economy. The latter influences emerge through (a) the general inflation rate, (b) government deficits or surpluses, and (c) the balance of trade. Each of these influences can have and have had, in turn, dramatic effects on employment, real interest rates, investment, and economic growth. A number of general equilibrium analyses have also been conducted to estimate the intersectoral

effects of agricultural policies on the balance of the US economy. One study concluded that the misallocation of resources and capital to agriculture depressed the productivity of other sectors of the U.S. economy and reduced American manufacturing exports by \$7.5 billion and service exports by \$3.4 billion (Hertel, Thompson, and Tsigas 1989). Another study estimated that the removal of all programs which distort agricultural production or constrain input use would increase the 1991 GNP by \$9.6 billion (Robinson, Kilkenny, and Adelman 1989).

Since the United States is a large producer of some commodities on the world market, its price supports and accumulation of stocks can conceivably result in short-run favorable consequences for all exporters of the commodity in question. Specifically, if the internal price supports are so high as to effectively eliminate the export market as a relevant alternative, in the short run all the benefits accrue to other exporting countries. Over much of the post-World War II period, the United States has behaved as a residual supplier on world markets of many major commodities, especially cotton and food and feed grains.

To the extent that the price support programs and coupled subsidy transfers, as well as protection against import competition (such as quotas in the United States and variable levies in Europe) all induce greater production, world prices will be depressed. This is particularly evident when the U.S. government sells unwanted stocks on the world market at less than the domestic price (through the Export Enhancement Program), makes concessional sales, or simply donates the food as aid (through PL480). These potential effects have been examined in a number of empirical analyses (Tyers and Anderson 1986; Roningen and Dixit 1989; Zietz and Valdéz 1986). For example, Roningen and Dixit estimate that eliminating US agricultural policies would increase world dairy product prices by 23.5%, sugar by 22.8%, coarse grain by 11.6%, wheat by 10.6%, rice by 2.9%, ruminant meats by 3.8%, and nonruminant meats by 3%. This would lead to corresponding costs for consumers and benefits for producers in the rest of the world.

Anderson and Tyers (1990) estimate that multilateral agricultural policy liberalization by all OEUD countries would increase the world prices of dairy products by 90%, sugar by 22%, coarse gain by 3%, wheat by 25%, rice by 18%, ruminant meats by 43%, and nonruminant meats by

10%. While these price changes would result in costs for consumers and benefits for producers in the developing world, Anderson and Tyers estimate that the net welfare of developing countries would increase by 1%. Simultaneous policy liberalization by developing countries, however, would result in a net increase in developing country welfare of up to 64%.

One justification often expressed in support of price floors and public storage programs in the United States and in other industrialized countries is that they stabilize what would otherwise be an unacceptable domestic volatility in basic commodity prices, at least over the very short run². Ironically, these same policies amplify rather than dampen commodity price fluctuations on international markets. One glaring example of this phenomenon is the world sugar market. The EU and the United States both protect their domestic sugar producers—for example, in the United States through price supports, tariffs, and import quotas. These policies have been estimated to have increased price instability in the residual world market for sugar by approximately 25% (World Bank 1986 World Development Report). Moreover, because the United States has been dominant in the world sugar trade, the imposition of import quotas has lowered world sugar prices.

Not surprisingly, European and U.S. sugar policies have also placed significant burdens of adjustment on many developing countries. The World Bank's 1986 World Development Report has estimated that sugar policies of industrialized countries cost developing countries about \$7.4 billion in lost export revenues during 1983 and reduced their real incomes by about \$2.1 billion. Given the domestic supply response to sugar and other substitutable products, and the zero treasury provision of the U.S. sugar program, even those developing countries who currently benefit can expect their quota levels, and thus values, to slowly vanish. In the case of world wheat prices, Schiff (1985) has estimated that the variability could be reduced by 48% if all countries were to end their subsidization of wheat. Tyers and Anderson (1986), using a model simulating policy reform in more than a half dozen commodity markets, calculated that liberalization of agricultural policies of industrialized countries would substantially reduce the international price variability of major temperate-zone com-

²Stabilizing prices are, of course, not equivalent to stabilizing incomes. As noted by Newbery and Stiglitz (1981), stabilizing prices may actually increase income variability.

modities: wheat by 33%, coarse grains by 10%, rice by 19%; sugar by 15%, and dairy products by 56%.

Along with the spillover costs that emerge both domestically and internationally from current agricultural policies, we must include the deadweight losses that emerge in redistributing wealth from consumers and taxpayers to agricultural producers. At the height of the subsidization of agricultural sectors in the western world (1986-87), OEUD estimated that the total consumer and taxpayer cost ran in the neighborhood of \$200 billion with the amount received by producers in the vicinity of \$100 billion. Hence, the deadweight loss was estimated in these studies to be as large as \$100 billion on an annualized basis (Rossmiller, personal communication, 1988). These losses exclude the adverse consequences on the macroeconomies, other related sectors of an economic, and general economic growth.

The most recent study, a 4-year effort sponsored by the World Bank and the OEUD Development Center in Paris (Goldin, Knudsen, and van der Mensbrugghe) examines a partial liberalization of agricultural and manufacturing activities, neglecting liberalization in other areas such as services. For the manufacturing and agricultural sectors, a 30% reduction in all border tariffs, quotas, and other restrictions of farm and manufactured goods is specified. The authors estimate that this level of partial liberalization would result in an increase in global income of \$213 billion per year. The vast majority of this increase, \$190 billion, emerges from partial liberalization of agricultural trade, while \$23 billion is attributed to the manufacturing sector. In the case of agricultural trade liberalization, over 60% of these gains accrue to OEUD countries, with the balance accruing to developing countries. This study also found that if all trade distortions in agriculture and manufacturing stemming from subsidies and tariffs are completely removed, gains would measure \$450 billion per year by the first part of the next century.

Why, in the face of such overwhelming empirical evidence, did agriculture remain such a formidable obstacle to a successful completion of the Uruguay Round? The answer is obvious: powerful interests, political-economic forces, and institutions that have emerged that legitimize and sustain those powerful interests. From the perspective of the United States, we first examine the institutions that have emerged to legitimize

these powerful interests and what role these institutions have played in prior GATT negotiation rounds. This will be followed by an examination of the role of powerful interests and other forces over the last few years of the Uruguay Round.

3. HISTORICAL GATT AGRICULTURAL ORIGINS

Since its inception, the GATT has been surprisingly successful in reducing barriers to trade in industrial goods. Comparable progress in agricultural trade, however, has been elusive. The most prominent fact concerning GATT actions in agriculture is its failure, time and time again, to bring trade in the sector under any internally consistent set of rules.

The genesis of this failure lies in the original GATT charter. The first paragraph of Article XI states that, "no prohibitions or restrictions other than duties, taxes, or other charges shall be instituted or maintained by any contracting party" (Dam 1970, p. 407). At the insistence of the United States, however, a second paragraph was added, permitting export and import restrictions to protect a myriad of U.S. agricultural commodity programs. Specifically, the provisions of paragraph 1 of this Article shall not extend to the following:

- "(a) Export prohibitions or restrictions temporarily applied to prevent or relieve critical shortages of foodstuffs or other products essential to the exporting contracting party;
- (b) Import and export prohibitions or restrictions necessary to the application of standards or regulations for the classification, grading, or marketing of commodities in international trade
- (c) Import restrictions on any agricultural or fisheries product, imported in any form, necessary to the enforcement of government measures which operate;
 - (i) to restrict the quantities of the like domestic product permitted to be marketed or produced;
 - (ii) to remove a temporary surplus of the like domestic product by making the surplus available to certain groups of domestic consumers free of charge or at prices below the current market level;

- (iii) to restrict the quantities permitted to be produced of any animal product the production of which is directly dependent, wholly or mainly, on the imported commodity, if the domestic production of that community is relatively negligible."

Today, this U.S.-backed exemption looks like a laundry list of the trade complaints of American producers. But for provision 2(a), the 1973 export embargo (and, perhaps, the 1974 and 1975 moratoria on sales to the Soviet Union and Poland) that grain producers still bitterly resent would have violated GATT (for a detailed description of these measures, see US Department of Agriculture, Economic Research Service 1986a). The widespread use of grading and packaging restrictions exempted in 2(b) are a prominent bone of contention for many specialty crop exporters (Wright et al. 1987); and 2(c), parts (i) and (iii) obviously legitimize the use of import restrictions to complement domestic measures that raise consumer prices above world levels, subject to only one substantial proviso:

"... any restrictions applied under (i) above shall not be such as will reduce the total of imports relative to the total of domestic production, as compared with the proportion which might reasonably be expected to rule between the two in the absence of restrictions."

The fact that quantitative restrictions were allowed if government measures operated to restrict the production or marketing of agricultural products meant that GATT would not operate in agriculture as a counterweight to domestic producer pressures for distortionary favors (as it does in industry). This exception was clearly designed to fit the American case because the United States was the only major agricultural producer with acreage and marketing controls (in addition to price supports). Section 22 of the Agricultural Adjustment Act of 1933 already permitted tariffs and quotas on agricultural imports that interfered with domestic programs. To be sure, the Article XI loophole became the first indication that GATT would, by design, be ineffective in reforming domestic production restrictions that required trade barriers for their operation.

In 1951, Congress amended Section 22 by adding subsection (f): "No trade agreement or other international agreement heretofore or hereafter

entered into by the United States shall be applied in a manner inconsistent with the requirements of this section" (Hillman 1987, p. 211). In an amendment to the Defense Production Act, Congress also authorized the Secretary of Agriculture to restrict imports of a number of products for which there were no production controls. Both were severe blows to the constraint on the exemptions in Article XI noted above. As the Secretary-General of GATT commented, although Article XI was "largely tailor-made to U.S. requirements . . . the tailors cut the cloth too fine" (White 1960, quoted in Dam 1970, p. 260). In the same year, the GATT Contracting Parties held that injured parties were entitled to compensation from the United States. (Thus, in 1952, the Netherlands was allowed to impede wheat flour imports from the United States in response to measures affecting their cheese exports.) Subsequently, the United States sought, and was granted in 1955, a "waiver" from the already weakened obligations in Article XI of GATT. This waiver sanctified the full range of United States interference in agricultural trade.

Having legitimized its own distortion of agricultural trade, the United States turned to using GATT to ensure market access for U.S. exports to other countries. The United States was concerned that the unification of European agricultural policies, required by the Treaty of Rome in 1957, could greatly affect U.S. exports. The CAP of the EU involved the imposition of variable import levies. A variable import levy acts as a sliding tariff to ensure that no foreign goods are even imported below a certain price—an ideal and highly protective arrangement to validate domestic price-support programs in European agriculture. Because GATT does not prohibit variable levies, there was no legal basis for the strong objections of the United States to that practice. The United States reluctantly decided to conclude the Dillon Round of trade-liberalizing negotiations (held from 1960 to 1962) with its progress on reducing industrial tariffs and with no formal agreement on trade in agriculture. It only had the EU's assurance that it would not use the variable levy to damage U.S. exports.

The U.S. position at the start of the Kennedy Round of trade talks (1963-1967) was that agriculture for the first time would be a major part of liberalization negotiations, equal in importance to progress on reducing trade barriers in manufactured goods. The United States was anxious to

deal with the EU. But neither the United States nor the EU was amenable to fundamental compromises on their domestic policies. In fact, instead of liberalizing policies, cartelization of world trade in agriculture was broached at these talks when the Europeans proposed a "montant de soutien" that would bind the margin of government agricultural support and create a rigid world market in agricultural products. The United States flatly rejected this plan which would have, in effect, created a worldwide CAP. At the end of the Kennedy Round, the United States was again faced with the dilemma of whether or not to abandon the gains in reducing industrial tariffs in response to the lack of progress on the agricultural front; given its own historically compromised negotiating stance, its decision to set agriculture aside was not surprising.

The Tokyo Round (1973-1979) negotiations tried again to gain some ground in opening world agricultural markets. The United States did get some enlargements in Japan and EU import quotas for certain products, but attempts to reinforce the rules in the export subsidies code did not achieve much. Because world agriculture flourished during the 1970s, economic pressures did not provide any incentives to reach an agreement.

The provision dealing with subsidies is another gaping hole in the GATT framework. Although Article XVI generally prohibits the granting of export subsidies, there is an exception for primary products. While GATT members "should seek to avoid the use of subsidies on the export of primary products", such subsidies are not forbidden. "If ... a contracting party grants directly or indirectly any form of subsidy which operates to increase the export of any primary product ... such a subsidy shall not be applied in a manner which results in that contracting party having more than an equitable share of world export trade in that product...." This exception, adopted with U.S. support (Harris, Swinbank, and Wilkinson 1983, p. 275) with its ambiguous restriction, has permitted excess domestic stocks to be dumped onto world markets through subsidies. This subsidization accelerated through the 1980s and is the most visible symptom of the problems in agricultural trade today. Thus, there has been a systematic failure on the part of GATT to reform world agricultural policies, or at least it seems to contain the origin of growth in protectionism and domestic distortions.

Although the GATT Secretariat (1983) states, "(i)t was the original

purpose of the GATT ...to strengthen governments against the particular pressures emanating from national economies," agriculture was largely excluded from this process by arrangement dictated by the U.S. Congress and trade negotiators who responded to the short-run concerns of special interests. They did not foresee that without stronger GATT constraints the EU would adopt a structure of agricultural protection in its CAP that would eventually cause severe disruption of international markets. Harris, Swinbank, and Wilkinson (1983, p. 275) observe that "Ironically the Community's creation of the CAP in its current form, with its use of variable import levies and export refunds as its principal agricultural trade measures, was only possible as a result of earlier measures by, principally, the USA." As U.S. agriculture has become more and more dependent on exports for its continued prosperity, the lack of discipline in agricultural policy abroad has become increasingly detrimental to the interests of the United States.

To summarize, in one round of GATT negotiations after another the major obstacle to successful negotiations has been agriculture. As Winham has said, "The main reason for the lack of progress in the Tokyo Round through mid 1977 was agriculture" (1986, p. 146). As in the Uruguay Round, the dispute between the United States and the EU over agriculture casts "a pall over the negotiation that prevented delegates from making progress in any one area" (Winham, p. 137). During the Tokyo Round, political-economic forces made it indeed difficult for side payments across commodities to be arranged. U.S. negotiators pursued a strategy of securing concessions from the EU on grains but offering concessions on milk products. Unsurprisingly, both EU grains producers and U.S. dairy producers rejected this side payment strategy, much the same response of US oil seed and corn gluten producers to the EU "balancing" proposal during the Uruguay Round. In the earlier Kennedy Round, the United States, at one stage, attempted to link the success of the entire Round to the outcome of the negotiations on agriculture. Only when farm trade was cast aside were these negotiations completed.

Neglecting the lessons of history and prior negotiation rounds, the Uruguay Round attempted a significant structural break by linking trade reform to the design of the underlying domestic agricultural policies. The initial architects of the Uruguay Round, quite correctly, firmly held the

view that agricultural trade distorting policies exist to rationalize internal policies that support and protect domestic agricultural sectors. As a result, these officials recognized that it was not possible to achieve sustainable reforms in trade policies without major reforms of each country's internal subsidization schemes. Accordingly, the ministerial declaration from Punta del Este that launched the new round stated that the negotiations would, "...aim to achieve greater liberalization of trade and agriculture and bring all measures affecting import access and export competition under strengthened and more operationally effective GATT rules and disciplines." A major objective of the current negotiations was that they were expected to enhance "discipline on the use of all direct and indirect subsidies and other measures affecting directly or indirectly agricultural trade, including the phased reduction of their negative effects and dealing with their causes." Quite obviously, this objective goes well beyond the single-minded GATT tradition of focusing on import barriers.

4. URUGUAY ROUND AND COMMODITY INTEREST GROUPS

Why have the U.S. executive branches of the last three administrations failed to pay heed to the Santayana insight? As Santayana said, long ago, "Those who cannot remember the past are condemned to repeat it" (1905). Seven years into the Uruguay Round, we remained at a stalemate over agriculture. The lessons and insights of prior GATT negotiation rounds may well have been lost on the Reagan administration because of the Executive Branch's experience in attempting to reform internal agricultural policies. In both 1981 and 1985, the Reagan administration proposals for reforming U.S. domestic agricultural support policies were roundly and soundly defeated by the Congress. Initially, the 1985 Reagan administration proposal called for the elimination of all subsidization in agriculture. This proposal was pronounced "dead on arrival" by both influential Republicans and Democrats on The Hill.

Following the defeat of the Executive Branch proposal, and the subsequent passage of the 1985 Food Security Act, the Executive Branch formed a working group on agricultural policy reform that encompassed both unilateral and multilateral strategies. As 1986 and 1987 unfolded, members of this working group presented various proposals to the Congress and found a welcome reception only for multilateral reform. During these

early days, the issue was not so much how to minimize the pain of reform through simultaneous adjustments by several important countries but, instead, that there could well be significant gains to a number of commodity groups. Partially, because third parties could be blamed (EU, Japan), the degree of cooperation between the Congress and the Executive Branch increased dramatically during this period, certainly relative to the divisive debate over the 1985 Food Security Act.

The difficulty of achieving unilateral policy reform was exacerbated during these years by the fierceness of competition for export markets and the fear that unilateral agricultural policy reform would allow competitors to gain unfair advantage on international markets while continuing to restrict access to their own markets. This led to a "prisoner's dilemma" in which many countries felt trapped in their existing policy regimes. Each country feared that unilaterally reducing its own export subsidies or eliminating its own internal level of support to farmers would result in the loss of market share. The action of one country on its own will rarely induce a significant rise in world prices. Consequently, from the standpoint of export market shares, each country finds that the potential rewards from liberalizing their agricultural policies do not warrant a unilateral move toward reform.

The view that emerged during this period was that simultaneous reform by several countries, if achieved, might provide an escape from this prisoner's dilemma. This line of reasoning characterized the mind set of participants at the outset of the Uruguay Round. In June, 1987, Clayton Yeutter, then U.S. Trade Representative, remarked, "We are clearly not going to reduce our level of government involvement (in agriculture) unless other people move with us. We are going to go down this road together, and we are going to go down it arm in arm, and we are not going to walk 10 steps ahead of the Europeans or the Japanese or anybody else" (Rapp 1988, p. 171).

Once it became clear that all three administrations (Reagan, Bush, and Clinton) would pursue a strategy of significant policy reform through and only through the GATT, the political-economic interest groups within the United States naturally turned their attention away from obstructing unilateral reform and, instead, used the GATT negotiations as an opportunity to maintain, and in some areas enhance, their rent-seeking

activities. The major public interest benefit of the Congressional fast track provision was the change in the interest group landscape that would debate an external GATT agricultural code. This change in the interest group landscape would be expected to dramatically increase the probability of significant reform.

The determination of the external code, however, is not independent of the political-economic forces that exist within each country. For example, in the case of the United States, Paarlberg (1992) has documented how agricultural interest groups have been instrumental in blocking successful agricultural negotiations in the current Uruguay Round. He argues that agricultural interests supported the initial extreme proposal of the United States, which sought to eliminate, over 10 years, all agricultural subsidies that had any tendency to distort production or trade. Knowing that the probability of success was zero, a number of commodity interests actively supported this proposal. They argued that half measures will not do; no agreement is better than an agreement that fails to guarantee a "level playing field" against the heavy subsidization of foreign competitors. The resulting strategy pursued by USTR and USDA led to one stalemate after another.

Once the two agencies, led by Clayton Yeutter at the USDA and Carla Hills at USTR, realized that a complete elimination of all subsidies had a zero chance of success, they turned toward partial but "substantial progressive reductions" in the degree of subsidization. US agricultural interests quickly adjusted to this revised goal of the Bush administration by successfully demanding that no unilateral reforms be implemented while the GATT negotiations were still underway. Farm groups successfully argued, and key members of the Congress and Executive Branch agreed, that unilateral cuts would only weaken the strategic position of the U.S. GATT negotiators. As a safety valve, U.S. agricultural commodity interests in 1988 realized an opportunity of including in the Trade Act a position for expanded export subsidies if the Uruguay Round of GATT negotiations should fail. This provision was incorporated into the 1988 Trade Act; and to provide still further insurance in the Fall of 1990, these same interest groups were instrumental in including a "GATT trigger" provision in the final domestic budget reconciliation bill. This provision forces the Secretary of Agriculture to offer additional subsidies if the

GATT negotiations fail; the Secretary of Agriculture may be permitted to reverse all or any part of the \$13.5 billion in domestic farm budget cuts (over 5 years) that were imposed in the final 1990 budget reconciliation bill. It can be argued that U.S. agricultural interests might well have lost the rents generated from the Export Enhancement Program in 1989, had it not been a potential program that could be usefully traded away in the GATT negotiations.

Ironically, the Reagan and Bush administrations pursued the GATT forum in order to facilitate domestic reform of agricultural policies which, in turn, was used by commodity interest groups as an effective means to block reform. Quite obviously, the GATT negotiations are not separable from the dynamics of domestic political-economic forces. This nonseparability emerges not only for the United States but for all other major GATT participants as well. For example, COPA and COGEUA, the two most powerful European farm organizations, rejected proposed subsidy reductions by the EU Commission (1989/90) "without reciprocal measures taken by our GATT partners" (USDA 1989, p. 8).

In contrast to the GATT negotiation process emerging as an obstacle to recasting agricultural policies, budgetary pressures on both sides of the Atlantic forced more traditional internal paths to reform. In the United States, the routine renewal of domestic farm programs by agricultural committees of Congress was derailed by the 1990 Omnibus Budget Reconciliation Act. Due to these overriding concerns, Congress, as a whole, preempted the agricultural committees, deciding to cut U.S. domestic farm commodity programs by a significant 25% over the ensuing 5 years. Recall, however, that U.S. agricultural interests received as compensation a "GATT trigger" provision which held out the possibility of reversing the budget cuts if the Uruguay Round fails.

Internal budget pressures in the EU force a parallel internal policy reform process. A 20% increase in farm support spending in the EU helped lay the foundation for a major policy reform effort by the EU Commission. This effort has been popularized as the "MacSharry Plan", which called for approximately a 35% reduction in CAP commodity price guarantees over a 3-year period. It is interesting to note that this supply-management, subsidy reduction proposal achieves in 5 year's time a pace of reform that is faster than the 75% cut in support levels over 10 years

that was recently demanded by the United States, but rejected by the EU in the GATT negotiations.

The Dunkel plan (1991) basically took these internal budget-driven U.S. and EU agricultural policy reforms and recast them as the core of his proposed Uruguay Round agreement. Former GATT Director General Arthur Dunkel, simply recognized in this proposal the need to buttress MTN proposals with unilateral actions that are undertaken by various countries. In essence, this proposal simply incorporates much of what the United States and the EU had already accomplished separately and unilaterally. The proposal called for 20-36% reductions in farm supports over a 6-year period, using a 1986-1988 (1986-1990) base level. In the case of the United States, the vast majority (14 out of 17 farm commodities) were already in compliance; while, in the case of the EU, the only part of the Dunkel draft that went further than the subsidy cuts already anticipated was a required 24% reduction, over 6 years, in the quantity of subsidized exports. This provision, along with the Dunkel requirement that export subsidies, as well as internal supports, be significantly reduced—namely, by 36% in value—turned out to be a major impediment to a resolution of the Uruguay Round.

The U.S. supported the Dunkel draft, while the EU objected. The former wanted to impose explicit limits on export subsidies, while the previously launched internal EU reform failed to provide any assurance that such targets would be honored. Essentially, the supply-management features of the CAP reform meant that the subsidized EU exports would eventually fall but there were no guarantees that the constraints imposed in the Dunkel proposal could be achieved. At this juncture, a US/EU soybean trade dispute propelled the Uruguay Round forward with the Blair House discussions in November, 1992.

At the Blair House discussions, U.S. negotiators argued for the 24% cut in subsidized export tonnage as specified in the Dunkel draft, while the EU Commission negotiators argued for 18%. Ultimately, the Blair House Accord reached a settlement of 21% over a 6-year period, which the United States argued could not be reopened, either directly or indirectly. The government of France, however, took violent exception, and threatened to veto the concession, arguing that the EU negotiators exceeded their assigned authority. In essence, the French were unwilling to

see the Commission offer anything in GATT that the Council had not already approved as part of the internal CAP policy reform of 1992.

Faced with the prospect that the entire agreement might unravel, the parties renegotiated the Blair House deal, incorporating some of the French objections into the GATT agreement. As adopted, the Final Act maintains the requirement that subsidized exports be cut by 21% in quantity, and by 36% in expenditures, with cuts phased in over six years. Subsidies may not be introduced on commodities not subsidized during the 1986-1990 base period. However, the base year for measurement of export *volume* was switched to 1991/92, allowing the EU to export an additional 8 million tons of cereals. Further, the EU's stock of cereals (25 million tons) were exempted, as were processed products. Some flexibility over the timing of reductions was also introduced. In return for these concessions, the United States received improved market access for its pork, grains, dairy products and specialty crops, as well as lower tariff barriers on an array of forest, metal, and semiconductor products.

The provisions on internal support were kept essentially unchanged: expenditures must be reduced by 20% from a 1986-1988 base, in equal increments over a six-year phase-in period³. The accord also contains significant provisions to increase market access, requiring tariffication of trade barriers, tariff reductions, and minimum import quotas. It addresses the possibility of spurious health and sanitary restrictions by setting standards and a procedure for adjudicating disputes. Finally, a so-called Peace Clause exempts non-trade distorting policies from countervailing duties and GATT challenges for a period of eight years (up from six—another concession to the EU). The Peace Clause applies, in particular, to CAP, as reformed in May, 1991 (Financial Times, various issues; Weyerbrock, 1994).

The complexity of internal agricultural policies and their associated trade barriers, along with the nonseparability of domestic political-economic forces, has often been used to argue that the GATT is not an effective instrument for achieving significant reforms. This perspective holds that, even though the potential gains from worldwide reform of distortionary

³Here, support is calculated not on the basis of expenditures, but on a computed Aggregate Measurement of Support (AMS), a function of the spread between domestic and world prices. Depending on how world prices fluctuate during the phase-in period, required reductions could be greater or less than 20%. Payments decoupled from production are not included in the AMS calculations.

domestic and international policies in agriculture are huge, the GATT is only designed to focus on trade distortions. This perspective maintains that an attempt to use the GATT to address the internal welfare effects of policy reform is simply inappropriate.

The above criticisms are misplaced for two principal reasons. First, any strategy for multilateral trade negotiations (MTNs) can be far more effective if complemented with the implementation of a transition path toward unilateral policy reforms. From a political-economic standpoint, it is little surprise that Japan, the EU, and the United States have been so heavily influenced by their respective agricultural commodity interest groups. There can be little doubt that the Uruguay Round of the GATT negotiations would have been far more effective if Japan, the EU, and the United States had each simultaneously pursued an active strategy of "packaging" reforms so as to achieve significant unilateral adjustments. From a political-economic standpoint, only if these countries were able to see a politically robust "way out" of their current subsidization schemes would it also be possible to reach a cooperative conclusion to the Uruguay Round.

None of these countries—United States, Japan, and EU or the Group of Seven—were prepared to pursue a full court press on both international and domestic fronts. Surprisingly, the reform advocates from the Executive Branch expected the domestic political-economic forces to be nullified on the Hill because of the "fast track" provision, while agriculture was treated as a separable negotiating issue in the Uruguay Round. These naive expectations were driven by the lack of creativity in designing and packaging unilateral reforms as well as the anticipation that only agricultural and, to a lesser degree, environmental interests have emerged for each and every piece of historical legislation that has set the framework for agricultural subsidization in the United States. It now seems obvious that the design of a GATT external code for agriculture without the simultaneous active pursuit of unilateral reforms is much like expecting manna from heaven.

Second, from the standpoint of pure economics, domestic policies can and often do have large and undesirable effects on international trade flows. As shown by Schmitz and Vercammen (1992), the efficiency of domestic policies is directly linked to the trade distorting effects of these

policies. Accordingly, the reduction of policy impediments to trade and the creation of more efficient domestic policies should, in fact, be part of the same agenda. In essence, these authors demonstrate that the widely used producer subsidy equivalents (PSE), nominal rates of protection, and effective rates of protection do not allow the ranking of policies according to their trade distorting effects. In contrast, the inefficiency criteria does permit such rankings. Moreover, the widely held view that the size of the trade distortion due to a particular program is positively related to the size of the producer gain from the program (as is implicit in the PSE measures) is simply fallacious.

A review of history is instructive, but transcending the agricultural stalemate in the Uruguay Round at the GATT requires a serious examination of the underlying political and economic forces that justify current agricultural policies. Domestic interests are largely responsible for the emergence and evolution of the current policy environment and operate as a powerful constraint on any possible reform program, whether it be sourced in unilateral or multilateral adjustments. These domestic political-economic forces, given the specified Uruguay Round framework, are crucial in determining the extent to which trade reform will be feasible and sustainable. Thus, political-economic analysis of the *domestic* effects of reforming policies that cause *international* distortions is not only appropriate but vital to the successful implementation of any policy reform path.

The sustainability of any reform path is enhanced by strengthening the GATT rules and disciplines in the four areas that have been the focus of the Uruguay Round: market access, export subsidies, internal support, and sanitary and phytosanitary regulations. At the end of the day, internal support represents the cornerstone of sustainable and significant reforms of agricultural policy. Here, the U.S. proposal called for the grouping of policies into one of three categories: (i) policies to be phased out; (ii) policies to be disciplined; and (iii) permitted policies or, equivalently, policies that can be allocated to the so-called "green box". Unfortunately, the various U.S. proposals advanced failed to realize that these policies, in a political-economic sense, are jointly determined. Hence, the reform of one policy forces an adjustment in other policies and any attempt to impose binding commitment, as though these policies were

separately determined, is doomed to fail. Permitted policies—including income-support not based on production, environmental and conservation programs, pesticide and fertilizer taxes, disaster assistance, market information and promotion, inspection and grading, research extension and education—cannot be reformed in the political-economic world without jointly and simultaneously reforming trade-distorting policies, such as administered price policies and income support or direct payments based on production. In the following section we will present both the theoretical and empirical support for two types of policies which are largely consistent with the “green light” and “red light” policy dichotomy that has frequently been used to characterize the Uruguay Round debate on reform of not only internal supports but market access for imports and export subsidies as well.

5. A GENERIC POLITICAL ECONOMIC MODEL (GPEM)

In the design and implementation of governmental policy in agriculture, conflicts naturally emerge between public and special interests. A conceptual formulation that attempts to explain or prescribe public policy emphasizing only one of these interests will be of little value. Frameworks that neglect political forces and the role of special interest groups will have little explanatory power. Similarly, models that presume the government has no autonomy nor any interest in the size of the economic pie will also face serious limitations as explanatory, predictive, or prescriptive frameworks.

Agricultural policy in the United States has led to both the enhancement of efficiency through “productive policies” and the transfer of wealth and income to special interests through redistributive or “predatory policies”. These two activities can be examined in terms of PESTs (predatory, or special interest) and PERTs (productive, or public interest) policies. PEST policies, or political-economic-seeking transfers are meant to redistribute wealth from one social group to another and are not explicitly concerned with efficiency. In contrast, PERTs, or political-economic resource transactions, are intended to reduce transaction costs in the private sector by correcting market failures or providing public goods; these policies have neutral distributional effects, at least in design (Rausser 1982, 1992).

A historical review of public policy in agriculture reveals not only tension between the PERT and PEST roles of the public sector, but also some coordination between these two types of activities. As different interest groups access, influence, and pressure the political process, the government trades off PESTs and PERTs in its attempts to acquire, balance, and secure political power. At times this has led to programs that appear incoherent. Examples include conservation, which requires the retirement of vulnerable acreage, and price supports, a transfer mechanism that penalizes premature land retirement and creates incentives for overutilization of vulnerable acreage. These apparent incoherences, however, are the direct result of institutional arrangements that generate sufficient support for particular types of governmental action. Thus, a rational process generates a government portfolio of productive (PERT) and predatory (PEST) policies. In such a world, the challenge is to design and advocate policies that are both economically productive and politically sustainable.

Many examples of consumer-biased PERTs being balanced with producer-biased PESTs have been presented (Rausser 1992). Obviously, any number of combinations are possible, depending on supply-and-demand parameters, the degree of heterogeneity within various interest groups, productivity, and the relative political power of interest groups. The framework helps explain why "inefficient" policies have a resilience that would be inexplicable if the public sector paid any attention to free-trade economists. It also explains why many policies are difficult, if not impossible, to reform.

Far too frequently, PEST policies have been analyzed as though they were separate from other policies, explaining their existence by the relative organizational strengths of interest groups or the opaqueness of the policy impacts. One of the major messages of GPEM is that policies can be packaged so that consumers and producers may acquiesce to one policy setting in exchange for another. The framework applies not only to US agricultural policy, but to all types of public-sector interventions; e.g., privatization with safeguards for some social groups in formerly command economies; urban planning and the granting of zoning variances in exchange for the supply of local public goods; special worker adjustment compensation for industries facing increased international competition;

and the advice and counsel to less-developed countries from the World Bank, the International Monetary Fund, and the Agency for International Development. In the final analysis, only if we can explain how policies are selected and implemented, can we hope to motivate major reforms.

5.1. Accounting for PERTs and PESTs

One measure of the degree of government intervention across commodity groups can be represented as a "producer subsidy equivalent" (PSE), the ratio of the total value of all public sector assistance to total farmer receipts. As shown in Table 1, for the United States, the degree of government involvement is most dramatic for products where demand is inelastic, e.g., sugar, milk, rice, and wheat. Feed grains have an intermediate level of support while sectors with more elastic demands, such as soybeans and red meats, have the lowest level of support⁴.

5.1.1. U.S. PERT/PEST Decomposition

The decomposition of the public sector assistance into productive (PERT) and predatory (PEST) forms of government policy is also reported in Table 1. The productive category includes all expenditures by the public sector that are expected to lower transaction costs and enhance the rate of economic growth; e.g., public-good expenditures, information and marketing services, grades and standards inspections, crop insurance, public research, extension, etc. For the PEST category, all redistributive transfers from other segments of the economy to agricultural producers; e.g., deficiency payments, price supports, trade barriers, storage subsidies, input subsidies, subsidized credit, etc., are incorporated. Note that the products with inelastic demands (sugar, milk, and rice) receive a lower proportion of their public support in the form of productive policies, while the products with elastic demand (soybeans and meats) receive a higher proportion of their support in the form of productive policies. The data is consistent with the view that coupled predatory policies are higher in sectors where demand is inelastic and where supply is very responsive to policies and lower in sectors with highly elastic demand and low supply elasticities. As noted earlier, redistribution efficiency would ar-

⁴For a survey of own-price elasticity estimates, see de Gorter, Nielson, and Rausser (1992). At the farm level, the most demand-inelastic commodities are sugar, milk, and rice; those commodities with intermediate degrees of demand-price inelasticity are wheat, sorghum, barley, corn, and oats; and finally, those that have the least degree of inelasticity and, in some instances, elastic demand functions, include soybeans, beef, poultry, and pork.

gue for low supply elasticities but here the joint determination of PESTs and PERTs places more weight on policy-induced supply expansion. For some products that do not appear in Table 1, e.g., specialty perennial crops (oranges, lemons, grapes, etc.) whose demand is highly elastic, but whose productivity and supply response is low, coupled predatory policies do not generally exist. Instead, for these specialty crops, producer organizations tax their members to finance the provision of local public goods (de Gorter, Nielson, and Rausser 1992).

5.1.2. EU PERT/PEST Decomposition

Surprising similarities arise when we assess the historical data arising from the European Union. The CAP has subsidized agriculture to the extent that fewer people have exited farming than otherwise would have occurred. This has bestowed a positive externality to society by preserving rural landscapes, communities, and resources (Drake 1987). On the other hand, price supports and subsidies have increased the use of inputs (land, water, chemicals, and fertilizers) and production to the detriment of the environment (Mahé and Rainelli 1987). Society is placing an ever increasing emphasis on environmental quality and natural resource conservation. Hence, farmers generate both positive and negative externalities. Some argue that farmers should be paid for the positive externality they create. For example, they should be subsidized for preserving the rural landscape (Sinclair 1985). Secondly, compensation to farmers may be required in order to induce them to use environmentally beneficial farming practices so that the negative externalities from agricultural production can be reduced.

Meanwhile, society has bestowed an important externality upon farmers themselves, namely, public research and extension (R&E) expenditures. Public R&E expenditures has played a large role in inducing technological change as a major source for agricultural output growth in European agriculture (Bouchet, Orden, and Norton 1989). Real prices for agricultural products in the EU, price supports notwithstanding, have shown a secular decline with few exceptions. Farmers have experienced cost reductions which, on the whole, have not been offset by the reduction in revenues due to declining prices. Hence, farmers welfare would have declined due to R&E expenditures if price supports had not been unavailable.

TABLE 1 PRODUCTIVE VERSUS PREDATORY POLICY INTERVENTIONS IN
U.S. AGRICULTURE, 1982-1986 AVERAGE (PERCENTAGE UNIT VALUES).

	Producer Subsidy Equivalents		
	Total	Productive (PERT)	Predatory (PEST)
Sugar	77.4	6.1	71.3
Milk	53.9	4.2	49.7
Rice	45.0	2.9	42.1
Wheat	36.5	4.9	31.6
Sorghum	31.5	4.6	26.9
Barley	28.8	6.0	22.8
Corn	27.1	4.8	22.3
Oats	7.6	4.7	2.9
Soybeans	8.5	6.3	2.2
Beef	8.7	4.8	3.9
Poultry	8.3	5.4	2.9
Pork	5.8	4.8	1.0
Average	24.6	8.75	10.2

Source: U.S. Department of Agriculture, "Estimates of Producer and Consumer Equivalents: Government Intervention in Agriculture." Economic Research Service, ATAD Staff Report No. AGES 880127, April, 1988.

TABLE 2. AGRICULTURAL RESEARCH EXPENDITURES AND MANPOWER

	Expenditures			Manpower		
	(Constant 1980 US\$ Thousands)			(Workers)		
	1959	1970	1980	1959	1970	1980
<i>Western Europe</i>	247,984	918,634	1,489,588	6,251	12,547	19,540
Northern Europe	94,718	230,135	409,527	1,818	4,409	8,027
Central Europe	141,054	563,334	871,233	2,888	5,721	8,827
Southern Europe	39,212	125,165	208,828	1,545	2,417	2,686
<i>Eastern Europe and Newly Independent States (NIS)</i>	568,284	1,282,212	1,492,783	17,701	43,709	51,614
Eastern Europe	195,896	436,094	553,400	5,701	16,009	20,220
NIS	372,388	846,118	939,383	12,000	27,700	31,394
<i>World Total</i>	2,063,553	5,358,595	7,390,043	47,163	108,510	148,039

Source: M.A. Judd, J.K. Boyce, and R. E. Evenson. "Investing in Agricultural Supply: The Determinants of Agricultural Research and Extension Investment." *Economic Development and Cultural Change*, Vol. 35 (1986), pp. 78-113.

TABLE 3 AGRICULTURAL EXTENSION EXPENDITURES AND MANPOWER

	Expenditures			Manpower		
	(Constant 1980 US\$ Thousands)			(Workers)		
	1959	1970	1980	1959	1970	1980
<i>Western Europe</i>	234,016	457,675	514,305	15,988	24,388	27,881
Northern Europe	112,983	187,144	201,366	4,793	5,638	6,241
Central Europe	103,082	199,191	236,834	7,865	13,046	14,421
Southern Europe	17,950	71,340	76,105	3,330	5,704	7,219
<i>Eastern Europe and Newly Independent States (NIS)</i>	367,329	562,935	750,301	29,000	43,000	55,000
Eastern Europe	126,624	191,460	278,149	9,340	15,749	21,546
NIS	240,705	371,475	472,152	19,660	27,251	33,454
<i>World Total</i>	1,427,913	2,722,564	3,443,489	177,521	294,483	349,337

Source: M.A. Judd, J.K. Boyce, and R. E. Evenson. "Investing in Agricultural Supply: The Determinants of Agricultural Research and Extension Investment." *Economic Development and Cultural Change*, Vol. 35 (1986), pp. 78-113.

TABLE 4 RESEARCH AND EXTENSION EXPENDITURES AS A PERCENTAGE OF THE VALUE OF AGRICULTURAL PRODUCT: PUBLIC SECTOR

Subregion/ Country Group	Agricultural Research			Agricultural Extension		
	Expenditures			Expenditures		
	1959	1970	1980	1959	1970	1980
Northern Europe	0.55	1.05	1.60	0.65	0.85	0.84
Central Europe	0.39	1.20	1.54	0.29	0.42	0.45
Southern Europe	0.24	0.61	0.74	0.11	0.35	0.28
Eastern Europe	0.50	0.81	0.78	0.32	0.36	0.40
Newly Independent States	0.43	0.73	0.70	0.28	0.32	0.35
North America	0.84	1.27	1.09	0.42	0.53	0.56

Source: M.A. Judd, J.K. Boyce, and R. E. Evenson. "Investing in Agricultural Supply: The Determinants of Agricultural Research and Extension Investment." *Economic Development and Cultural Change*, Vol. 35 (1986), pp. 78-113.

TABLE 5 PERTS VERSUS PESTS IN EUROPEAN AGRICULTURE (1979-1985 AVERAGE)

	(1)	(2)	(3)	(4)	
				Ratio of	
				PERT to PEST	
	Total Subsidy	PERT Subsidy	PEST Subsidy	Subsidies (%)	
				EC	US
Sugar	51.0	6.4	44.6	14.2	8.6
Milk	52.0	6.8	45.2	15.1	8.4
Wheat	28.0	6.2	21.8	28.5	15.7
Coarse Grains	32.0	7.6	24.4	8.4	21.6
Soybeans	48.0	8.5	39.6	21.7	291.3
Beef and Veal	48.0	6.7	41.3	16.3	125.0
Poultry	21.0	8.5	12.5	67.8	285.7
Pig Meat	6.0	6.0	0	NA	380.0

Source: OECD, *PSE and CSE Tables*, October 1989.

Public R&E expenditures, as a PERT that increases agricultural productivity and supply, have an important effect in increasing the cost of export restitutions of the EU's CAP. This by-product effect of public R&E expenditures has become an acute problem for the EU after it became a net exporter of many commodities by the 1980s. The EU was previously a large importer, but technological advance increased domestic production such that the EU's terms of trade with the rest of the world improved. The potential deleterious effects of R&E on farmers were moderated, and the costs to consumers of price supports with technological change were unaffected. However, the situation quickly reversed itself once the EU became a major net exporter of agricultural products.

Public R&E expenditures by Europe and the Newly Independent States and the corresponding manpower figures are given in relation to world totals in Tables 2 and 3. R&E has increased substantially over time. Research expenditures have increased more rapidly in Western Europe relative to Eastern Europe and the rest of the world (Table 2). The converse is true for extension expenditures as shown in Table 3. In terms of public R&E expenditures as a percentage of the value of agricultural product, Europe has maintained a high profile, even in relation to North America (Table 4).

Data from the OEUD on PSEs in Table 5 give an indication of the breakdown between public good expenditures and transfers resulting from price supports and related subsidy programs. In terms of percent unit value, the inelastic demand sectors of sugar, milk, and wheat have the highest level of support. The coarse grains and soybeans have an intermediate level of support, as shown in Table 5, while the sectors with more elastic demand curves such as poultry and pig meat tend to have lower levels of support. The breakdown of support between PERTs and PESTs are given in columns (2) and (3) in Table 5.

5.1.3. Cross-Country Comparisons

If the PERT-PEST dichotomy is to inform policy debate in anything but a parochial sense, then it should be transportable to settings other than the United States or European Union policy arena. A data set allowing substantive inferences along these lines is available in Lee and Rausser (1991). These examine aggregate PEST transfers and PERT investments in agricultural research for 23 countries. The evidence is

revealed in Figure 1, which shows that the ratio of PERT to PEST transfers unambiguously increases with country income levels. In Figure 2, productivity measured by value added per agricultural worker is related to the mix of PEST and PERT expenditures. This relationship suggests that one reason for the record of strong productivity growth in developed country agriculture is that, despite a strong tendency toward increased protection, there is a complementary tendency toward support for agricultural research. As Lee and Rausser note, complementary provision of PEST and PERT policies provides a consistent explanation for the otherwise paradoxical outcomes of developed countries protecting their agricultural sectors while investing in more agricultural research and generating higher levels of agricultural productivity compared to developing countries which typically tax their agricultural sectors, invest little in agricultural research, and experience generally low levels of agricultural productivity.

5.2. Conceptual PEST/PERT Results

For the case of public good investments and predatory coupled transfers, it has been shown that, if a productivity-enhancing policy harms producers because of highly inelastic demand and responsive supply, but producers have more political clout than other interest groups, the amount of public-good investment will be inadequate (de Gorter, Nielson, and Rausser 1992). However, the political obstruction to public-good investments can be countered with subsidies that are tied to production, thus leading to less underinvestment in public goods than would otherwise be the case. In effect, since productive policies may harm members of special interest groups, compensation through predatory subsidies may offer a means of making the pursuit of the public interest politically viable (Rausser and Foster 1990). Transfers that seem only predatory at first glance may, in certain cases, actually be politically necessary if society is to more closely approach the optimal configuration of productive policies⁵.

⁵Political influence also operates through the public sector by frequently slowing down the redistribution of income generated by changing market conditions. Accordingly, markets with highly inelastic demand and supply conditions as well as rapidly changing technologies are those markets which generate fluctuating incomes and thus a demand for public sector "stabilization". In a world of limited knowledge of how economic systems operate, producer-interest groups have successfully argued that "price stabilization" programs are in the public interest. In this instance, interests who share the burden of financing such programs are led to believe that such policies are PERTs.

Fig. 1.1. Research expenditure/PEST transfers versus per-capital gross national product

Fig. 1.2. Value added per agricultural worker versus research expenditure/PEST transfers

Even if demand is elastic and the "representative" producer benefits from the dissemination of an advance, producers are likely to be heterogeneous in new technology adoption. Those producers who make the greatest use of the new technology will gain from its dissemination and the associated equilibrium price decrease, while others who make little or no use of the technology are likely to lose. Indeed, nonadopters always lose when the demand curve is anything less than perfectly elastic. In this setting, the key is not the elasticity of demand, but the heterogeneity of producers in their ability to take advantage of technical advances. If a sufficient number of these heterogeneous producers are harmed by the equilibrium effects of technological changes, then potential political impediments to future technical advances may arise. If so, some promise of wealth transfers from the winning consumers/taxpayers to the losing producers will be necessary to have any advance at all. As shown in Foster and Rausser (1992), wealth transfers tied to output may be a more effective means than per-firm lump-sum payments in inducing defection from the coalition of those producers least harmed by the technical change. Price-distorting payments target producers who, although harmed by the technology dissemination policy alone, expand their production the most.

For many observers, it is difficult to imagine how a PERT might harm a particular segment of an industry. A number of illustrative examples, however, serve to show how structural *ex ante* assessments lead to PERT harming consequences. These examples include the recent dairy farmers' opposition to the market introduction of growth hormones; the obstructionist behavior of strawberry growers to Experiment Station research at the University of California; and similar behavior on the part of soybean growers to Experiment Station research at the University of Illinois. This behavior does not turn on the degree of demand elasticity but, instead, on the heterogeneous abilities of growers throughout the world to take advantage of any technological innovation that might arise from US Experiment Station research. This same phenomenon has been widely observed in much of the trade liberalization literature. In many instances, the uncertainty about whether a particular group may be a winner or loser as a result of reform can by itself lead to obstructionist behavior. From this perspective, many obstructionist coalitions include as part of their members some groups who will significantly benefit from

reform.

The evaluation of whether or not farmers are harmed by a PERT turns on the effect the policy has on the value of farm assets, primarily land and human capital. Farmer wealth can be determined by the present discounted stream of returns to fixed factors and thus is a function of the discount rate and the path of the incomes of future periods. The post-PERT long-run yearly income will be greater given a long-run elastic demand, but post-PERT asset values may well be much lower. Regardless of whether the long-run elasticities of demand are elastic or inelastic, a relevant issue from a policymaking standpoint is the degree to which politicians and interest groups are myopic (Akerlof 1991). To be sure, even if farmers operate with infinite planning horizons, discounting future income streams can be expected to place more weight on short-run price and income changes, rather than long-run demand elasticities. In this respect, the overwhelming empirical evidence supports the conclusion that short-run demands for many commodities are inelastic. As a result, even if the long-run demand is elastic, farmers may have to bear a loss due to near-term short-run elasticities.

To formally demonstrate the above assertion, consider the case of a demand function that in the very short run is inelastic, but over the long run becomes perfectly elastic. In this case, whether or not the present discounted stream of farmer incomes with the PERT is less than that without the PERT depends upon the size of the supply shift, the discount rate, and the speed at which the output price adjusts to its long-run value. Let the initial supply curve be given by $P = m_0Q$ and the post-PERT supply be given by $P = m_1Q$, where $m_1 < m_0$. The yearly income is given by $p_0 = \{1/2(1/m_0)\}(P_0)^2$ for the case without the PERT and by $p(t) = \{1/2(1/m_1)\}[P(t)]^2$ for the case with the PERT. Price is assumed to adjust over time in accordance with $P(t) = P_0 + P_0[(m_1/m_0) - 1]e^{-gt}$; that is, the very short run is perfectly inelastic but long-run price is that which prevails without the PERT [i.e., $P(t) \rightarrow P_0$ as $t \rightarrow \infty$]. The parameter, g , is a measure of how fast the demand curve goes to its perfectly elastic state.

It can be verified easily that, with an instantaneous discount rate of r , the present discounted stream of income without the PERT is given by $V_0 = \{1/(2rm_0)\}(P_0)^2$ and with the PERT this stream is given by

$$\begin{aligned}
 V_1 &= \int_0^\infty \frac{1}{2} \frac{1}{m_1} [P(t)]^2 e^{-rt} dt \\
 &= V_0 \frac{m_0}{m_1} \left[1 + \left(\frac{m_1}{m_0} - 1 \right)^2 \left(\frac{r}{r + 2\gamma} \right) + \left(\frac{m_1}{m_0} - 1 \right) \frac{2r}{r + \gamma} \right].
 \end{aligned}$$

The conditions under which $V_1 < V_0$ is: $r > g(1/2)\{[1 + 8(m_0/m_1)]^{1/2} - 1\}$; which for small decreases in marginal cost ($m_1^a m_0$) implies $r > g$. In other words, total farmer wealth is less with a PERT than without for sufficiently high discount rates or sufficiently low rates of adjustment to the perfectly elastic long-run demand curve.

6. CONCLUDING REMARKS

The challenge is to identify policy reforms that make economic sense and are politically robust. In the past, the best the literature has been able to offer in the design of democratic decision-making frameworks is to *separate* the processes for PERT and PEST policies. Long ago, Wicksell (1896 [1967]) recognized the distinction between these types of policies and argued for organizing government so that the provision of the two types of policies would be decided by separate and qualitatively different processes. Mueller (1989), in his survey of the literature, outlines the conceptual and practical advantages of considering the two types of policies separately.

However, whatever the issues of analytical convenience, it is now being recognized that political and economic forces must be jointly considered in matters of both design and implementation of public policies (Rausser 1982). Much recent investigation has been devoted to theoretical and empirical models of public sector decision making in an attempt to accomplish this task. Nevertheless, we have only begun to scratch the surface in the development of operational frameworks for blending productive and rent-seeking policies. In general, work in this area must recognize that these two types of policies go hand in hand; frequently, predatory policies are offered as compensation to those that are harmed as a result of the implementation of productive policies. Just as frequently, productive, or what may only appear to be PERT policies are structured to mask the redistributive mechanisms put in place by PEST policies, for example, conservation and commodity subsidies, food security and self-sufficiency, instability and subsidized public storage, and so on. Furthermore, PERT

policies with concentrated benefits but widely shared cost profiles naturally evolve into PEST policies, especially where the power of the few is alive and well and/or vested interests are relatively homogeneous. Even if the initial conditions do not satisfy these characteristics, policies can solidify, and in some instances create, interest groups whose political influence grows over time. This means, of course, that the political-economic costs of removing policy distortions can be dramatically different from the cost of their original implementation. These asymmetric costs can result in policy irreversibilities, a consequence that is generally swept aside when the original policy intervention is evaluated. Finally, the special advantages offered to those groups seeking PEST transfers that face highly inelastic demand and supply relations must be tempered by the impact of PERTs on production possibility frontiers.

Operational prescription must recognize not only the economics of various policies, but also how the distribution of political power will affect the sequence of policy steps. The distribution of political power will often be critical in reforming policies to be more productive and less predatory (Rausser and Zusman 1992). There will be situations where the political timing may be especially ripe, perhaps because of an economic crisis caused by outside factors, to change the institutional structure of agricultural programs. This was certainly true in the mid- 1980s when macroeconomic and international phenomena helped spawn a crisis in the U.S. agricultural sector. In the midst of this crisis, political entrepreneurship emerged which led to some governmental autonomy in the design of the 1985 Food Security Act as well as the subsequent 1990 Farm Act. The lowering of economic barriers and the enhanced planning flexibility introduced by these two pieces of legislation cannot be explained by the pure rent- seeking or predatory models of governmental intervention found in the literature.

Opportunities for restructuring the tradeoff between the *public* and *special* interests have often appeared greatest during times of economic crises. However, the sustainability of the restructured tradeoffs and the new mix of productive and predatory policies has been shown time and time again to depend critically upon changes in the underlying institutional configuration. In the case of U.S. agricultural policy, an example of institutional changes that could alter the level and distribution of po-

litical power might arise from the Uruguay Round negotiations. As previously noted, in the Uruguay Round, it was accepted early by all parties that distortionary trade policies in agriculture exist to rationalize internal country policies; thus, both sets of policies should be included in the negotiations. Accordingly, a number of proposals were tabled in Geneva for reducing internal country coupled PEST policies and substituting PERT policies (Rausser 1992).

For many U.S. interests, the GATT is indeed a high stakes game. It is ironic that the pathway to a potential GATT agricultural accord, the Uruguay Round, became a favorite excuse for at least maintaining (e.g., 1989-90 EU Commission proposed internal commodity price cuts) or increasing subsidies (e.g., 1993 U.S. Export Enhancement Program subsidy directed against Canada). Short of an over-riding external influence (budgetary forces), interest groups have been able to effectively argue that any and all reforms would undermine bargaining creditability in the international GATT negotiations. This may prove to be a small price to pay now that we have arrived at a conclusion to the Uruguay Round. Some might even characterize the most successful feature of the Uruguay Round the process that has been initialized for future GATT or WTO (World Trade Organization) rounds. This process will mean that the probability of backsliding is reduced significantly. In other words, setting the terms of internal reforms into an international agreement has enhanced the durability of reform and possibly set in motion further reform steps. Regardless, the interest-group configuration in the United States will be dramatically different than the political landscape that has existed over much of the prior 60 or so years. Agriculture will no longer be compartmentalized. Agricultural sector issues will be linked with other trade issues, thus widening the vested interests that will determine whether a particular internal agricultural policy is accepted or rejected. Now that a GATT agreement has been accepted by the U.S. Congress, the executive branch will lean on the external code as a basis for credible commitments to achieving more PERTs in exchange for fewer PESTs.

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