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Alberto Valdés

Agriculture has been favored and protected in developed countries while trade policies in developing countries frequently support industry at the expense of exportables and unprotected importables in agriculture. This protection constrains expansion of temperate and subtropical agricultural exports from developing countries. Several studies have estimated the effects of liberalization of trade restrictions on world prices, export earnings, and import costs. While developing countries generally would benefit from having the agricultural policies of the most powerful countries bound by international rules on trade, there are differences among the developing countries as to which products should be liberalized. Even if such conflicts did not exist, politically feasible means to obtain such compliance are elusive. The potentially most feasible approaches for developing countries to obtain some measure of liberalization in the Uruguay Round of trade negotiations are discussed.

This article first highlights some of the traditional and emerging issues of interest to developing countries related to trade policies and negotiations on agricultural products in the framework of the General Agreement on Tariffs and Trade (GATT). This is followed by a presentation of the findings of several studies on trade liberalization in agriculture. The complex pattern of agricultural protection in the countries that belong to the Organisation for Economic Co-operation and Development (OECD) and its implications for the diverse exports of developing countries are central themes in the second section of this article. The last section presents some thoughts on what developing countries should ask for and offer in the Uruguay Round of the Multilateral Trade Negotiations (MTN).

I. BACKGROUND: AGRICULTURE IN THE GATT SYSTEM

It is now generally recognized that developed countries give significantly greater protection to agriculture than to manufacturing. While the degree of protection tends to rise and fall with world market prices, domestic food prices

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in Western Europe and Japan are often twice as high as international prices (Anderson and Hayami 1986). In most industrial countries, agricultural trade policy has become an instrument to validate price-support policies aimed at redistributing income to agriculture.¹

In many developing countries, however, agriculture is taxed and manufacturing is usually protected from import competition. But there is a further contrast. In developed countries agriculture is explicitly protected, and it was excluded from the discipline of the GATT from the beginning. Conversely, many developing countries have followed an import substitution strategy, with agriculture often neglected because industrialization was explicitly or implicitly favored. This intraindustry contrast will be important later when we discuss "reciprocity" in trade negotiations.

Trade in temperate agricultural products has been a problem since the beginning of multilateral trade negotiations. As raw materials, many tropical products face relatively low levels of protection in OECD countries, and there are many opportunities in these commodities to expand exports. As such, a large volume of agricultural trade in tropical products operates under GATT rules. Exporters of temperate and subtropical products, however, face several restrictions on market access to OECD countries. This comes from protection to reduce substitutes in consumption; from tariff escalation as the level of processing increases; and from the fact that several products, such as sugar, livestock and rice, are produced in both temperate and tropical regions.

Much of the trade in the main temperate and subtropical agricultural products is beyond GATT rule. The United States in the past and the European Economic Community (EEC) and Japan today have insisted that domestic farm policy measures should not be subject to international limitations and scrutiny. Exemptions have frequently been sought from the GATT disciplines, such as the waiver granted to the United States in 1954, and more recently the tacit acceptance of the Common Agricultural Policy (CAP) of the EEC.

During the last few decades, agricultural trade has been drifting toward bilateral agreements and market-sharing arrangements, with the tacit acceptance of generous "safeguards" against so-called unfair practices. There has been a dramatic increase in subsidies to agriculture in industrial countries compared with the levels prevailing ten years ago. Farming support in the United States has increased from \$2.7 billion (billion is 1,000 million; dollars are U.S. dollars) in 1980 to a record \$25.8 billion in 1986 and EEC taxpayers spent around \$21.5 billion on farm support in 1986, up from \$6.2 billion ten years ago (*Economist*, November 15, 1986).

Levels of protection of world agriculture are higher than at the beginning of the Tokyo Round in 1973, and the major actors in trade have not shown a commitment to freer multilateral trade, nor to a stronger GATT with the power

1. There are good reasons for doubting the effectiveness of current policies in raising small farmers' incomes. Empirical work supporting this conclusion is found in GATT (1986, p. 29).

to establish rules and enforce them. The relative ineffectiveness of the GATT in dealing with temperate and subtropical agriculture products in the past has been recognized by most analysts. For example, the 1985 "Leutwiler Group" Report, written by an independent study group appointed by the Director-General of the GATT, contains fifteen principal recommendations on trade reforms that governments need to address in the coming years (GATT 1985). The recommendations include "clearer and fairer rules for agricultural trade, with no special treatment for particular countries or commodities," and "greater integration of developing countries into the trading system, with all the accompanying rights and responsibilities." While there is hardly any disagreement on the need for reform of agricultural policy, the definition of and approach to agriculture in trade negotiations remains a major challenge.

Cereal imports by developing countries are the principal growth area in world agricultural trade while more than 65 percent of developing countries' agricultural export revenues came from exports to the wealthier OECD countries (Valdés and Gnaegy 1984). More generally, the rate at which many developing countries grow is a function of their export earnings, most of which are from agriculture.

A harsh reality for developing countries in agricultural trade is that adherence to multilateral trade rules by major economies (the EEC, United States, and Japan) has far greater ramifications than adherence by smaller economies (most developing countries), because the consequences of their actions on agricultural trade flows and world prices are so much more widespread. In no other major sector is such a high proportion of production sold on world markets at less than domestic prices. This is, to a great extent, a direct effect of domestic farm policies of developed countries.

What can developing countries do? Because developing countries individually have little market power, and there is no unified developing country representation in trade negotiations, it is in the interest of the weaker countries that the binding of the strong by international rules be accepted. In this sense, the GATT could serve as a safeguard for the weaker powers. It would appear that developing countries have no real alternative to the GATT system.

Looking beyond Measures Applied at the Border

The analysis of nonborder policies affecting agricultural trade has two related dimensions. One is defining what constitutes a "trade" measure, considering the various forms of domestic assistance to agriculture. The other relates to the increasing influence on agriculture of macroeconomic policies affecting the exchange rate and thus the competitiveness of agriculture.

In the past, much of the international effort to improve the trading system has focused on measures applied at the border, such as tariffs, quantitative import restrictions, and export subsidies. The distinction between border and nonborder domestic policies breaks down, however, since domestic subsidies and taxes affect trade flows (Blackhurst 1981). This is particularly relevant for agriculture,

in which farm products are influenced by domestic price policy including financial assistance, input subsidies, and tax policies. Trade policies support domestic prices; without frontier barriers on the same products, nonfrontier policies such as production subsidies would tend to have rather limited effects on trade flows in the long run.² Up to now, domestic policies have not been effectively subject to the GATT's trade rules, although the trade effects of subsidies received much attention in the Tokyo Round. Thus, even if the negotiations were to focus on the border measures required to operate domestic policies, eliminating border measures is a threat to domestic programs; the negotiators therefore inevitably face the question of whether domestic policy can and should be the subject of international negotiations, and what mechanisms can be devised to offset the impact of national policies on world markets where such effects are seen to be negative.

In recent years, most new instruments to influence trade flows have been nontariff barriers (NTBs), which often create a problem of negotiability since their effects on trade flows are hard to assess. Several studies have documented the widespread use of NTBs in agricultural trade, although NTBs are in violation of GATT principles when used as protection devices (see, for example, Australian Bureau of Agricultural Economics 1985; Nogués, Olechowski, and Winters 1986; and World Bank 1986). There has been an upsurge in the proportion of agricultural trade subject to such NTBs as quantitative restrictions, government procurement policies, technical barriers to trade (including health and sanitary, packaging, and labeling regulations), customs valuations and nomenclature, and more recently, voluntary export restraints. Many of these NTBs, including state trading, could render most of the current rules of the GATT virtually ineffective. Given the form that protection is taking, predominantly as NTBs, and the lack of consistency of many of them with GATT rules, the GATT system is not only having increasing difficulty in furthering trade liberalization but also in safeguarding previously negotiated levels of market access (GATT 1986).

NTBs are more diverse and less visible, add a considerable uncertainty to exports, and are more selective than tariffs. Trade negotiations conducted on the basis of trade flows—as implied by reciprocity—are unlikely to be productive when attempting to reduce NTBs. Reciprocity requires some kind of valuation of the mutual concessions being offered, but with so many NTBs in effect, it would be impossible to quantify concessions on either side (Dell 1986).

A second major nonborder influence on agricultural trade is macroeconomic policy, which influences exchange rates and thus agricultural markets and trade. As an illustration from the experience of industrial countries, the rise in the value of the dollar in 1983–85 brought international wheat prices close to the arti-

2. Snape (1987) makes the case for concentrating international negotiations on frontier barriers, which for agriculture means nontariff barriers—rather than on domestic subsidies, (a) because trade barriers are more harmful policy instruments for other countries than nonfrontier barriers partly because they buttress internal price-support measures; and (b) because of difficulties of agreement on the definition and measurement of the trade effects of nonfrontier policies.

cially higher domestic prices of the EEC (in EEC currencies), thereby reducing their rates of protection and their export subsidies, and relieving the financial pressure on the CAP. In this case, macroeconomic policies pursued in the United States had a significant impact on the EEC's grain policy.

This raises the question of whether to use an index of protection in the negotiations. Farmers are likely to resist adoption of measures which may be favored by economists that make the extent of protection transparent, however, such as nominal rates of protection or producer subsidy equivalents (PSEs). They would argue that they buy and sell in their local currencies and hence the prices they face should not be based on measures which depend so much on the exchange rates at the time of measurement. This objection is not, of course, specific to agriculture. More generally, I would anticipate that the link between protection and exchange rate misalignment will become a major issue particularly for developing countries as they become more integrated into the GATT.

II. THE INCIDENCE OF AGRICULTURAL PROTECTION IN OECD COUNTRIES: FINDINGS OF DIFFERENT STUDIES AND IMPLICATIONS FOR DEVELOPING COUNTRIES

The direct effect that industrial countries' farm policies have on other countries has three dimensions: they depress world prices and thus developing country export revenues; they result in savings in developing countries' import costs; and they induce greater instability in world prices. Most economists agree that to achieve more rapid economic growth, developing countries' trade regime must be made more neutral among industrial and agricultural tradables. In the medium term, however, the current slow growth of the international economy, combined with the high rates and the unpredictable nature of protection in the principal agricultural markets, makes it difficult for developing country policymakers to hold the line against domestic pressure groups who demand a more inward-looking trade policy. There are no real prospects for developing countries to reduce their foreign debt substantially without a rapid expansion of foreign exchange receipts, which come from agriculture in many countries. Most heavily indebted developing countries cannot further restrict their imports to the amount necessary to generate a larger export surplus to pay for the foreign debt.

The trade restrictions imposed by developed countries include tariffs and NTBS, and they vary considerably in severity among countries and products. They all tend to lower world prices by artificially reducing domestic consumption and raising domestic production. As a consequence, the volume of exports from nonsubsidizing countries is reduced. Price and volume effects together translate into a loss to developing country exporters of foreign exchange and welfare. On the other hand, many developing countries have benefited from trade restrictions on cereals in developed countries as protection has led to lower world prices of their cereal imports.

A few studies available now (table 1) have assessed the effects of agricultural

Table 1. *Agricultural Trade Liberalization Literature in the 1980s*

<i>Authors of study</i>	<i>Year published</i>	<i>Liberalizing area</i>	<i>Crops liberalized</i>	<i>Trade barrier reduction (percent)</i>	<i>Years covered^a</i>
Valdés and Zietz	1980	OECD	99 commodities	50	1975-78
Tangermann and Krostitz	1982	Global	Beef	25, 50, 100	1977-79
Koester	1982	EEC	Cereals	100	1975-77
Koester and Schmitz	1982	EEC	Sugar	100	1978-79
Roberts	1982	EEC	Sugar	100	1968-81
Kirmani, Molajoni, and Mayer	1984	Canada, EEC, Japan, United States	Meat, sugar, and cereals	100	1977-81
Matthews	1985	EEC	Cereals, sugar, oilseeds, dairy products, and meat	100	1981
Schiff	1985	Argentina, Australia, Canada, EEC, Japan, U.S.S.R.	Wheat	— ^b	— ^b
Zietz and Valdes	1986	OECD	Wheat, maize, beef, and sugar	100	1979-81 ^c
Tyers and Anderson	1986	(1) Global (2) OECD (3) Developing countries	Grains, sugar, and livestock products	100	1980, 1982
Parikh and Tims	1986	Global	Cereals, beef, and dairy products	100	1980 ^d

Note: All studies liberalize tariffs and nontariff barriers.

a. Years covered in trade flow matrix and serving as base for protection levels.

b. Estimates free trade, market-clearing world price based on econometrically estimated trade equations for 1960-80.

c. Effects based on 1983 protection levels were also computed.

d. Based on data for 1961-76, updated to 1980 where necessary.

protection on world market prices, export earnings, and import costs, and on the resultant welfare gains and losses. Some have also analyzed the benefits and costs of trade liberalization and have identified the products with the greatest potential for export growth.

Several problems arise when comparing such studies. Commodity definitions often differ. Kirmani, Molajoni, and Mayer (1984) used broad aggregates such as meat or cereals rather than specific commodities such as beef or wheat, and

Tyers and Anderson (1986) study coarse grains rather than maize. Valdés and Zietz (1980) distinguish between raw and refined sugar, although their 1986 study uses only total raw sugar equivalents.

Also, few studies use the same base period, and prices for different years can vary widely. In 1980, for example, the world and New York spot prices of Caribbean sugar were approximately 29 and 30 cents per pound, respectively. In 1985 the world price was 12 cents and the New York spot price was 27 cents. The work of Valdés and Zietz (1980) is based on 1975–77 averages, as is that of Koester (1982); Matthews (1985) takes 1981 as his reference year; and the Zietz and Valdés (1986) study uses an average of the years 1979–81, as do Kirmani, Molajoni, and Mayer (1984).

Another problem is that large differences in the level of protection can show up, as Kirmani, Molajoni, and Mayer (1984) reported for a number of surveyed studies. Finally, use of different methodologies between studies can make comparison of results meaningless. In the light of the above problems, most of the comparisons that follow have to be viewed with caution.

This author and J. Zietz analyzed a hypothetical 50 percent reduction in trade barriers for 99 commodities in 17 developed countries (table 2). The effects on the export earnings and import costs of 56 developing countries were quantified, and the most promising products for these countries were identified.

Given this 50 percent tariff cut, developing countries would have increased their export revenue by 11 percent or nearly \$6 billion in 1985 prices, and the

Table 2. *Effects of a 50 Percent Decrease in OECD Tariff Rates on Export Revenues and Import Costs for Selected Commodities of Developing Countries, 1975–77*

Commodity	All developing countries	Low-income countries	Middle- and high-income countries
<i>Change in export revenue (millions of 1985 dollars)</i>			
Sugar	2,108	394	1,714
Beverages and tobacco	686	191	495
Meats	655	33	620
Coffee	540	123	417
Vegetable oils	400	60	339
Cocoa	287	21	265
Temperate-zone fruits and vegetables	197	60	137
Oilseeds and oil nuts	109	19	90
Other	883	96	788
Total increase of all exports	5,866	998	4,867
<i>Change in import costs (millions of 1985 dollars)</i>			
Cereals	-876	-530	-345
Other	-497	-152	-345
Total increase of all imports	-1,373	-683	-690

Note: "Developing countries" include those with populations of more than 4 million in mid-1975; country classifications as defined in World Bank (1986).

export revenues of low-income countries separately would have increased by 8.5 percent. Trade flows and OECD protection have increased since 1977-79, (the base for these calculations) so that the benefits of liberalization would be substantially greater in 1985.

For most commodities the price change ranged between 2 and 10 percent. As expected, the world price change was nil for the few commodities that faced little or no protection in the OECD markets, including cotton lint, jute, natural rubber, sisal, and hemp tow. At the other extreme, the calculated price change of wine, roasted coffee, malt, and cocoa paste cake fluctuated between 10 and 15 percent. Apart from the change in world price, which reflected the degree of protection, changes in export revenues were determined by the initial market share of developing countries and their relative export-supply elasticities.

The study identified many other commodities with significant export potential, including green coffee, wine, tobacco, and maize. Two critical commodity groups, capturing approximately 47 percent of the potential increase in export revenues for developing countries, were sugar and its derivatives (36 percent) and meats (11 percent). Latin America would have captured 63 percent of the total benefit from sugar and its derivatives, followed by Asia with 34 percent. Smaller countries not included in the sample, such as Cuba, Jamaica, and Mauritius, would also benefit substantially from liberalization in these areas.

It should be noted that the developing countries studied capture 50 and often as much as 70-80 percent of the additional overall trade resulting from trade liberalization in agriculture. The developed countries exports that expand are commodities such as wheat, pork, and mutton and lamb.

In a more recent study reported in table 3, protection and trade values were updated for wheat, maize, beef, and sugar; adjustments were introduced to allow for countries which change from being net exporters to net importers when protection is reduced; and a hypothetical removal of trade barriers (instead of a 50 percent reduction) was examined (Zietz and Valdés 1986). Sensitivity of the results to different elasticities was also tested.

The price increases predicted by the model for sugar vary between 13 and 30 percent, depending on the supply elasticity used. The price changes predicted using 1983 protection levels are more than twice as large as those estimated using the 1979-81 protection levels. Even more dramatically, world beef exports would more than double following this liberalization. From 1979-81 protection levels, trade liberalization in all four commodities would be predicted to create an increase of approximately \$10 billion per year in foreign exchange earnings (in 1980 dollars).

The considerable increase predicted in the export earnings of developing countries reported in tables 2 and 3 does not imply that all developing countries share equally in the gains from trade liberalization in either absolute or relative terms. One way to break down the distributive effects is presented in table 2, which analyzes the potential effects of liberalization on a group of low-income countries separately (defined as those with a 1981 per capita gross national product of \$400 or less).

Table 3. *Changes in Prices, Export Revenues, and Welfare Due to Trade Liberalization in Sugar, Beef, Wheat, and Maize: Varying Domestic Supply Elasticities*

Commodity and country supply elasticity	Percentage change		Absolute change (billions of 1980 dollars) ^a			
	World price	World exports ^a	Developing country foreign exchange earnings	Developing country exporters welfare	Developing country import bill	Developing country net welfare
<i>Sugar</i>						
0.6 for all countries	16.7	12.4	2.75	0.60	-0.33	0.08
0.06 for EEC members	13.6	10.4	2.19	0.46	-0.31	0.03
6.0 for all EEC and 4.0 for all other developed	29.4	31.3	5.11	1.25	-0.42	0.39
1.2 for all developing	12.9	16.8	3.04	0.49	-0.48	0.09
<i>Beef</i>						
By country (0.38-1.02)	18.5	167.7	5.10	0.54	-0.33	0.32
0.4 for EEC and Japan	16.2	143.2	4.38	0.43	-0.28	0.22
<i>Wheat</i>						
By country (0.4-0.9)	12.7	10.2	1.17	0.13	-0.35	-0.66
0.8 for all developing	11.5	10.5	1.37	0.13	-0.58	-0.58
<i>Maize</i>						
By country (0.19-0.91)	11.7	35.6	0.61	0.14	-0.57	-0.07
0.08 for all developing	10.8	35.3	0.84	0.14	-0.74	-0.04

a. The sum of net exports of all net exporting countries

Source: Zietz and Valdés (1986).

As suggested in table 2, low-income countries as a group would be hurt by trade liberalization in cereals. Table 2 also suggests that a small percentage of the foreign exchange gains from meats accrues to low-income countries. Liberalization for beef exports is mainly in the interest of middle-income developing countries, particularly those in Latin America, although the increase in export earnings is split about equally between developed and developing countries. The gains to both low and middle income developing countries from trade liberalization in sugar are large, and only a small fraction of the total increase in export earnings attributable to sugar is captured by developed country exporters. Most of the gains from liberalization of trade in wheat and maize would accrue to Australia, Canada, and the United States at the expense of the EEC, and to Argentina, Thailand, and a few developing country cereal exporters which are the exceptions.

Table 3 shows the net welfare changes resulting from liberalization of four commodities. The welfare benefits from trade liberalization calculated here represent a transfer of real income to developing country exporters equal to the increase in export earnings less the resource costs of increased exports. That is, the welfare gains to developing countries come from an increase in the value of the original volume of exports and the increase of producer surplus in the additional production for export. Similarly, the welfare loss results from the increased value of the lower volume of imports plus the loss in consumer surplus from the reduction in imports. The results shown suggest how interests among developing countries diverge according to the commodity being considered, as they do on other fronts in the MTN.

In their study of the beef market for the Food and Agriculture Organization (FAO), Tangermann and Krostitz (1982) find that a complete removal of trade barriers would result in a world price increase of 47 percent, a value considerably greater than that reported in table 2 (a comparison of several studies and some of their calculated world price increases are presented in table 4). In addition, they estimate that world exports would increase by 300 percent, which is about double the values found in the Zietz and Valdés (1986) study. One reason for the larger percentage changes predicted by Tangermann (1980) is his assumption that trade barriers are removed in OECD and developing countries.

Koester (1987) uses the same methodology and data base as Valdés and Zietz (1990) but concentrates his analysis on cereals. Assuming a complete removal of trade barriers in the EEC, Koester predicts increases in the world prices of wheat and maize of 9.6 and 2.2 percent, both less than those shown in table 3. They are based on the assumption that trade barriers are removed only in the EEC however, rather than in all OECD countries. Koester also finds that trade liberalization in cereals as a whole results in a net welfare loss to developing countries.

Koester and Schmitz (1982) examine the effect on all beneficiary African, Caribbean, and Pacific (ACP) countries of the protection given to sugar production in the EEC (the Valdés and Zietz studies are limited to those countries with 5 million or more inhabitants). Given the gains from higher export prices under

Table 4. *Estimated Effect on World Prices of Trade Liberalization in Selected Commodities*

Source	Estimated increase in world price (percent)			
	Cereals	Meat and dairy	Sugar	Others
Valdés and Zietz (1980)	Wheat (5) Wheat flour (7) Maize (2) Rice (0.4) Barley (8) Sorghum (0.6)	Beef and veal (7) Beef preparations (4) Pork (9) Mutton and lamb (4) Chicken (3)	Raw (8) Refined (6) Confectionary (9)	Roast coffee (11) Cocoa powder (14) Wine (16) Soybeans (1) Tea (3) Palm oil (3)
Tangermann and Krostitz (1982)		Beef (7-47)		
Koester (1982)	Wheat (10) Barley (14) Maize (2) Rye (9) Oats (20) Sorghum (0.6)			
Koester and Schmidt (1982)			Sugar (12)	
Roberts (1982)			Sugar (7.2-11.3)	
Matthews (1985)	Wheat (0.7) Barley (3) Maize (0.5) Rice (0.1)	Beef (4) Pork (4) Mutton (5) Poultry (3) Butter (11) Milk powder (8)	Sugar (11)	
Schiff (1985)	Wheat (15)			
Zietz and Valdés (1986)	Wheat (12) Maize (11)	Beef (16-18)	Sugar (13-29)	
Tyers and Anderson (1986) ^a	Wheat (2) Coarse grains (1) Rice (5)	Beef and lamb (16) Pork and poultry (2) Dairy products (27)	Sugar (5) ^b Sugar (3.2) ^c	
Parikh and Tims (1986)	Wheat (18) Coarse grains (11) Rice (21)	Bovine and ovine products (17)		

a. In a more recent study, these authors have significantly revised their estimates of the price effects of protection. The same authors provide estimates of price effects in their 1983 study.

b. Liberalization in industrial market economies only.

c. Liberalization in all developing economies only.

the EEC Sugar Protocol, Koester and Schmitz conclude that a removal of EEC trade barriers would result in a net loss to the ACP beneficiaries except for India and Kenya. A study by Roberts (1982) of EEC sugar trade calculates that developing countries as a whole could expect an increase in welfare of between \$370 million and \$570 million, compared with a loss to the ACP countries under the Sugar Protocol of about \$170 million. Roberts's results cannot be compared directly with the figures in Zietz and Valdés (1986) because of different assumptions regarding the scope of trade liberalization. More recently, the *World Development Report 1986* (World Bank 1986) presents estimates of the effects of the Lomé Convention on the income transfer derived from EEC sugar quotas to ACP countries.

The studies reported above isolate the effects of liberalization by developed market economies. Tyers and Anderson (1986), and Parikh and Tims (1986) try to quantify the likely effects of global trade liberalization including liberalization of developing countries' agricultural trade. The results are generally similar to those of Valdés and Zietz (1980) and Zietz and Valdés (1986) for OECD trade liberalization. Tyers and Anderson and Parikh and Tims, however, find no loss of welfare to developing countries from liberalization of cereals, and they predict a substantial loss in foreign exchange earnings rather than an increase. This is a result of the positive nominal protection rates for cereals found in several developing countries. Positive nominal protection in many developing countries, however, can be viewed as partial compensation for significant discrimination against agricultural import-substitutes resulting from an overvalued exchange rate, high levels of industrial protection, and macroeconomic policies that favor industry over agriculture (Valdés 1986).

While the selection of which countries liberalize their agricultural trade makes a major difference in the potential trade effects, all studies that analyze OECD trade liberalization in agriculture predict an increase in the world price if part or all of the barriers to trade are removed (table 4). The extent of this increase is highest for the most protected commodities, such as sugar, beef, and dairy products. Sugar prices are predicted to increase between a low of 5 percent (Tyers and Anderson 1986) and a high of 13 to 29 percent (Zietz and Valdés 1986), and both studies suggest a 16 to 20 percent increase in the world price for beef. For dairy products, Tyers and Anderson (1986) put the increase at 27 percent.

These world price increases accord well with the results reached by the linked system of national agricultural policy models developed at the International Institute for Applied Systems Analysis (IIASA) (Parikh and Tims 1986). Using 10 commodity classifications, the IIASA model predicts a long-run increase in world prices of about 9 percent.

This figure translates into a foreign exchange gain for developing countries of about \$7 billion for all commodities taken together. Compared with Zietz and Valdés (1986) and Tyers and Anderson (1986), this overall foreign exchange gain seems low. Both these studies arrive at a figure of around \$8 billion, for

sugar and beef taken alone, evaluated at 1980 prices. According to Tyers and Anderson (1986), trade liberalization in dairy products would generate an additional \$7.8 billion of foreign exchange for developing countries. Another reason why Parikh and Tims may underestimate the effect of liberalization is that neither they (nor Tyers and Anderson), analyze the potential benefit to developing countries in the major nonstaple export crops, as opposed to the subset of foods and feeds from temperate zones. As Valdés and Zietz (1980) have shown, developing countries are likely to realize substantial gains in foreign exchange if trade barriers were lowered or removed for such products as tobacco, roasted coffee, coffee extracts, cocoa derivatives, or oils and seeds. The authors have shown that the likely gains on these products (for developing countries as a whole) would also more than compensate for the losses developing countries could expect from the price increases in cereals, which many of them currently import. Because of the limited commodity coverage of the IASA and Tyers/Anderson models one cannot conclude from them that developing countries would suffer a net welfare loss from OECD agricultural trade liberalization.

A second benefit likely to be obtained through liberalization is a reduction of world price instability. This effect results from the removal of some NTBS, specifically variable levies, which insulate domestic markets from border prices. Both Schiff's recent study of wheat in the EEC (1985), and the Tyers and Anderson study (1986) arrive at the conclusion that changes in the system of protection would contribute significantly to world price stability. For example, Schiff (1985, table 25) estimates that the variability of world prices of wheat would fall from a coefficient of variation of 0.46 to 0.32 if the EEC alone were to remove its trade barriers on wheat. If less price instability is valued highly, as the discussion of commodity price stabilization and buffer stocks seems to indicate, then the increased price stability resulting from liberalized trade should be included as a benefit in an overall evaluation of trade liberalization.

There are several limitations to these trade liberalization models. While none of them includes adjustments for the exchange rate, some policy simulations may affect the exchange rate, which could in turn affect the domestic responses to the initial change in world prices.

Supply elasticities tend to be much larger in the long than short run, and permanently reducing trade barriers in developed countries would lead developing countries to develop new export products and to expand their processing operations. In addition, it would probably encourage developing countries to direct more resources toward increasing agricultural production, helping to break the current climate in developing countries of "export pessimism" that inhibits the adoption of export-oriented policies in agriculture, as well as in other sectors.

The increased uncertainty of world prices and of market access due to current OECD policies may also affect the trade response of developing countries. If OECD countries were to liberalize their agricultural markets, there would be lower and perhaps less stable food prices in the highly protected industrial countries but

higher and more stable food prices in the rest of the world. This change may stimulate developing country governments both to reduce their explicit or implicit taxation of agricultural prices and to expand public investments in agriculture in order to take advantage of the more profitable and less risky opportunities to earn export income in international agricultural markets.

III. THE RECENT GATT COMMITTEE'S PROPOSAL ON MINIMUM-ACCESS IMPORT REQUIREMENT AND PRODUCER-FINANCED EXPORT SUBSIDIES

There are two potentially important proposals by the GATT's Committee on Agricultural Trade that deserve special attention because of the way they relate market share agreements to domestic prices and the financing of subsidies. These two proposals, submitted to the GATT Council in 1984 and 1985, can be understood as attempts to end the developed countries' increasing reliance on tighter import restrictions or subsidized exports to manage their internal supply problems. These proposals were the subject of a quantitative evaluation by Valdés and Zietz (forthcoming).

Export subsidies, according to the Committee's report, should only be maintained if they are financed by the producers, thereby diminishing the net price they actually receive. Exactly how this might work depends on the particular scheme that would be adopted to collect the funds to finance the export subsidy. The Valdés and Zietz (forthcoming) study assumed that an *ad valorem* tax would be placed on total production, which would reduce total production.

The second proposal would require that countries maintaining import restrictions allow imports to reach some minimum percentage of domestic production, which was taken to be 10 percent for illustrative purposes. All import-restricting countries that do not already import at least 10 percent of domestic production in the initial situation would be subject to this "minimum-access" requirement. This rule would apply equally to countries that are net importers initially as well as to countries that are net exporters (because of import restrictions rather than because of comparative cost advantages). Four alternative scenarios and their respective quantitative implications were investigated in the Valdés and Zietz study.

The effects shown by the model simulations of these proposals on the world price and the foreign exchange earnings of 58 developing countries are summarized in table 5. As one might expect, removal of trade barriers in the OECD countries results in an increase in world prices in each scenario, as the world import demand curve shifts to the right. The size of the predicted increase depends not only on the type of measure proposed, that is producer-financed export subsidies or minimum access, but also on the type of domestic adjustment one hypothesizes for those countries directly affected by the changes in the trade regime.

The assumed effects of the GATT proposals were compared with results in the Zietz and Valdés (1986) study, which assumed a reduction of tariffs and NTBs in

Table 5. *Effect of Proposed Minimum-Access Import Requirement and Producer-Financed Export Subsidies on World Price and Developing-Country Foreign Exchange Earnings of Sugar*

Proposed measure	Change in world price (percent)	Change in developing country foreign exchange earnings		EEC nominal protection coefficient
		Constant millions of dollars	Percent	
Producer-financed export subsidies	0.73	105.6	4.0	0.57
Minimum access				
Constant protection level	1.91	276.8	10.4	0.57
Constant domestic price ^a	2.30	334.2	12.6	0.54
Constant absolute surplus ^b	2.10	305.9	11.5	0.39
Domestic market clearing ^c	6.74	1,018.7	38.4	0.007

a. Countries reduce their level of protection in the face of a rising world price so as to keep the domestic price level constant in absolute terms.

b. The level of protection is reduced so that the domestic surplus in the final equilibrium just equals the initial surplus before minimum access.

c. The protection level is reduced to a level that just equilibrates domestic demand and supply.

Source: Valdés and Zietz (forthcoming).

a "most-favored-nation" approach. There is a significant discrepancy between the effects of these two approaches because both producer-financed export subsidies and the minimum-access rule are tied to conditions that a priori relieved many highly protected OECD countries from the disciplines of the proposed GATT schemes.

Only two developed countries on the export scheme and three countries on the minimum-access rule (including the EEC) are directly affected. Countries with highly protected trade regimes in sugar such as Canada, Japan, Switzerland, or the United States would not be forced to reduce their protection under the GATT proposals.³ This is because they either do not export sugar and hence are not subject to the export subsidy regulations, or they import an amount equal to or in excess of domestic production and hence evade any discipline under the minimum-access rule. None of the other developed countries either exported sugar or imported less than 10 percent of domestic production during the years 1979 to 1981. The results hardly change if, say, the 10 percent rule is simply replaced by a 20 or 30 percent rule. Preliminary work on beef seems to lead to similar conclusions. The results may be more significant for other commodities (dairy products, for example).

The Valdés and Zietz evaluation of the GATT proposal concluded that, although developing countries are divided as to which of the two schemes is preferable (depending on whether they are importers or exporters of the products in question), for developing countries and consumers in the affected OECD

3. By 1990 however, the United States may import less than 10 percent of its sugar consumption and thus the proposal on imports could have a marginal effect.

countries alike, minimum access with "constant absolute surplus" or "domestic market clearing" seems to be preferable. This is based on the assumption that countries refrain from increasing their exports by an amount equal to or close to their minimum import requirement. Should this assumption not hold, then one could not expect an increase in world price, or any resultant foreign exchange gains for developing countries. However, a problem with this conclusion is that while trade regimes may be influenced by the GATT, the domestic reaction of governments to the ensuing changes may not be. So unless the proposal is complemented with restrictions on protection, even if "minimum access" should be adopted as part of a new revised GATT code on trade in agriculture, there is still a wide variety of ways in which individual countries can adjust, only a few of which would be clearly in the interest of consumers and developing countries.

One may conclude that changes in the GATT code with regard to export subsidies and a minimum-access requirement are a step in the right direction but are not a substitute for a general reduction in trade barriers. The analysis also suggests that if any such scheme were implemented in practice, disagreement among the affected countries on the interpretation of the accompanying rules is very likely. It reinforces the view that there is an urgent need to strengthen the present GATT rules and disciplines on subsidies and quantitative restrictions, and to improve dispute settlement procedures.

IV. APPROACHES TO NEGOTIATIONS ON AGRICULTURAL TRADE IN THE URUGUAY ROUND: WHAT DEVELOPING COUNTRIES SHOULD ASK FOR AND OFFER

In light of the discussion up to this point, one might then ask, what developing countries should be seeking from the MTN, what they could offer, and what they should avoid. However, a reference to "developing country views" should be interpreted with caution—like industrial countries, developing countries have conflicting interests with regards to particular commodity markets. In this section, three sets of issues are discussed: (1) direct actions to increase market access to developing countries, (2) strengthening GATT rules and disciplines, and (3) reciprocity and what developing countries could offer.

Direct Action to Increase Market Access

Several implications emerge from the quantitative evidence presented in section II of this article of relevance for negotiating strategies for developing countries. Broadly, the survey presented in section II underscores the need for developing countries to ensure that agriculture is high on the agenda in the Uruguay Round. Another feature worth highlighting is that the literature on the trade liberalization models suggests that the adjustment costs to trade liberalizing countries would be lower under multilateral liberalization, as compared with unilateral reduction in trade barriers. The loss in producer welfare in the liberal-

izing countries is smaller if other countries liberalize at the same time, a fact which is politically important. The larger the number of protected markets liberalizing trade in a given product, the larger the increase in the world price and so the smaller the reduction in the producer price required in the protected markets.

On the questions of who liberalizes (OECD, EEC, Japan, developing countries), what trade barrier is lifted (quantitative restrictions and/or tariffs), and which crops are affected, two major implications from the previous sections arise.

One is that what really matters for developing economies, and for world trade in agriculture more generally, is trade liberalization in industrial countries. Trade policies of two other actors are also influential in the final outcome. The U.S.S.R., not a member of the GATT, has become a major importer in the world markets for grains, butter, sugar, and to a lesser extent poultry, beef, and pork. Developing economies are now the fastest growing market for grains, at what I would argue have been low levels of protection, with exceptions like the Republic of Korea and Taiwan. But barriers to imports in developing economies are influential in several other products (jute, fruits, and others), and their trade policies should be addressed in the Uruguay Round. Still, as far as we can tell from the available research, the industrial countries are the dominant actors in most agricultural trade and are the principal contributors to the "disarray" of world agricultural markets, to use Johnson's (1973) all too appropriate term. High domestic prices are the basic problem behind the current overcommitment of resources to agriculture in OECD countries.

A second principal implication of the studies examined is that the importance of NTBs and nonborder types of intervention strengthens the argument for concentrating less on trade flows and more on domestic price levels. Ideally, emphasis at the MTN should be on NTBs and on all domestic policies that may have trade effects. Export subsidies, variable levies, and other interventions are an integral part of domestic policies aimed at farm income support. To effect any substantive change, negotiations must not be restricted to tariffs. The "tariff escalation" phenomenon is important for developing countries, however, and thus tariff reduction in semiprocessed foods, for example, is an important element on the agenda.

What is needed is an overall measure of protection and, for the next three to four years, a binding of domestic supports based on a direct comparison of domestic and international reference prices,⁴ to be followed by a gradual annual percentage reduction of protection. Measures of nominal protection, or of producer and consumer subsidy equivalents, are possible indexes of protection, capturing the effects on domestic prices of import quotas, variable levies, tariffs,

4. Such a suggestion was made by the EEC at the Kennedy Round in the "moutant de soutien" or margin-of-support scheme. It was rejected by the United States because it did not contain minimum-access guarantees to the EEC market.

acreage diversion payments, and export subsidies. While input subsidies cannot be captured by measures of nominal protection, direct measures of the levels of nominal protection on tradable inputs could be estimated. This would be desirable if measures of effective rates of protection (ERPs) are unsatisfactory or agreement on an appropriate system is difficult to reach. Some direct income transfers to farmers (such as social security but not deficiency payments as currently used in the United States) could be left out of the calculations, to the extent that they do not influence the level of protection to producers or prices paid by consumers.

T. Josling's (1982) work on consumer- and producer-subsidy equivalents (CSES; PSES) is relevant as a possible measure of overall intervention. More recently, the OECD's Trade Mandate Study on agricultural protection among OECD member countries derived measures of CSES and PSES. The United States and EEC are currently in "hot debate" internally about how to use these measures in trade negotiations.

The question of commodity coverage in the negotiations raises a thorny issue for developing countries. The results in section II show how interests among developing countries diverge with respect to which commodities should be given priority. Most developing countries would benefit from priority being given to products other than cereals, such as sugar and meat. The most controversial commodity group among developing countries is cereals, because of the dependency of so many of them on cereal imports. The developing countries' negotiating positions could be weakened if they each press individually for their "preferred" products in the negotiations, however, and liberalization of cereals trade appears to be high on the priority list of developed countries in the negotiations (and is a high priority for a few developing countries such as Argentina, Thailand, and Uruguay).

The conflict regarding cereals raises the question of whether the negotiations should proceed commodity by commodity, which is likely to be the preference of some developed countries. Sugar, cereals, and dairy products are often singled out as obvious candidates. Such an approach is attractive as a practical way of getting the process started, when engaging in a battle against protectionism across many sectors simultaneously appears politically very difficult. The results for developing countries, however, are likely to be poor. Individual commodity conventions have been attempted in the past (such as in wheat, dairy, and meats), and they have been unsuccessful. They do not allow for negotiations across sectors (a point examined below) and therefore are unlikely to be given a high level of political commitment. As a result, commodity conventions are negotiated by sectoral representatives, whose political support comes from the farm lobbies in their own countries rather than from a broader range of producer and consumer interests. Furthermore, such an approach increases the likelihood of deals among the major industrial countries, with little attention being paid to the needs of developing countries.

Strengthening GATT Rules and Disciplines

Rulemaking for agricultural trade in the 1990s is expected to become a critical issue at the Uruguay Round, requiring agreement on new issues and new rules to be followed. This includes deciding on abolition of permanent agricultural exceptions, and whether to ban or limit certain policy instruments, such as subsidies.

The GATT negotiations have been successful in reducing industrial tariffs and enforcing these reductions. Unfortunately, this has not been the case with non-tariff barriers, which are the dominant form of protection in agriculture. Critical problems for agricultural exporters have been quantitative restrictions (QRs), and domestic subsidies, selective safeguards targeting specific exporting countries (which are historically damaging to developing countries), and the weakness of GATT mechanisms for surveillance and for dispute settlement. The disputes panel, which is charged with handling enforcement of decisions, has no real power to put the recommendations into effect. Strengthening the GATT's capacity and authority to evaluate, expose, and sanction violators of agreed-upon accords would become a very important means to increase market access.

Developing countries should be particularly interested in becoming active participants in an international system which provides a framework of norms, rules, and procedures. The alternative could easily be discriminatory protection and bilateralism, which is much less promising for small economic actors. A strong monitoring mechanism within the GATT could implement surveillance of national trade policies, increasing each government's accountability for its own trade-related practices. This would be particularly useful for small countries and for most developing countries.

Reciprocity and What Developing Countries Could Offer

The major trading powers—the EEC, Japan, and the United States—have to reach agreement among themselves if anything significant is to happen during the MTN. The risk for developing countries is that the three big powers could strike a deal among themselves before starting negotiations with the developing countries, which could be highly deleterious to the long-term interests of developing countries and to the GATT system as a whole. Developing and developed countries (other than the EEC, Japan, and the United States), must offer some incentive to the trading powers in order to become influential. I believe this incentive could come from two fronts. First, developing countries must be prepared to reciprocate in trade concessions, on the premise that developed countries would then be more willing to make additional concessions. Second, they must be willing to compromise on preferential treatment and graduation, issues to be examined briefly below.

The application of GATT rules is more lenient for developing countries than for industrial countries, allowing developing countries to enjoy the benefits of re-

duced protection in developed country markets while not making concessions themselves. This has been supported by a tacit acceptance of import substitution as a development strategy. The economic importance of developing countries in trade negotiations has been diminished as a result.

Industrial protection, commonly adopted in developing countries, helps industry at the expense of agriculture. A policy that protects industry raises the cost of tradable inputs, such as fertilizers, machinery, and other inputs, and the resulting changes in the exchange rate penalize producers in other import-competing sectors, as well as those producing exportables. As a result, resources move from the traded agriculture sector to the protected and nontraded sectors (Valdés 1986b). The losers from industrial protection are consumers of industrial goods and the nonprotected activities. This depresses the potential of agriculture, which is a highly tradable sector compared with the rest of the economy in most developing countries.

Liberalization of industry could be used to provide additional leverage for developing countries in agricultural negotiations during the MTN, and in the process, help to promote the growth of their agriculture. Greater freedom in agricultural trade could be the price demanded by developing countries in exchange for the prospect of freer trade in their industry (and services?) and better terms for foreign direct investment in their economies. A direct implication of the above is that agricultural negotiations should not be self-contained. In order to gain in agriculture, developing countries would have to provide bargaining chips from the nonagricultural sector, which is not compatible with single-commodity negotiations.

The second incentive developing countries could offer in the MTN relates to preferential treatment. A critical issue is whether the growth and adjustment of developing economies call for more or less preferential treatment in trade policy. Some developing countries still believe that their leading objective in any GATT negotiation should be to preserve their preferential access to developed country markets. Most trade economists argue, however, that greater benefits to developing countries have come from the reductions in tariff barriers under the GATT, rather than from preferences under the Generalized System of Preferences (GSP). The GSP is restrictive at best, and many agricultural products are excluded in the U.S. scheme, while most are excluded by both the EEC and Japan. The effect of the Lomé Convention on sugar exports is significant for only the smallest economies among the eighteen ACP countries that have quotas to export sugar to the EEC.

The Leutwiler Report (GATT 1985), like others, concluded that special and preferential treatment has been of limited value for most developing countries. And there is a risk that insistence on preferential treatment could have a high opportunity cost in terms of concessions made and that it would only detract attention from other more important issues. Preferential treatment of the smallest and poorest, however, seems appropriate. Perhaps rather than emphasizing a political alignment on North-South lines, a fresh approach would be for devel-

oping countries to focus negotiations on issue alignment, with the decision on where to align based on the selection of those specific measures and rules of high priority for developing countries' own self-interest, such as export subsidies and quantitative restrictions. In this regard, the initiative by the Cairns Group (which includes some developed countries) is a very positive development for agricultural-export-oriented developing countries, both as a mechanism to help keep the negotiations within a multilateral framework and to focus the negotiations on an issue alignment.

This approach implies differentiating the rights and obligations of smaller, low-income developing countries from those of large, middle-income developing countries, including newly industrialized countries. The argument is based on the fact that, first, the rent these small, low-income developing countries derive from trade preferences represents a significant amount of their foreign exchange supply. Second, these economies are highly vulnerable to foreign trade fluctuations in one or two commodities. Third, the cost to preference-giving countries is relatively small. Fourth, the opening of the trade regime in the graduating developing countries would, it is presumed, represent an additional force to help these poorest developing countries.

The graduation from trade preferences to reciprocity for middle-income developing countries would probably influence coalition building and may create divisions between them and low-income developing countries. Is this inevitable? This differentiation between low and middle-income countries does not imply that low-income ones have no incentives to support middle-income ones in their new (hypothetical) stance in the negotiation. If the same level of implicit income transfer from nonreciprocity and preferential treatment is now reserved exclusively for low-income countries, this would presumably be considered a benefit for them. Furthermore, the product mix of their exports is changing and the pressure of middle-income countries for more access to OECD markets and to other middle-income countries, for products such as sugar and derivatives, vegetable oils, beverages, tobacco, and fruits is also of great potential interest to low-income countries as exporters. Agricultural trade is only one area of concern for developing countries, however, and the formation of coalitions involves many. Ultimately it can be expected that developing countries will find greater benefit from negotiating in concert than from taking on their largest trading partners alone.

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