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## Government Policies Influence Agricultural Competition Among Less Developed Countries

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Throughout the world, countries of different income levels and political systems are moving toward a consensus on the likely direction of agricultural policy reform. The variety of government programs that influence production, consumption, and trade are facing vigorous challenges that are reducing the role of government regardless of the effect on agricultural producers.

China, the Soviet Union, several Eastern European nations, a majority of African States, and many South American countries have already dramatically reduced government intervention in their agricultural sectors. Western economies are key players in multilateral negotiations to liberalize trade by reducing government involvement in agriculture. These negotiations are being conducted under the auspices of the General Agreement on Tariffs and Trade (GATT).

The United States is pinning its hopes for expanding agricultural exports on our ability to compete in international markets that are relatively free from government intervention. At the GATT negotiations, the United States has offered to substantially reduce trade-distorting farm support if competing nations do likewise. It would be difficult for the United States alone to scale back agricultural programs because such an action would lessen the U.S. competitiveness in world markets. With smaller subsidies, American farmers would have less incentive to produce than their counterparts in other exporting nations. (See *National Food Review*, October-December 1989, for more information on the U.S. proposal and GATT agricultural negotiations.)

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International markets that are relatively free from government intervention could mean expanded U.S. agricultural exports as domestic prices move more in line with world levels. However, another impetus for policy reform in the United States comes from the burden on Government budgets imposed by current farm programs. Agricultural policy reform in the European Community (EC), the United States' principal trading partner, is also motivated by internal budgetary pressures.

Although many countries are encountering budget constraints, not all countries share the other incentives for agricultural policy reform. Less developed countries (LDCs) are experiencing pressures from external sources, particularly international lenders, to reduce government intervention in agriculture. The lenders regard many current policies as

constraints on the ability of borrowers to pay their debts, and these lenders place a higher priority on debt repayment than LDC governments have in the past.

The production and trade implications of reduced intervention depend heavily on the nature of existing government programs. LDCs, for example, often burden farmers by inhibiting exports and encouraging imports. Some programs enforce rigid quotas that completely insulate domestic decisions from international market developments. Others are specifically tied to world prices.

Policy reforms in LDCs will contribute to changes in global trade patterns, particularly since several developing nations have already become important agricultural competitors or customers. For example, Thailand increased its share of world agricultural trade by over 50 percent from 1970 to 1985. Argen-



Producers of temperate commodities in exporting LDCs generally have less support from their governments than farmers in developed countries.

tina was an important grain exporter despite export taxes through the early 1980's.

### Less Developed Countries Are Diverse

LDCs are a diverse group, defined by their lack of infrastructure, like schools and factories, and by their lack of capital to invest in such facilities. They range in per capita income from the rich, oil-producing States, such as Saudi Arabia, Libya, and Brunei, to the newly industrialized, middle-income countries of eastern Asia and Latin America, like Argentina, Brazil, and South Korea. In Africa, the perennial food aid recipients of Burkina Faso, Ethiopia, and Mozambique are also classified as LDCs. More than three-fourths of the world's people now live in developing countries.

The poorest LDCs, those with annual per capita incomes under \$500, contain half the world's population. China and India together had 37 percent of the world's 5 billion people in 1988.

Poor LDCs provide the United States with little agricultural competition, except in cotton, sugar, and tobacco. Their importance to the United States derives from two sources. First, when development does occur in these nations, income levels will rise, providing the United States with more overseas customers. Second, some of these developing nations supply the United States with tropical products.

Some middle-income LDCs export commodities that compete directly with U.S. exports, such as temperate-climate crops like wheat, corn, and soybeans. These nations also export rice, cane sugar, oilseeds, and other tropical commodities that compete with temperate crops. Such countries—including Argentina, Brazil, Malaysia, and Thailand—pose a conspicuous challenge to U.S. farm exports.

Higher income LDCs that import temperate products are already a significant source of demand for U.S. agricultural products. For example, U.S. agricultural exports to Mexico and South Korea more than doubled between 1975 and 1980 and now each exceeds \$1 billion annually. However, agricultural production in some of these high-income LDCs is heavily subsidized, which increases their output and thus reduces the demand for imports. Farmers in South Korea and Saudi Arabia are among the most heavily subsidized in the world.

### Types of Government Intervention

Individual LDCs rarely have as many agricultural programs as the United States. But as a group, developing countries display considerable variety in the types of agricultural policies and programs they use. Government intervention among LDCs can be categorized on the basis of two characteristics:

- *Program target*, which can be either commodity specific or economywide. Commodity-specific programs focus on the producers or consumers of a specified commodity or group of commodities. Examples include agricultural price supports and tariffs. These programs tend to shift resources toward or away from targeted sectors. For instance, the cocoa marketing board in Ghana pays domestic farmers less than the international price for the cocoa it exports, reducing production below competitive market levels. U.S. taxes on cigarettes have a similar effect on our tobacco output.

Economywide programs do not focus on any particular sector but apply equally to all productive activity. Examples include income taxes or requirements that profits be kept in the country where they were earned. Nonetheless, these general policies may affect some sectors more than others due to underlying economic conditions. A tariff on all imports does not specify any particular commod-

ity, so it appears to be economywide, but in a country that imports mainly cereals, an across-the-board tariff functions in a commodity-specific way.

- *Program method*, which can be either domestic or a border measure. Domestic programs are limited to direct involvement in transactions among citizens or institutions of the country that formulated the policy. Sale of cheap fertilizer from government shops scattered through the countryside constitutes a domestic policy. Increased production due to low fertilizer costs only indirectly affects the country's trade balance in that commodity.

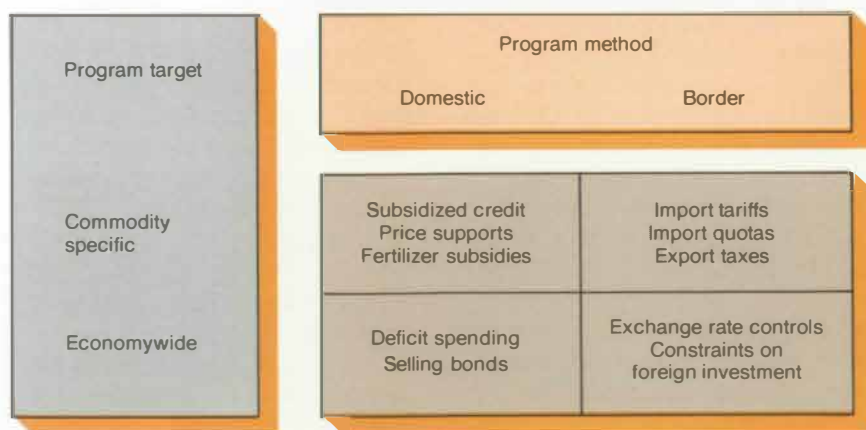
Border measures involve exchanges with or constraints on citizens or institutions of other countries. An export tax, for example, might be paid by the exporter, but it is a border policy because it directly lowers the price received from outside the country.

The two intervention characteristics overlap. A commodity-specific policy is also either a domestic or border measure (*figure 1*). Price supports and tariffs are both commodity specific, but a price support is a domestic measure, while a tariff is a border measure. In the same way, a border policy can apply to specific commodities or the whole economy. Import quotas and exchange rate controls are both border policies, but quotas apply to particular commodities, while exchange rate controls are economywide.

Domestic, commodity-specific programs typically take a different form in LDCs compared with developed countries. For example, marketing boards that are exclusive or major purchasers of farm output were common in LDCs until the late 1980's, particularly for exported commodities. Nigeria, for example, had marketing boards covering virtually every agricultural commodity that was traded commercially within the country or across its borders until 1986. Using various techniques, marketing boards are



Figure 1. LDC Policies Can Be Categorized on the Basis of Two Overlapping Characteristics



able to set the prices received by producers. Sometimes these prices are lower than what a private market would have offered. For example, if a marketing board is the only legal exporter and the market is dominated by foreign demand, as it is for cocoa in West Africa, the board can hold prices down. Because LDCs often have few reliable sources of government revenue, such techniques have been used to generate funds.

Many LDC governments assist their farmers in purchasing farm inputs, such as machinery, fertilizer, and credit. However, the value of these domestic, commodity-specific services is usually relatively low.

In LDCs, commodity-specific border policies often include tariffs and quotas. South Africa, for example, places large tariffs on most manufactured goods. Tariffs and quotas are a more frequent phenomenon in LDCs than in industrialized countries, possibly because LDCs are less constrained by GATT rules on these measures. GATT allows greater latitude on border measures if justified by balance-of-payments difficulties or the need

to develop an infant industry. In practice, both justifications are limited to LDCs.

The principal economywide border measure affecting agricultural trade is control of foreign exchange—mainly the rates at which national currencies are traded for one another. Differences between official and market exchange rates can be found in some LDCs. Of the 125 LDCs whose policies were examined by the International Monetary Fund in 1988, only 35 followed a policy of flexible exchange rates. In most cases, exchange controls raised the value of local currency when used in exchanges authorized by the State. (See *National Food Review, October-December 1989, for an explanation of exchange rates.*)

Until the mid-1980's, large currency overvaluations were common among developing nations. This had the effect of discouraging domestic production of internationally traded commodities, such as most agricultural goods, since imports were relatively cheap. Among the most overvalued currencies were those of Ecuador and Nigeria where official exchange

rates were three to six times what an open market would have supported.

### Levels of Intervention

As governments reform their policies they have a new interest in measuring their levels of intervention. GATT members are comparing themselves to their trade competitors. Lenders are comparing observed levels following reform to planned levels. Industries within an economy are comparing the effects of government policies on themselves with those in other sectors.

Numerous methods of measuring the effect of government involvement have been devised, but each suffers from theory and data problems that inevitably arise when trying to estimate such complex interactions around the globe. GATT negotiators have explored the producer subsidy equivalent (PSE) as an estimate of government intervention because it incorporates the effects of both domestic and border policies. Considerable analytical effort has gone into measuring PSEs for many countries.

Some effects of various LDC government policies and programs may be compared by using PSEs. This measure reduces all the effects of government intervention into one value—indicating the net transfer to or from farmers. When a PSE is positive, producers are being supported by government programs, and they are better able to compete with foreign production, such as that from the United States. On the other hand, if the policy costs producers money, such as an export tax, the PSE is negative.

Using PSEs, ERS economists examined government intervention in agriculture in 19 of the most important agricultural trading LDCs during 1982-87 (table 1). In contrast to the widespread pattern of support found in developed countries, LDC policies often taxed their farmers, generally by paying

**Table 1. Less Developed Countries Often Tax Their Agricultural Producers**

Country <sup>2</sup>	Annual average value of subsidies to producers during 1982-87 <sup>1</sup>			Subsidies as a percent of producer revenue
	Commodity- specific policies	Economywide policies	Total	
	<i>Million dollars</i>			
Taiwan	30,783	nm	30,783	24.0
South Korea	5,083	nm	5,083	60.2
Argentina	-1,044	558	-486	-19.4
Brazil	2,321	73	2,394	24.5
South Africa	271	-159	112	6.8
Mexico	1,441	543	1,984	44.7
Chile	136	-210	-75	-12.1
Colombia	-501	-224	-725	-34.2
Turkey	-110	163	53	2.1
Thailand	-89	nm	-89	-4.5
Egypt	769	-1,066	-297	-9.4
Senegal	27	nm	27	16.0
Indonesia	2,347	nm	2,347	10.2
Nigeria	832	-1,151	-319	-15.0
Pakistan	-347	-1,091	-1,439	-22.0
Kenya	82	-165	-83	-8.6
India	-363	nm	-363	-1.4
China	-23,193	nm	-23,193	-27.4
Bangladesh	-817	nm	-817	-19.0

nm = none measured. Among the countries not measured, probably only China had a large effect from these policies. <sup>1</sup>Negative subsidies are taxes. The commodities studied varied among countries. <sup>2</sup>Countries are listed from richest to poorest based on income per person.

low prices for state-controlled exports. These farmers' losses sometimes benefited the government budget and sometimes benefited consumers. In 8 of the 19 countries studied, agricultural commodity-specific policies reduced producer revenue.

In 7 of the 11 cases in which economy-wide effects were measured, they were detrimental to producer revenue. The economywide policies measured here were foreign exchange controls. Pakistan was a typical case. The government overvalued the exchange rate during 1982-87 so that imports were cheaper than they would have been without the controls. Pakistani farmers had to com-

pete with lower priced imports or sell on the international market at cheap local currency prices.

Overall, commodity-specific and economywide policies supported producers in about half the 19 LDCs. The richer LDCs tended to support their farmers at a higher rate. For instance, South Korea—the second richest LDC studied—gave its producers the highest rate of support.

During the study, 15 of the countries raised their rate of support or reduced their rate of taxation. For example, in early years of the period, Nigeria and Chile each taxed their producers by more than half the value of the commodities

under study, but in 1986 their policies provided more than 20 percent of producer revenue. Only China and Egypt significantly increased their rates of taxation during 1982-87.

These results are consistent with research conducted by the World Bank on the effect of LDC government intervention on agricultural competitiveness. For example, producers of temperate commodities in exporting LDCs generally have less support from their governments than farmers in developed countries. Nations that import temperate commodities frequently support producers of these crops at much higher levels. Japan, for example, attempts to limit its food imports by supporting its own farmers. Countries that grow tropical products tend to tax their producers. Coffee, which accounts for the highest trade value among tropical commodities, is an important example. In the mid-1980's, all of the largest 15 coffee-exporting nations paid their producers less than the international price.

### Reducing Government Intervention

ERS economists have evaluated how much government involvement in agriculture affects international trade by simulating the removal of government intervention based on agricultural trade patterns and government policies in 1986.

The starting point for the analysis considers the case of removing agricultural support for temperate products in developed nations. Without subsidies in the major trading nations of the developed world, production of temperate commodities would have fallen and international prices would have risen compared to 1986. The most heavily subsidized commodities, such as sugar and dairy products, would have experienced the greatest production declines. International sugar prices would have increased as much as 30 to 40 percent above actual 1986 lev-

els, while the price of dairy products would have climbed 40 to 80 percent, depending on the item and how much it was subsidized at the time. However, the average price of all temperate agricultural commodities would likely have risen by only 15 percent.

Any additional impact on international prices if LDCs completely liberalize agricultural trade would be fairly small unless foreign exchange constraints were lifted along with commodity-specific policies. With all policies in all countries eliminated, average prices for temperate crops in international markets would have risen about 8 percent above 1986 levels.

Although aggregate prices would have increased, some individual commodity prices would have declined. Cotton, tobacco, and some oilseed prices would have fallen with full global liberalization. This is because major suppliers of these commodities—Egypt, Sudan, and Pakistan—taxed their producers. Once these policies are removed, production would rise and the international prices would fall.

Similarly, prices of many tropical products, notably coffee, would also have fallen. For these commodities, the dominant exporters are LDCs that tax agricultural exports. Without these policies, world production would have risen, placing downward pressure on international prices.

The production and price effects of any scenario liberalizing temperate agriculture would generally improve the trade balance of LDCs. Agricultural exporting LDCs, like Argentina, Chile, and Thailand, would face less competition from developed countries whose policies were liberalized. Higher world food prices would probably lead India, Indonesia, and Bangladesh to produce and export more rice. Changes in the market caused by these large supplies

would be offset by increased Japanese rice imports.

The trade balance, however, would fall in some of the richer LDCs, such as Taiwan, South Korea, and the Middle Eastern oil exporters, in addition to the poorest LDCs. With higher prices, food imports would fall. Domestic production would likely improve but not enough to compensate for the import decline. Poor countries, such as Egypt and Peru, would require additional aid to assure their food security.

Liberalizing the trade of tropical products would tend to reduce the trade balance of several very vulnerable exporting economies. Lower international prices would mean less revenue for the economy from exports of tropical products, but individual producers would receive higher prices as domestic taxing policies were lifted. Coffee and cocoa would account for most of the loss in revenue to exporting nations. These tropical beverages are critically important to many small countries.

The largest revenue losses from global liberalization would occur in Brazil, Colombia, and Kenya. Banana prices would not change much on international markets, although production would shift as special arrangements between traditional trading partners were eliminated. The French islands of Martinique and Guadeloupe, for example, would face much lower prices with liberalization.

Trade liberalization would put agricultural production on a more commercial basis. Market signals would be more important in guiding production and distribution of agricultural goods, while other government goals would lose influence. Liberalization would also favor production of export commodities over food crops.

In the long run, poor countries would likely improve national income, but at the cost of greater dependence on international markets and, in many cases,

greater dependence on one or two export commodities. Without a ban on grain imports, for example, Nigerian consumers will turn to foreign sources for nearly all their wheat and rice. Increasing the relative return of export crops compared with food crops also tends to foster large farms. Thus, small farms might find it harder to compete in the market, either going out of business or returning to subsistence production. In rural areas, these problems would be offset by improved opportunities for jobs and better wages.

### Implications of Trade Liberalization

The diversity of LDC policies and economies complicates our understanding of how competitive their agriculture would be in a more liberal trading environment. Policy reforms in recent years have increased the level of support, or reduced the level of taxation, for LDC producers. Despite a few exceptional LDCs, like South Korea, where producers are supported at relatively high rates, they generally receive less support even now than farmers in developed countries. Further multilateral trade liberalization is likely to make LDCs even more competitive as traders of temperate products.

LDCs are particularly burdened by support in developed countries for producers of cotton and sugar. Production of both these commodities could shift strongly toward LDCs if policies in developed nations change.

In contrast, developed country policies on tropical products are less important. Since developed nations are seldom important producers, their policies affect only demand. Without a production interest, they did not institute policies as influential as those for temperate products. However, developed countries process tropical products, such as cocoa into chocolate, and they have structured their border measures to protect their processors. Thus, processing of these and other





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agricultural goods does offer potential for raising LDC employment following trade liberalization.

The heaviest support for agricultural producers in LDCs is in commodities that are imported. Egypt, for example, supports its wheat and corn producers in an attempt to substitute domestic production for imports, while it taxes its main agricultural export, cotton. Worldwide trade liberalization would benefit exporters in developed countries by making LDCs better customers. Without support for farmers substituting domestic produc-

tion for imports, LDCs like Egypt would buy more from the international market.

That U.S. farmers can successfully compete in a world with less government intervention in agriculture and trade is supported by the recent history of the richer LDCs. As countries like Mexico and South Korea developed, they became better customers for U.S. farm products, even when part of their development was based on domestic agricultural growth. Thus, the question of what LDC policies to promote in the interests of U.S. producers boils down to the question of what policies will help LDC economies. ■

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