



AgEcon SEARCH
RESEARCH IN AGRICULTURAL & APPLIED ECONOMICS

The World's Largest Open Access Agricultural & Applied Economics Digital Library

This document is discoverable and free to researchers across the globe due to the work of AgEcon Search.

Help ensure our sustainability.

Give to AgEcon Search

AgEcon Search

<http://ageconsearch.umn.edu>

aesearch@umn.edu

*Papers downloaded from **AgEcon Search** may be used for non-commercial purposes and personal study only. No other use, including posting to another Internet site, is permitted without permission from the copyright owner (not AgEcon Search), or as allowed under the provisions of Fair Use, U.S. Copyright Act, Title 17 U.S.C.*

International trade and agricultural development in developing countries: Significance of the Uruguay Round of GATT negotiations

Ulrich Koester

Institute of Agricultural Economics, University of Kiel, Germany

(Accepted 7 February 1993)

ABSTRACT

Koester, U., 1993. International trade and agricultural development in developing countries: Significance of the Uruguay Round of GATT negotiations. *Agric. Econ.*, 8: 275–294.

Liberalization of world trade in agricultural products ranks high on the agenda of the Uruguay Round. After a period of more than six years, however, the negotiations have not been concluded. Nevertheless, an outcome seems to be in sight. The agreement will most likely not result in a move to freer trade. It seems that domestic policies will become even more regulative than in the past in an attempt to cut exportable surpluses and to ease trade tensions among the main exporting nations. This paper explores possible impacts of the GATT Round on agricultural development in developing countries. Agricultural development is more than only growth in agricultural production or productivity. However, it is argued in the paper that other variables which also indicate agricultural development are often closely correlated with growth in production and productivity. Trade in agricultural products is not always an engine for agricultural development. If internal divergences are not accounted for by appropriate domestic policies, trade may be even harmful to agricultural development. Hence, empirical research based on cross-country analysis does not provide a clear answer about the role of trade for development.

Past policies in industrialized countries have most likely had a negative effect on developing countries as a group; however, the effects differ widely across countries. Liberalization policies in industrialized countries would not just reverse these negative effects for developing countries. Price reduction in industrialized countries may not result in the often-cited production decline in the short term. Present X-inefficiency in agriculture will be reduced by liberalization, leading to an outward shift of the supply curve. Hence, liberalization may not lead to higher world market prices for temperate-zone products in the short and medium term. Apart from this, empirical models differ widely in the price effects they predict.

Correspondence to: U. Koester, Inst. Agricultural Economics, University of Kiel, Olshausenstrasse 40, W-2300 Kiel, Germany.

The expected outcome of the Uruguay Round – increased regulation of domestic policies – is likely both more negative for developing countries than past protectionist policies and worse than an overall liberalization. World market prices will increase, uncertainty and instability can be expected to grow, and food aid may become less available. There will be a need to react to these challenges with measures on the international and national level. Initiatives to deal with food crises in developing countries and to stimulate liberalization in developing countries should be considered. Finally, developing countries should be made aware that their own domestic policies have a much greater economic impact than policies in other countries, even if the latter are as protectionist as current agricultural policies in the industrialized world.

INTRODUCTION

The General Agreement on Tariffs and Trade came into operation on January 1, 1948. Among the 23 original members were only three developing countries, India, Cuba and Lebanon. However, at the commencement of the present GATT round the number of developing countries (68) surpassed the number of developed countries significantly (22). Obviously, an increasing number of developing countries is convinced that the general rules governing world trade are of importance to them. However, past GATT negotiations which redefined these rules have not focused on trade in agricultural products. Agriculture is economically much more important for developing than for developed countries. As the present round aims to address agricultural trade issues, developing countries could be even more affected than by past GATT negotiations. However, it is not at all clear whether the current GATT round will actually contribute to a removal of trade distortions as well as to trade expansion and agricultural development.

In exploring these issues this paper starts with a discussion of the term ‘agricultural development’ and how it can be measured. The third section investigates the relationship between agricultural development and trade. The findings presented in this chapter are used to analyze the potential impact of the Uruguay Round on developing countries’ trade and agricultural development.

The present round of negotiations aims at liberalizing agricultural trade. If this ultimate objective is achieved, the effects on developing countries will only be positive if the present system of agricultural protection in industrialized countries is negative from the developing countries’ point of view. These effects will be discussed in Section 4.

In fall 1992, the time of writing this paper, the outcome of the Uruguay Round is not clear. It is most likely that the round will not be closed with agreements that are in line with the objectives declared when the negotiations began. There are some indications that the final outcome will entail

an agreement which is acceptable primarily for the main players in the round, the EC and the U.S. Such an outcome may have more to do with managed international trade than with a move to freer trade. The resulting implications for developing countries will be explored. The apparent inability of the GATT to liberalize world trade, especially in agricultural products, has increased the tendencies towards bilateral trading agreements and regional integration schemes. These schemes may be an alternative to pursue for developing countries as discussed in the last section of the paper.

1. MEANING AND MEASUREMENT OF 'AGRICULTURAL DEVELOPMENT'

The early writings in development economics focused on economic growth and total employment (Sen, 1988). Nowadays it is widely accepted that agricultural development is more than only growth in production or productivity. Development is growth plus change in other key variables which results in an improvement in social and economic living conditions in rural areas (de Haen, 1982). Variables which are considered important include: employment and income distribution, health standards and education, food security, human and physical capital accumulation, the rate of adoption of available technology, and the state of the environment. Hence, growth in production and productivity must not always represent agricultural development. However, a positive change in the other indicators of development will often be based on production and productivity growth in rural areas. Growth in agricultural production or in productivity might not be a necessary condition for agricultural development if a small agricultural sector is mainly driven by development in other sectors. However, this is not likely to be the case in most developing countries as the agricultural sector employs a high share of the labor force and mobility between rural and urban areas as well as between sectors is limited. The main task of this paper will therefore be to discuss the relationship between trade and growth and the implications of the Uruguay Round on this relationship.

2. RELATIONSHIP BETWEEN TRADE AND AGRICULTURAL DEVELOPMENT

The relationship between trade and agricultural development is interdependent: Agricultural development causes an increase in trade and an increase in trade may stimulate agricultural development.

Impact of agricultural development on trade

It was argued above that production growth and productivity increases are important indicators of agricultural development. Growth in produc-

tion and productivity can be achieved by an improvement in the division of labor. Sectors and regions can grow if they exploit their comparative advantage. Division of labor implies a tendency to specialization and to market integration. Hence, agricultural development will in most cases be accompanied by an increased exchange between economic units. Such an increase in exchange will normally not stop at the historically determined borders of a country if free international trade is permitted. The impact of agricultural development on trade will be stronger the smaller the countries involved, the lower the transport and other transaction costs incurred, and the more liberal the international trading regime. Therefore, small countries in particular will expand trade as a consequence of agricultural development if a free trading system exists. If, on the other hand, international trade is restricted, agricultural development will be hindered, especially if the trade regimes in nearby countries, which would otherwise be the destination for exports or the origin of imports, are restrictive. Many African countries have to rely to a great extent on trade with overseas countries and receive lower export prices because neighboring countries restrict trade. Koester (1986) found that the southern African countries on average spent about 15% of the revenue gained from exporting a product to destinations outside the region for imports of the same product from outside the region.

It should be noted that agricultural development will affect not only trade in agricultural products, but also trade in agricultural inputs and in industrial goods. This will follow partly from changes in comparative advantage between industry and agriculture, partly from internal income growth which increases the demand for merchandise imports, and partly from changes in exchange rates.

Agricultural development – which in most cases is accompanied by development in other sectors – can lead to a country losing its comparative advantage in agriculture (Anderson, 1986). Development will lead to higher capital intensity in agriculture and industry. However, if a country has a relatively large land endowment, it may retain its comparative advantage in agriculture. Nevertheless, trade in merchandise products may grow even more than trade in agricultural products because intra-industry trade is much more important for industry than for agriculture.

Impact of trade on agricultural development

Trade is often considered an ‘engine of growth’ and, thus, as a promoter of agricultural development. In the first section the general linkages between trade and growth will be discussed. In a following section the

impact of growth in trade on growth in the economy and agricultural development is presented.

The impact of trade on national income was already clarified by the classical economists. However, some writers have challenged the comparative framework upon which these findings are based. "There might be dynamic factors which contravene the static resource-allocation principles" (Krueger, 1990, p. 53). Empirical research strongly suggests that dynamic factors are linked positively to trade (Krueger, 1990). Corden presents a theoretical framework which clarifies the relationship between trade and growth (Corden, 1971). However, he only investigated the effects which would materialize if a country is opened to trade. Growth in trade may have different effects on growth and agricultural development depending on specific conditions in the economy. Alternative conditions are discussed in the following. In the first approach it is assumed that there are no internal divergences in the economy (social costs are equal to private costs; social willingness to pay is equal to private willingness to pay). In a second step, a situation will be analysed where distortions prevail. The term 'divergence' is used for any divergence between marginal private and marginal social costs or benefits. The term 'distortion' indicates that a divergence is caused by some kind of governmental policy. Thus, a distortion is a particular kind of divergence (Corden, 1974).

(1) Trade may grow because external trade conditions improve permanently. This implies that either the terms of trade improve or the country may receive preferential access to some countries. An improvement in the terms of trade will lead to further specialization in the export commodity, resulting in higher exports and imports. Consequently, the income of the country will grow. As there are no divergences in the economy (such as unemployment, negative environmental effects and income disparities between sectors) agricultural development will also be positively affected. Indeed, agricultural development could even take place without growth of agricultural production or productivity. Income growth in other sectors could induce migration out of agriculture, thus, increasing productivity and income in agriculture and improving living conditions in rural areas. Hence, rural development could be driven by growth or by shrinking.

(2) Trade may grow because the government reduces internal distortions, but there are no other divergences in the economy. Such distortions, which tax the agricultural sector, are quite common in most developing countries.

It is obvious that trade expansion will be beneficial for agricultural development because the economy is allowed to take better advantage of international division of labor. Liberalization will not only contribute to more efficient use of domestic resources, it will also contribute to an

increase in the amount of domestic resources used. Foreign capital may flow in and the loss of savings will be reduced. Actually, this may be the main effect of deregulation on internal development. In addition, the internal use of resources will become more efficient because government regulations will bind less resources. The recent experiences of Argentina, Chile, and Mexico underline the effect of deregulation on capital flows. However, it should be noted that not only deregulation will stimulate such capital flows. Of greater importance is the credibility of the liberalization policy. A study by Haque and Montiel (1990) supports the view that capital is very mobile and may react quickly to credible reform.

(3) Growth in trade caused by one of the determinants mentioned in case (1) or (2), but divergences exist in the economy.

The situation in developing countries is very different from that which is postulated in the simple analysis of trade theory which leads to the conclusion that growth in trade will result in development. There are many divergences in developing countries which could cause a negative relationship between growth in trade and agricultural development. The impact of two of these divergences will be discussed in the following:

(a) Assume that the production of agricultural tradables causes negative environmental effects. For example, wheat production uses up existing ground water reserves in some parts of Asia, and leads to soil erosion in some parts of the U.S.A. In other regions, tradables, such as banana production in Latin America, may compete with forests which have positive environmental effects. Hence, trade expansion may enhance external costs. However, trade restrictions would not be the first best policy to avoid these effects. The best policy would be to design an internal policy framework which leads to the internalization of external costs. This would imply both fees and penalties on the use of vulnerable lands, and subsidies for environmental improvements (Runge, 1992). If such a policy were instituted, trade expansion caused by a change in the external trading conditions or by more liberal internal policies would lead to positive agricultural development.

(b) Assume that there is unemployment in the economy and growth in trade may increase the unemployment rate. This effect could show up if tradables are less labor intensive than nontradables produced in rural areas. However, trade theory suggests that a country's export pattern is a reflection of its resource endowment and, hence, developing countries will export labor intensive products under free trade. This hypothesis is also supported by empirical research (Krueger, 1990).

However, trade expansion may be detrimental to the employment situation in rural areas if the expansion in tradable production leads to a substitution of capital for labor in agriculture. Such a process has been

observed in developing countries as a consequence of the green revolution and in developed countries as a consequence of significant product price increases. Nevertheless, it is quite clear that the cause of these negative effects is not the change in external trading conditions, but rather internal divergences. Hence, the individual countries should try to avoid the negative employment effects not by depressing growth in trade, but by reducing internal divergences.

Summing up, trade expansion can be positive for agricultural development. If a negative relationship exists it is due to internal divergences and inadequate internal policies. This conclusion is completely in line with 'traditional' trade policy views. A body of "new" trade theory challenges these views, but as Baldwin (1992) convincingly argues, "new" trade theory only defines some conditions under which free trade would not be a first best policy. Hence, governments may still be well advised to abstain from strategic trade policies which are suggested by the "new" trade theory.

Empirical relationship between growth in trade and agricultural development

It is difficult to quantify the relationship between growth in trade and agricultural development. According to the reasoning presented above, one would expect a clear positive relationship only if:

- (a) trade expansion is caused either by an improvement in external trading conditions without any increases in the intensity of internal regulations;
- (b) there is an internal and external liberalization without negative changes in the external trading conditions, but only if the agricultural sector was taxed before; or
- (c) a combination of (a) and (b) holds.

If the agricultural sector is protected as in most developed countries, liberalization can have a negative impact on agricultural development. Hence, a cross-country analysis which is based on a selection of countries without taking into account the specifics under (a), (b) and (c) may not be conclusive. Therefore, empirical analyses may lead to misspecification of the relationship between trade and development.

"There can be little question that there is generally more rapid overall growth when exports are growing more rapidly" (Krueger, 1990, p. 115). However, the causal relationship is unclear. "Export growth and GNP growth may or may not reinforce each other" (Dodaro, 1991, p. 1156). Nevertheless, there is strong empirical evidence that a more outward orientation stimulates trade and growth (Dollar, 1992; World Bank, 1987). Hence, it can be expected that a more liberal world trading system negotiated in the Uruguay Round could have a twofold impact on development in developing countries. It could, first, improve the external trading

conditions and, thus, contribute to export growth and development and second, it could provide incentives for introducing outward oriented policies in these countries.

There is also some empirical evidence on the impact of trade on unemployment and income distribution. It was found (Krueger, 1990) that the labor intensity of exportables of developing countries is generally higher than that of non-tradables. Consequently, employment in these economies is generally positively related to trade. An increase in employment or higher wage rates will normally lead to a more equitable distribution of income in the economy. An outward oriented policy may also contribute to a more equitable income distribution by removing direct controls which generate rents at the expense of employment and labor income (World Bank, 1987).

It should be noted that these empirical findings are based on data for a set of countries. The situation for an individual country might be different. This can especially hold if changes in world trading system significantly reduce a country's terms of trade. Nevertheless, the findings allow us to conclude that most of the developing countries could expect to be able to accelerate agricultural development if the present GATT round resulted in a more liberal world trading system. This result may even show up for countries which would suffer from deteriorating terms of trade but would move from an inward to an outward policy orientation.

3. IMPACT OF PAST AND PRESENT POLICIES IN INDUSTRIALIZED COUNTRIES ON AGRICULTURAL DEVELOPMENT IN DEVELOPING COUNTRIES

In the following it is assumed that the alternative to protectionist policies is free trade. Hence, the impact of past and present policies is partly the reverse of the effects which would follow from trade liberalization agreed upon in the Uruguay Round. However, it will be argued that the effects might differ significantly in the short and medium term.

Agricultural policies in the industrialized countries could affect agricultural development in developing countries a) through changes on the world markets for agricultural and industrial products, b) through specific agreements, such as trade preferences, and c) through changes in policies which are related to protectionist policies, such as food aid and financial assistance to development. The effects of these policies cannot always be quantified because they partly depend on the reaction of policies in developing countries.

There are many studies available which investigate the impact of protectionist policies in industrialized countries on developing countries. These studies generally emphasize the effect on the developing countries' terms

of trade. It is argued in the following that this effect is hardly predictable for the short and medium term and, moreover, may be less important than some other effects.

Income effect in industrialized countries

Theory suggests that the effects of protectionism are felt mainly in the countries which apply it. Suppressing the division of labor leads to lower real income in the protected economy. Numerous empirical studies present estimates of these losses. The change might be quite significant; the average level of 1986–88 agricultural protection is estimated to have cost the OECD countries about \$72 billion at 1988 prices and exchange rates. This is equivalent to 0.9% of real household income (Burniaux et al. 1990). Lower income in industrialized countries reduces demand for imports from developing countries. Hence, the external trading conditions deteriorate for developing countries. Consequently, agricultural development in these countries will be affected negatively.

Distortion in world market prices

Agricultural protection in industrialized countries affects world market prices for individual products differently.

First of all, the degree of protection differs across commodities. This is partly a consequence of the characteristics of individual products; products which are tied to acreage, storable products, and products with bottlenecks in their marketing channels tend to be more protected than other products.

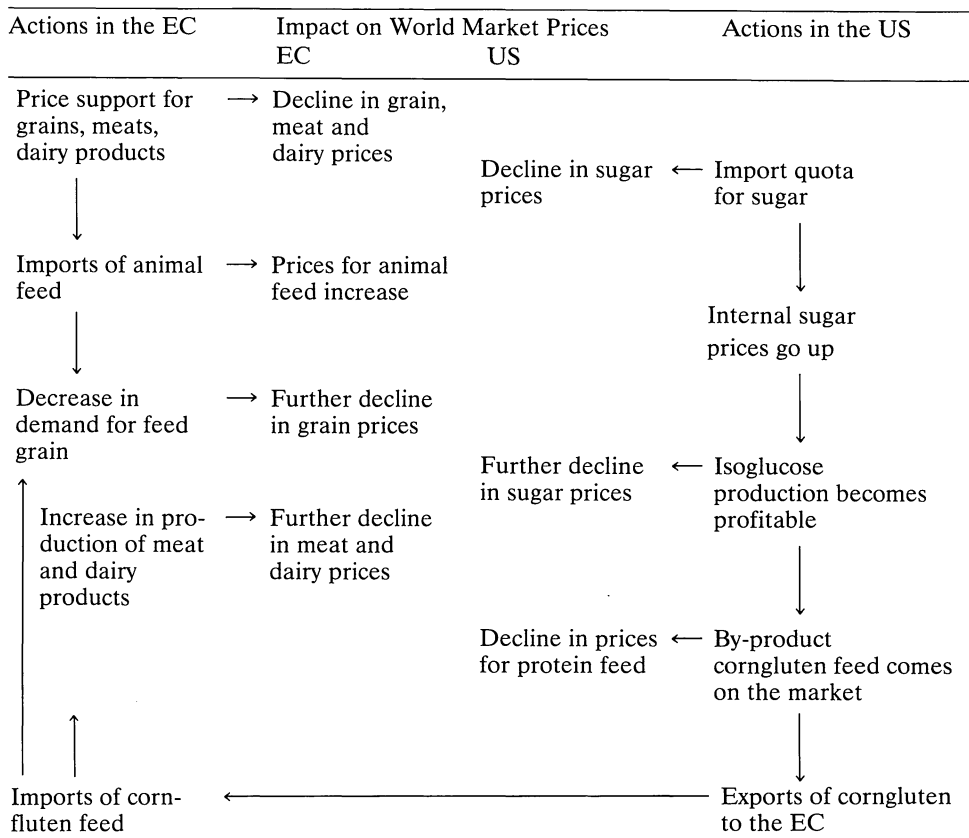
Second, the reactions of producers and consumers in the protected economies differ across commodities. For example, the price elasticities of supply for pork, poultry and eggs are higher than for most other agricultural products. Hence, protection rates tend to be the lowest for these products.

Third, the shares of the industrialized countries in world production and world trade differ across commodities. The world market effect will be higher the higher the share of the protecting country in world production.

Fourth, the system of agricultural protection for specific products differs across countries. This is partly due to different objectives on the part of policy makers in these countries, but is also the consequence of the decision making process and institutional inertia. As a consequence, the effect of a policy in one country may be partly compensated or enhanced by the effects of protective policies in another country. Table 1 presents an illustration of how policies in the U.S. and the EC have partly compensating effects on world market prices. The U.S. protects domestic producers

TABLE 1

Interaction between EC and US agricultural protection and the impact on world market prices



Source: Koester and Bale (1990).

of sugar by instituting import quotas for that product. As a consequence, domestic sugar prices have increased, creating a market for sugar substitutes such as isoglucose. Isoglucose production yields the by-product corn-gluten feed, a protein-rich feed. The effect on the world market is that prices for sugar and protein feed are depressed. Agricultural protection in the EC tends to enforce and modify these effects. High grain prices in the EC make imports of cereal substitutes profitable. A mix of corn-gluten feed and cassava can completely replace cereals in feed rations. Hence, high grain prices in the EC combined with low prices for corn-gluten have led to the indirect effect that a market for cassava has opened up; cassava trade and cassava prices have increased. Furthermore, low feed prices in the EC have increased the exportable surplus of grains and livestock products, which is harmful to the U.S.

Fifth, agricultural policies in industrialized countries are very much determined by budgetary pressures. Hence, policies tend to be more protectionist if the country is an importer of the product under consideration and less so if the product is exported.

Sixth, agricultural policies in industrialized countries are constrained by international agreements, such as the GATT, which influence the degree of nominal protection across commodities significantly. The Common Agricultural Policy of the EC (CAP) is a special case in point. Some agricultural products, e.g. grain substitutes, are imported duty free while grain and livestock products are highly protected.

Seventh, agricultural protection is not limited to raw products, but includes as well processed products as well. Indeed, the effective rate of protection is generally higher for processed products, depressing world market prices for these products more than for the corresponding raw products.

Eighth, agricultural protection exerts economy-wide effects with spill-over effects on markets for industrial products. Hence, world market prices of these products are also affected.

Ninth, world market prices are also indirectly affected due to trade preferences granted to developing countries.

The distortions in world market prices caused by agricultural policies in industrialized countries have affected the terms of trade of developing countries and, thus, their agricultural development. The aggregate effect has been positive for some countries and negative for others, depending on their specific terms of trade and their preferential access to markets in the industrialized countries. It is extremely difficult to quantify the aggregate effects for individual countries because the effects are so varied and, moreover, the reaction of the developing country to the changes on world markets is a main determinant of their final effects.

Are liberalization effects just a reversal of protection effects?

It might be of interest to explore whether the liberalization of agricultural policies in industrialized countries would just reverse the effects of protectionism. Such a relationship is normally assumed by trade models, but is highly questionable. Normally it is assumed that price decline in industrialized countries will lead to a drop in production and, thus, drive up world market prices. Indeed, the assumption of a positive elasticity of supply seems to make economic sense and has been supported by empirical research. However, liberalization changes not only product prices, but changes the economic environment for the agents. Hence, it may well be that supply curves will shift to the right as a result of liberalization.

Unfortunately, there is not much empirical evidence available regarding how the agricultural sector reacts to a significant drop in producer prices and overall liberalization policies in the short, medium and long term. One of the outstanding exceptions is provided by New Zealand.

In New Zealand producer prices were cut by 15% to 63% from 1984 to 1986. One might have expected a significant and still ongoing drop in agricultural production. However, aggregate agricultural production only stagnated in 1985 and grew thereafter significantly; agricultural GDP (in 1982–83 NZ\$) was about 52% higher in 1988 than in 1984. Of course, the growth rates for individual commodities varied widely, from negative to positive.

A similar experience can be observed in some EC countries. Real German wheat prices declined from 1980/81 to 1986/87 by 22%, and the real agricultural price level fell by 15% over the same period. Nevertheless, total wheat production increased by 27% over the same period and total production (in grain equivalents) by 12% despite the implementation of the milk quota system.

These observations support the view that the assumption of a drop in agricultural production due to liberalization might be questionable, at least for the short and medium term. Price support in the past has contributed to an increase in allocation inefficiency in the agricultural sector. The gap between efficient and inefficient farms has increased. Supported prices have increased incentives to invent and apply new technologies. While some farmers have responded to these incentives, others have been under less pressure to do so thanks to support prices. Lower prices will enhance the pressure on these farmers to either increase efficiency or to go out of business. The sector's aggregate efficiency will increase in both cases and total production may increase. Of course, this outward shift of the supply curve would not continue indefinitely, but it may well last for five to ten years. This hypothesis is also supported by the evidence on the liberalization of highly protected industrial sectors. A World Bank study reports that liberalization in developing countries did not lower production in even the most protected sectors, such as manufacturing (Michaely et al., 1989). These effects could only arise because the protected sectors suffered highly from X-inefficiency.

Summing up, it is certainly true that agricultural protection in industrialized countries has boosted internal agricultural production and depressed world market prices. However, it is less certain how world market prices will be affected in the short and medium term if liberalization takes place. Regardless, the effects on developing countries are very difficult to quantify. Available models are not able to estimate the production effects in industrialized countries convincingly: to incorporate all products, especially

TABLE 2
Price effects of liberalization by OECD countries

Model	Wheat ^a	Coarse grains	Meat	Dairy	Sugar
Partial equilibrium models					
Anderson-Tyers ^b (projected 1995)					
a. Price-independent productivity growth	25	3	43	95	22
b. Price-dependent productivity growth	19	2	39	90	27
Zietz and Valdés ^c (OECD countries liberalize)	3	-3	10	-	15
OECD/MTM ^d (OECD countries liberalize)	-5	-10	5	31	9
USDA/SWOPSIM ^e (1986 base)	27	16-22	16	84	29
General equilibrium models					
IIASA (projected 2000)	18	11	17	31	-
RUNS	15	8	18	-	57
WALRAS	17	-	10	14	-

^a Includes other grains in some models.

^b Partial price transmission. Meat is ruminant meat.

^c Meat projection is only for beef.

^d The Ministerial Trade Mandate Model of the OECD Agricultural Directorate forecasts 10% reductions. The numbers presented here are simple multiples of these to provide comparative 100% reductions. Meat projections are an average of beef, poultry, pork and sheep price movements weighted by world production of these commodities.

^e Meat is only beef and veal, dairy is butter (cheese value is 37, milk powder 81, and fresh milk).

Source: Goldin and Knudsen, 1990, p. 484.

tropical ones adequately; to depict linkage effects realistically; to incorporate the effects of future technical change in a more than speculative way; or to include the erosion of preferential trade effects. Hence, it is not surprising that there is a wide variation in the magnitude of price changes calculated by individual models. The overview presented by Goldin and Knudsen (1990) (see Tables 2 and 3) is quite impressive. It certainly is a shortcoming that we are not able to accurately estimate the effects of price changes on world markets and their repercussions for developing countries. Available calculations only allow us to conclude that protectionism has certainly effects on world market prices, but that these price changes are most likely within the range of observed variance in world market prices due to instability. Hence, it is not at all clear how the developing countries

TABLE 3
Price effects of liberalization by OECD and developing countries

Model	Wheat ^a	Coarse grains	Meat	Dairy	Sugar
Partial equilibrium models					
Anderson-Tyers ^b (projected 1995)					
a. Price-independent productivity growth	1	-88	60	-12	
b. Price-dependent productivity growth	1	-7	-2	56	-19
Zietz and Valdés ^c					
(OECD countries liberalize)	-12	-24	13	-	1
OECD/MTM ^d					
(OECD countries liberalize)	-7	-12	-4	29	7
USDA/SWOPSIM ^e					
(1986) base	23	8-19	7	79	7
Generale equilibrium models					
IIASA (projected 2000)	23	13	11	34	-

^a Includes other grains in some models.

^b Partial price transmission. Meat is ruminant meat.

^c Meat projection is only for beef.

^d The Ministerial Trade Mandate Model of the OECD Agricultural Directorate forecasts 10% reductions. The numbers presented here are simple multiples of these to provide comparative 100% reductions. Meat projections are an average of beef, poultry, pork and sheep price movements weighted by world production of these commodities.

^e Meat is only beef and veal, dairy is butter (cheese value is 37, milk powder 81, and fresh milk).

Source: Goldin and Knudsen, 1990, p. 485.

as a group have been affected by price level effects due to protectionism in the past. However, non-price level effects may be even more important.

Instability and uncertainty effect

It is well documented that agricultural protection in industrialized countries tends to increase instability on world markets. This is partly due to the decoupling of domestic markets from changes on the world markets. Even more important might be the impact of discretionary decisions in industrialized countries. Policy decisions in the main agricultural exporting countries like the U.S. and the EC have significant repercussions on world markets. Some examples will be given for illustration.

(1) The payment-in-kind program which the U.S. set into operation in 1983 idled an amount of land which was roughly equal to the acreage under grain production in the entire EC in the same year.

(2) The amount of land set aside in the U.S. at the beginning of the 'World Food Crisis' in 1972/74 was the highest in the history of the U.S. at that time.

(3) The EC's decision in May 1992 to set aside 15% of its arable land on farms above a minimal size could cause a significant drop in agricultural production.

These examples clearly illustrate that discretionary policy decisions have significant effects on world market prices and trade flows. Moreover, these decisions, and their effects, are hardly predictable. Such policies not only increase instability on the world market directly, but also indirectly. Stock-piling is more costly in a risky world, hence, the amount of privately-held stocks will be less than in a more predictable world. Developing countries are forced to deal with higher risks in pursuing export strategies for commodities in which they compete with industrialized countries such as the EC. The EC holds higher shares on export markets because its competitiveness is not determined solely by the efficiency of its farmers and agroindustry, but also by the magnitude of its export subsidies. These subsidies are set by the Commission of the EC, but the criteria for fixing them are not objective. This explains why informed EC grain traders spread the news in Aug. 1992 that the EC administration had decided to "reconquer" the Maghreb market (Ernährungsdienst, 1992, p. 1). Which developing country would dare to penetrate such export markets?

Effect of food aid

The amount of food aid given to developing countries depends partly on the amount of surplus production in the industrialized countries. There is evidence that these countries are more willing to provide food aid if they hold high levels of stocks which cannot be disposed of at prevailing prices. Hence, developing countries which are in need of emergency aid may gain from present protectionist policies. However, it is very doubtful whether the developing countries benefit as a whole. Food aid is not only used to ease emergency situations in developing countries, but it is also used as a means of surplus disposal. There is evidence that food aid is not given in the form of those products for which a shortfall in production has occurred, but rather in the form of products which are in surplus in industrialized countries – mainly wheat and dairy products. Moreover, delivery of food aid is quite often ill-timed. Consequently, markets in the receiving countries may be disrupted, production depressed, and even more important, food aid discourages intra-LDC trade in agricultural commodities.

4. LIKELY OUTCOME OF THE URUGUAY ROUND AND ITS IMPLICATIONS FOR DEVELOPING COUNTRIES

The effects of the Uruguay Round depend, of course, on the characteristics of the agreement which is found. The duration of the round and the policy changes introduced in some countries since the beginning of the negotiations indicate that the outcome is unlikely to fulfil the objectives which were accepted by the negotiating parties in 1986 (see for the declared objectives Zietz and Valdés, 1988). Furthermore, the positions of the main negotiators have changed over the negotiation period. This is partly reflected in official statements, but also in policy changes which have been instituted in individual countries. Changes in the EC's grain and oilseeds policies, introduced in 1991 and 1992, are of main interest. Price support has been reduced and replaced by direct payments tied to the area under these crops. In addition, direct payments to cereal producers will be only made if farmers set aside land. Hence, the EC's system has become more similar to that of the U.S. The EC seems to be unwilling to reduce its regulation of the farm sector. Instead, she is prepared to intensify internal regulation in an attempt to cut domestic production. The EC argues that its negotiating partners should accept these new domestic policies if they reduce the present exportable surplus. In a similar vein, the EC has asked for credits for having introduced a production quota system for milk. Based on this argument, the production quota system for sugar is not negotiable. These changes indicate that the EC retreated from the original objectives of the Uruguay Round. Hence, it seems unlikely that the round will conclude with a dismantling of protection in the main agricultural trading nations. However, it seems likely that the negotiations will result in less surplus production in the industrialized countries, combined with increased internal regulation. This implies that policies in these countries may be even more decoupled from changes on world markets. The disarray of world agriculture will increase. World market prices may increase more in the short run than they would with true liberalization, but instability and uncertainty will not be reduced.

What are the implications of the prospective outcome of the Uruguay Round for developing countries?

(1) A move towards the liberalization of agricultural policies in the industrialized countries would stimulate world trade. One of the main effects would result from income growth in the industrialized countries. However, the expected increase in the intensity of internal regulation in

these countries will depress income growth, exerting a negative effect on the demand for developing countries' exports.

(2) A comprehensive liberalization in the industrialized countries would include import liberalization for tropical products. Hence, import demand for these products would grow faster, improving the terms of trade for developing countries. This effect will not materialize as a consequence of the prospective outcome of the Uruguay Round.

(3) The Uruguay Round will most likely contribute to an erosion of trade preferences. Lower internal product prices for some temperate zone products in the industrialized countries will lower the rents enjoyed by those countries which have preferential access to industrialized markets.

(4) The prospective outcome in the Uruguay Round will most likely also affect the rate of technical change in world agriculture and its international distribution. High support prices in the industrialized countries provided incentives to invent new technologies and to introduce them rapidly; growing production did not lower internal prices as much as world market prices. Hence, technical change in agriculture in the industrialized countries benefitted producers in these countries and importers of temperate zone products, such as developing countries. Increased internal regulation in industrialized countries will lower the rate of technical change and, hence, the benefits to importing developing countries will decrease.

(5) It is most likely that developing countries will suffer more from instability on world markets in the future than in the past. Supply management in the industrialized countries will allow for lower levels of stocks and, hence, the potential buffer against shortfalls in world production will decline. Overall liberalization might also lead to reduced buffer stocks, but domestic demand and supply in the industrialized world would once again react to changes on world markets and, thus, stabilize them.

(6) Developing countries should be concerned about the future of food aid. Food aid will be less based on surplus disposal if surplus production in the exporting countries is curtailed by supply management. Hence, public stocks held in the industrialized countries will be reduced, without being replaced by higher private stocks. Higher internal regulation of the food sector will limit incentives for private stockpilers.

In assessing the prospective outcome of the Uruguay Round one should also contemplate the chances for a more liberal trading system in the future. Is a subsequent round which could eventually lead to free trade already in the pipeline?

The potential gains from trade have been demonstrated since the writings of Adam Smith and Ricardo. Unilateral liberalization is in the interest of most countries, according to the widely held perception among economists. If countries nevertheless abstain from unilateral liberalization

and are even unwilling to cooperate in multilateral liberalization, it may be due to internal transaction costs (Yarbrough and Yarbrough, 1987) which imply that the winners from liberalization cannot costlessly compensate the losers. Indeed, these transaction costs may lead to no compensation at all. An increase in the intensity of domestic regulation as an outcome of the present GATT Round will increase transaction costs and, thus, lower the chance for more liberal policies in the future.

Strategies for developing countries

The analysis presented above suggests that developing countries can hardly expect to gain directly from the present GATT Round. However, they could gain indirectly if they were to employ the findings of trade economists. It is fairly well established that protectionist policies reduce welfare in the protectionist country itself most of all. Hence, developing countries could certainly gain if they were to liberalize their economies. There are many studies available which indicate that domestic policies matter first of all. Improvements in external trading conditions can have marginal effects without changes in domestic policies. The ACP Convention, which grants the exports of developing countries preferential access to the EC, is a special case in point (Koester and Herrmann, 1987). Despite these preferences the market shares of the preferred countries in the EC have fallen. Non-preferred developing countries have generally been more successful. This clearly emphasises the importance of domestic trade policies. Moreover, it suggests that without changes in domestic policies, developing countries would not have gained much from the improved trading conditions which could have been (and may yet be) the outcome of the Uruguay Round.

Developing countries could also mitigate the prospective negative effects of the present GATT Round by acting in a more coordinated way. First, there might be a need to create new institutions in order to secure food aid for emergency situations. A revitalization of the IMF cereal facility scheme might be envisaged. Second, developing countries could promote more intensive regional trading schemes. However, they should draw on the past and generally not very positive experience with these schemes. These schemes should not be based on regional protection and policy harmonization with less worldwide integration. Instead, they should be based on the idea of a liberalization club (Schmieding, 1990) including mechanisms to enforce free trade among members (Koester, 1993) without increasing protection against trade with third countries.

REFERENCES

- Anderson, K., 1986. Economic growth, comparative advantage, and agricultural trade of the Pacific Basin countries. In: G.E. Schuh and J.L. McCoy (Editors), *Food, Agriculture and Development in the Pacific Basin*. Westview, Boulder, CO.
- Baldwin, R.E., 1992. Are economists' traditional trade policy views still valid? *J. Econ. Lit.*, 30: 804–829.
- Burniaux, J.-M., Martin, J.P., Delorme, F., Lienert, I. and van der Mensbrugge, D., 1990. Economy-wide effects of agricultural policies in OECD countries: a GE approach using the Walras model. In: I. Goldin and O. Knudsen (Editors), *Agricultural Trade Liberalization: Implications for Developing Countries*. Organization for Economic Cooperation and Development, Paris, and World Bank, Washington, DC, pp. 283–306.
- Corden, W.M., 1971. The effects of trade on the rate of growth. In: J.N. Bhagwati, R.W. Jones, R.A. Mundell and J. Vanek (Editors), *Trade, Balance of Payments and Growth*. Elsevier, Amsterdam.
- Corden, W.M., 1974. *Trade Policy and Economic Welfare*. Clarendon, Oxford.
- de Haen, H., 1982. Theorien ländlicher Entwicklung. In: P. von Blanckenburg (Editor), *Handbuch der Landwirtschaft und Ernährung in den Entwicklungsländern*, 1. Ulmer, Stuttgart.
- Dodaro, S., 1991. Comparative advantage, trade and growth: Export-led growth revisited. *World Dev.*, 19: 1153–1165.
- Dollar, D., 1992. Outward-oriented developing economies really do grow more rapidly: Evidence from 95 LDCs, 1976–1985. *Econ. Dev. Cult. Change*, 40: 523–544.
- Goldin, I. and Knudsen, O., 1990. *Agricultural Trade Liberalization: Implications for Developing Countries*. Organization for Economic Cooperation and Development, Paris, and World Bank, Washington, DC.
- Haque, N.U. and Montiel, P.J., 1990. Capital mobility in developing countries – some empirical tests. Working Paper 117, International Monetary Fund, Washington, DC.
- Koester, U., 1986. Regional cooperation to improve food security in southern and eastern African countries. Res. Rep. 53, International Food Policy Research Institute, Washington, DC.
- Koester, U., 1993. Policies for promoting agricultural trade between Malawi, Zambia, and Zimbabwe. In: A. Valdés and K. Muir-Leresche (Editors), *Agricultural Policy, Reforms and Regional Market Integration in Malawi, Zambia, and Zimbabwe*. International Food Policy Research Institute, Washington, DC.
- Koester, U. and Bale, M.D., 1990. The common agricultural policy. *World Bank Res. Obs.*, 5: 95–121.
- Koester, U. and Herrmann, R., 1987. *The EC-ACP Convention of Lomé*. Wissenschaftsverlag Vauk, Kiel.
- Krueger, A.O., 1990. *Perspectives on Trade and Development*. Harvester Wheatsheaf, New York. Co-author, 1992. Importbedarf angemeldet. Ernährungsdienst, 4 August.
- Michaely, M., Choksi, A. and Papageorgiou, D., 1989. The design of trade liberalization. *Finance and Development*, March.
- Schmieding, H., 1990. What about a liberalization club for an open world economy? *World Econ.*, 11: 515–527.
- Sen, A., 1988. The concept of development. In: H. Chenery and T.N. Srinivasan (Editors), *Handbook of Development Economics*, 9. Elsevier, Amsterdam.
- World Bank, 1987. *World Development Report 1987*, Oxford University Press, New York.

- Yarbrough, B.V. and Yarbrough, R.M., 1987. Cooperation in the liberalization of international trade: after hegemony, what? *Int. Organiz. Res. Rep.*, 41: 1–26.
- Zietz, J. and Valdés, A., 1988. Agriculture in the GATT: an analysis of alternative approaches to reform. Res. Rep. 70, International Food Policy Research Institute, Washington, DC.