



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.*



ELSEVIER

Agricultural Economics 23 (2000) 219–229

AGRICULTURAL
ECONOMICS

www.elsevier.com/locate/agecon

Trade and agroindustrialization in developing countries: trends and policy impacts

Eugenio Díaz-Bonilla*, Lucio Reca

International Food Policy Research Institute (IFPRI), 2033 K Street N.W., Washington, DC 20006, USA

Abstract

There have been important changes in the international trade of processed and high-value added food products from developing countries over the past several decades. One of them has been the emergence of oilseeds and fruits and vegetables, replacing traditional products such as sugar, coffee, and cocoa as the main exports from developing countries. Another trend has been the collapse of African agroindustrial exports and the increase of exports from Asia. The paper highlights key trends, and explores possible reasons for the trends, focusing on trade policies in less-developed countries (LDCs) and developed countries (DCs). The paper argues that national trade policies and other economic policies appear to have been relatively supportive of agroindustrial production and exports in Asia. In contrast, policies have had more mixed effects in Latin America and the Caribbean (LAC), and seem to have been just one component in a larger array of forces inhibiting economic development in Africa. The performance of agroindustrial production and exports from LDCs may be now more dependent than ever on the completion of reforms in the agricultural trade policies of DCs. For Africa, however, a more supportive international environment and better macroeconomic and trade policies will not be enough to ensure a thriving agroindustrial sector within a broader process of economic development until military confrontations stop. © 2000 Elsevier Science B.V. All rights reserved.

Keywords: Agroindustry; Trade; Developing countries

1. Introduction

International trade flows in agricultural and agroindustrial products have gone through important changes over the past several decades, both in developed countries (DCs) and less-developed countries (LDCs). Those changes have not been uniform across regions. The reasons for the diverse performances encompass many factors, including differentiated population dynamics, climate patterns, technological developments, and policies. This paper focuses on a subset of the main trends and issues in international agricultural trade, focusing on the performance of LDCs in

world markets for processed and high-value agrifood products.

The paper proceeds as follows. First, we describe basic trade patterns for the above products, by developing region. Second, we offer possible explanations for the dissimilar trade performances over products and regions, focusing on the influence of trade policies in LDCs and DCs. Third, we conclude with policy implications.

2. Patterns of trade

2.1. Trade in raw and processed products

In terms of net trade positions by product, LDCs have historically been net importers of cereals and

* Corresponding author.

dairy products, and net exporters of oilseeds and products, coffee and cocoa, sugar, and fruits and vegetables. For meat and meat products, LDCs changed from net exporters to net importers in the mid-1970s, around the time the European Union closed its domestic meat market. In general, the ratio of exports to imports has been declining over time, with fruits and vegetables showing the smallest trend decline (it has held around two since the 1960s) (Díaz-Bonilla and Reca, 2000).

There are, however, important differences over Africa, Asia, and Latin America and the Caribbean (LAC). Although all of them are net importers of cereals and dairy products, the imbalance is larger in Africa, where exports of those products represent only about 5% of imports. Africa made a fundamental shift from net exporter of oilseeds and meat products until the mid-1970s, to net importer afterwards. Also, while the three regions are net exporters of fruits and vegetables, and coffee and cocoa, LAC has a stronger net export position than the other regions in those products. A case in point is fruits and vegetables, where LAC currently exports about 3.5 times the value of its imports, and Africa a little more than 1.5, while the export/import ratio for Asia is just above one (Díaz-Bonilla and Reca, 2000). Overall, in LAC, net imports of cereals and dairy are more than compensated by net trade surpluses in the other agricultural products. Asia and Africa, however, are net agricultural importers, where net trade surpluses in coffee, cocoa, fruits and vegetables, and some other items, do not compensate the trade deficits in other products (Table 1).

Table 1
Net trade in selected products for developing countries (billion US dollars; 1997)

	Asia (w/o China)	Africa	LAC
Cereals	-8.9	-6.8	-2.8
Meat	-1.8	-0.3	1.3
Dairy	-3.5	-1.4	-1.5
Oilcrops	-0.2	-1.4	6.9
Fruits/vegetables	0.7	0.6	7.8
Coffee/cocoa/tea	2.8	3.9	9.2
Sugar	-2.0	-0.8	3.5
Tobacco	-0.6	0.5	1.9
Textile fibers	-3.0	1.1	-0.9
Agricultural products (total) ^a	-20.1	-5.2	25.4

^a Total values for agricultural products include other products not shown in the list above. Source: FAOSTAT.

The composition of LDC agrifood exports has changed, notably with the emergence of fruits and vegetables, and oilseeds and products, as the more dynamic export products. These two categories jumped from about 20% of total agricultural exports by LDCs in the 1960s, to slightly more than 35% during the 1990s. They displaced the traditional export crops of sugar, coffee, and cocoa. These traditional crops declined from about 35–40% of LDC agricultural exports during the 1960–1980s to about 25% during the 1990s (Table 2).

In terms of the composition of LDC imports, cereals, oilseeds, dairy, and meat products together have varied between 50 and 57% of total agricultural imports during the period considered. However, cereals (raw and processed products), the main item, declined in share, and meat and oilseed products have increased in shares. Overall, agricultural exports and imports have also become more diversified (Table 3).

2.2. Trade in processed and high-value agricultural food products

This section focuses on processed and high-value food products. Fruits and vegetables, high-value items, is the only category that includes raw as well as processed products. The data are from FAOSTAT; the specific coverage of products is explained in detail there. The period analyzed is 1961–1998. The LDC regions examined are Africa, Asia (excluding China), and LAC. The DC countries examined are in the category “Industrialized Countries” in FAOSTAT.

Fig. 1 shows the participation in world exports of DCs and LDCs for processed and high-value food products since the 1960s.¹ DCs dominate world exports in all the agrifood items considered except oilseed products in the export of which LDCs overtook DCs in the mid-1970s. Oilseed products include vegetable oils and other by-products from oilseeds; however, the trends do not differ from the aggregate category when one considers only vegetable oils (not shown here separately). In the export of fruits and vegetables, LDCs have managed to hold their share steady at around 35% of world exports. However,

¹ Shares do not add up to 100% because China, Transition Economies and developing countries outside Africa, Asia, and LAC are not included.

Table 2
Structure of exports^a (in percentages)

	1960–1965	1965–1970	1970–1975	1975–1980	1980–1985	1985–1990	1990–1995	1995–1997
Meat and products	3.4	4.5	5.0	3.5	3.9	3.7	4.6	4.5
Cereals and products	8.6	8.4	7.4	7.2	9.3	6.4	7.9	8.9
Fruit and vegetable and products	8.9	10.9	10.9	11.2	14.0	17.7	20.2	17.8
Sugar and products ^b	10.6	9.8	16.0	13.1	13.0	10.6	7.1	6.9
Coffee, cocoa, and products ^c	23.8	25.3	22.1	29.7	23.6	22.7	15.1	16.1
Tobacco	3.3	2.8	3.1	2.9	3.6	4.2	6.9	7.0
Oilseeds and products	10.4	9.6	11.3	12.7	14.3	13.9	16.4	17.7
Textile fibers	15.2	13.8	11.1	7.2	5.9	5.6	3.9	3.6
Natural rubber	7.6	6.2	5.3	5.7	4.7	5.2	4.7	4.7
Other	8.3	8.7	7.8	6.8	7.8	10.1	13.2	12.9
Total	100	100	100	100	100	100	100	100

^a Source: FAOSTAT.

^b Including honey.

^c Including tea and species.

during the 1990s, DCs have overtaken LDCs in the share of world exports of sugar and products, and dominate the market in coffee and cocoa processed products, even though LDCs are the main suppliers of the raw product. Recently, LDCs have increased somewhat their share in cereal and dairy product exports, but from very low levels.

In regional terms, the most salient trend is the dramatic decline of world market share for African exports, particularly oilseed processed products, cocoa processed products, and fruits and vegetables. Africa's shares in other agrifood products have at best stagnated

at low levels. At the other extreme, Asia, since about the mid-1970s, has been gaining market participation across products (except for fruits and vegetables), and now commands the largest share among LDC regions in world exports of cereal, oilseeds, and cocoa products. LAC falls in between, showing upward trends in fruits and vegetables, cereals, oilseeds, and dairy products, but with declining paths for cocoa, coffee, sugar and meat. Notwithstanding this uneven performance, LAC still remains the most important supplier among LDCs of coffee, dairy, sugar and meat products, as well as fruits and vegetables (raw and processed).

Table 3
Structure of imports^a (in percentages)

	1960–1965	1965–1970	1970–1975	1975–1980	1980–1985	1985–1990	1990–1995	1995–1997
Meat and products	3.4	3.8	3.9	5.5	6.7	6.5	6.4	6.1
Dairy products and eggs	7.3	7.1	7.2	7.5	8.2	8.1	7.3	6.7
Cereals and products	35.8	36.9	36.7	31.5	30.9	25.2	23.3	25.4
Fruit and vegetable and products	8.4	9.1	8.3	9.0	9.0	9.6	10.3	9.6
Sugar and products ^b	6.9	4.9	8.5	7.3	6.3	5.7	5.5	5.7
Coffee, cocoa, and products ^c	6.1	6.0	4.6	5.3	4.5	4.6	3.9	3.6
Tobacco	3.4	3.3	2.9	3.3	3.3	4.3	6.0	5.5
Oilseeds and products	6.3	6.0	7.3	10.0	11.4	11.3	11.8	13.6
Natural rubber	1.7	1.3	1.0	1.1	0.9	1.2	1.1	1.2
Textile fibers	7.4	6.8	6.0	5.2	4.4	6.2	6.1	5.5
Other	13.3	14.8	13.8	14.3	14.5	17.4	18.3	17.2
Total	100	100	100	100	100	100	100	100

^a Source: FAOSTAT.

^b Including honey.

^c Including tea and species.

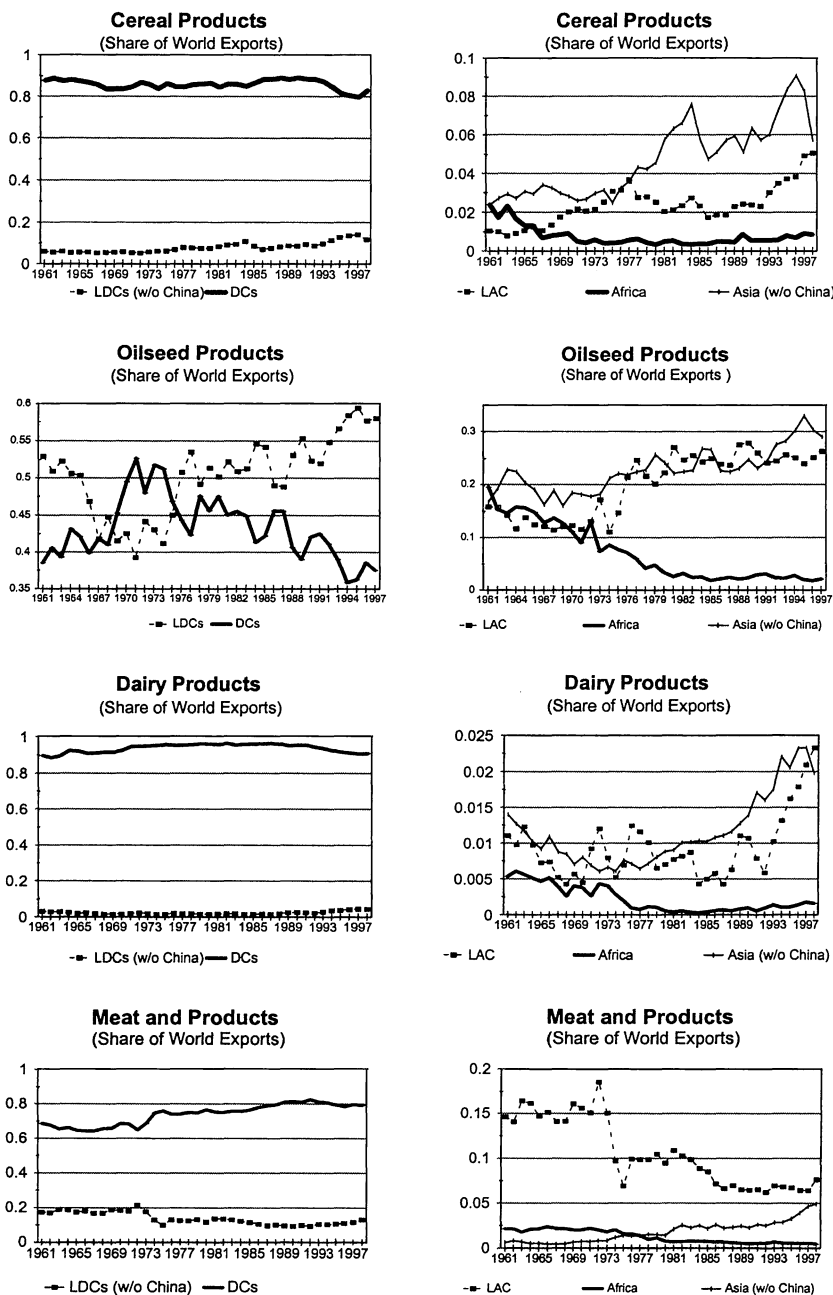


Fig. 1. FAOSTAT (2000).

In sum, LDCs appeared to have diversified their exports of agricultural and agroindustrial goods, showing important advances in exports of oilseeds and products, and maintaining market share in fruits and

vegetables. But they have not been able to challenge the pre-eminence of DCs in cereals, dairy, and meat products, and have been even losing market share in sugar, coffee, and cocoa products.

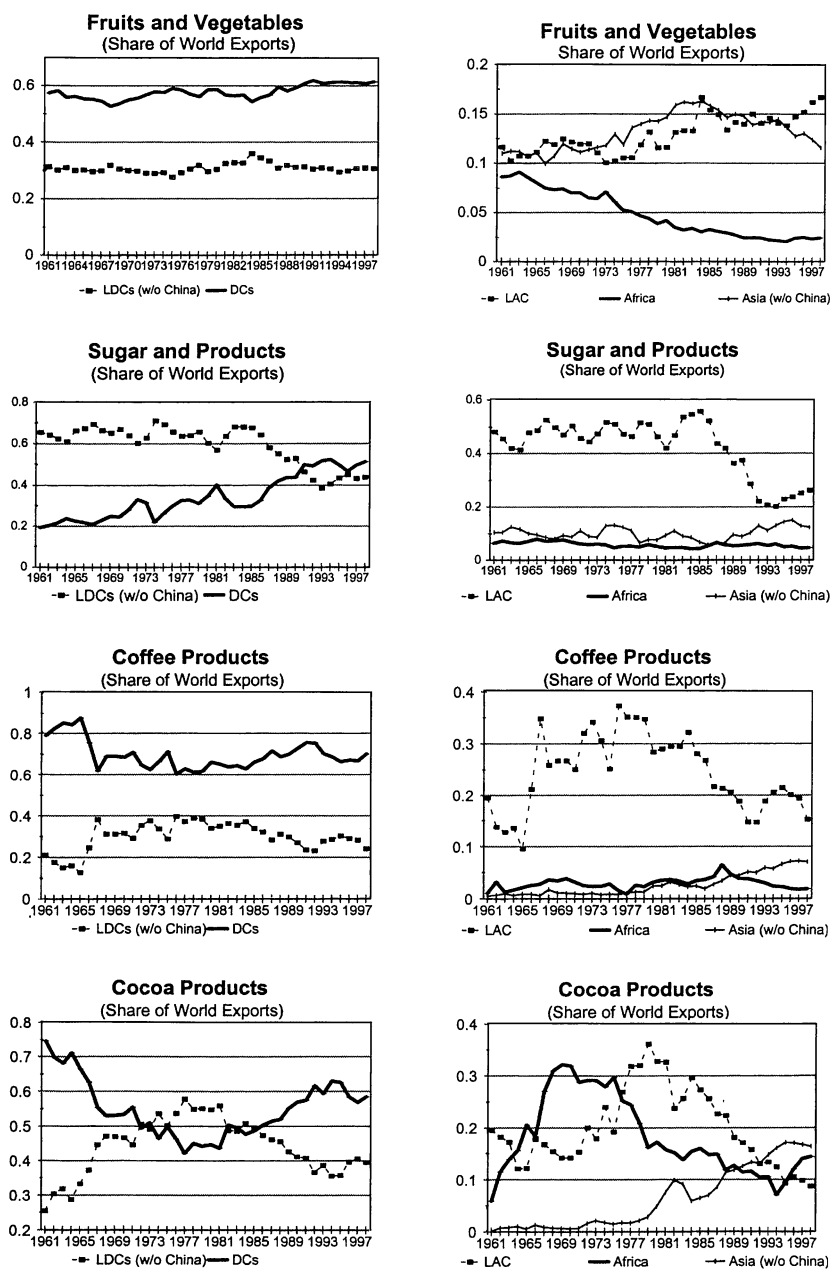


Fig. 1. (Continued).

3. Trade policies and agroindustrial exports

Differences in agrifood export performance over developing regions are functions of non-policy factors,

such as income and population growth, natural resource base and climate, and technological progress, as well as of policies, both in LDCs and DCs. We focus on the policy factors in this section.

3.1. Trade policies in LDCs

The link between LDC trade policies and economic performance has been a key issue in the development of literature for a long time. Various studies have pointed out the limitations of a development strategy based on import-substitution industrialization through closed trade regimes, with its tendency to generate recurrent balance of payment crises and to foster capital-intensive growth patterns. Those studies also document the negative impact on tradable goods, including agricultural and agroindustrial products, through the built-in bias towards overvalued exchange rates. Additionally, closed trade regimes have been, in many cases, associated with macroeconomic policies that reinforced the overvaluation of domestic currencies, and contributed to periodic crisis in the external accounts and to unstable growth patterns (Little et al., 1970; Balassa and Associates, 1971; Balassa, 1989). While early work relied mainly on case studies, more recent empirical literature on growth based on cross-section regressions also suggests that there is a positive correlation between trade openness and economic growth (Sachs and Warner, 1995; Sala-i-Martin, 1997).

The export growth in manufactured goods has been found to correlate positively with trade regime openness (Sachs and Warner, 1995). Athukorala and Sen (1998), using cross-section regressions with a sample of 36 LDCs, found that export growth in processed foods appears to depend crucially on the openness of the trade policy regime, and is positively and significantly related to internal economic growth.

Trade and macroeconomic policies that distort relative prices against agriculture in particular, and tradable products in general, and that affect the level and variability of the growth rate for the economy, limit the possibilities of developing a thriving and internationally competitive agroindustrial sector in LDCs. This limitation operates via various channels: by reducing the supply of needed raw materials for the manufacturing sector, by constraining the expansion and diversification of agroindustry that would have resulted from the increase in national incomes, and by hurting the competitiveness of the national agroindustry in world markets.

The correlation between regional export performance and policy illustrates the above points.

Regarding Africa, it has been argued that the drastic decline in exports (in general as well specifically in agricultural products), has been related to the closed trade regimes in African countries, rather than protectionist obstacles in the importing countries (Ng and Yeats, 1996). The average African country has indeed maintained a more closed trade regimes than other developing countries, including heavy taxation of agricultural and agroindustrial exports through parastatal marketing boards and other protectionist measures (World Bank, 1987; Sachs and Warner, 1995; Ng and Yeats, 1996, for all products; Krueger et al., 1990, for agricultural products). More generally, Africa's poor growth performance since the 1970s has been attributed to restrictive trade policies, as well as inappropriate macroeconomic policies and governance practices (see, among others, Collier and Gunning, 1999). Thus, the performance of the agroindustrial sector reflects the negative economic environment characterized by overvalued exchange rates, explicit taxation of agricultural exports, weak domestic demand, and macroeconomic and political instability.

Asia, on the other hand, has a larger percentage of countries (albeit with differences between South and East Asia) with relatively more open or outward-oriented trade policies, according to different classifications of trade regimes (World Bank, 1987; Krueger et al., 1990; Sachs and Warner, 1995). In particular, about two-thirds of the LDCs characterized as having open trade regimes in Athukorala and Sen (1998) are in Asia. The good overall economic performance of the region has generated a growing internal market that supported the expansion of agroindustry. In this context, Asia's net importing position in many agricultural products appears to reflect the strength of domestic demand, sustained by rapid economic growth, rather than being the result of weak supply-side performance. The 1997 Asian financial crisis has modified this scenario, contributing in part to the subsequent decline in Asia's world market share for several products (Fig. 1).

LAC has historically fallen in between Asia and Africa, in terms of the openness of trade regimes (World Bank, 1987) and taxation of agricultural and agroindustrial products (Krueger et al., 1990). LACs relatively strong natural resource base, undergirded its more prominent international presence among developing regions in several agricultural markets.

However, rapid population growth was eroding its net trade position, while policies of import-substitution industrialization affected the performance of the agricultural and agroindustrial sectors. The opening of LAC economies since the late 1980s (Morley et al., 1999), including both unilateral liberalization and regional integration such as MERCOSUR and NAFTA, appears to be associated with the increase in the export shares for several products, including cereals, fruits and vegetables, and dairy products (Fig. 1).

In general, these observations support the notion that trade openness appears to explain, at least in part, the different export performances of Asia, Africa, and LAC in processed and high-value agricultural goods. But the dynamics of export shares in Fig. 1 suggest that other factors have to be taken into account. For instance, the collapse in market share for Africa appears far larger than can be explained by differences in trade openness alone, or even by the combination of other economic policies. Also, LAC seems to have gained world market share in several products during the 1960–1970s, even though that period was supposed to be the heyday of import-substitution industrialization under closed trade regimes. In contrast, at least for some products, LAC was losing shares in world markets during the 1980s, when devaluation of exchange rates and the progressive advance of trade liberalization should have favored agricultural and agroindustrial production.

In the case of some African countries, the decline in world market shares for the products analyzed can be linked in part to the expansion of mineral production and exports in the 1970s, which, leading to a less favorable real exchange rate for other tradables, had a Dutch-disease effect on agriculture and agroindustry. More fundamentally, Africa's economic growth and exports began to decline during the difficult transition from colonial rule to independence in the 1960s, declined further in the 1970s, in parallel with the expansion of the Cold War to the African Continent. The East–West conflict appears to have hit Africa particularly hard, reinforcing and militarizing ethnic divisions, and, later, at the end of the Cold War, creating further rounds of regional instability (see, for instance, Messer et al., 1998).

Also, both Africa and LAC suffered more than Asia from the change in world macroeconomic conditions in the 1980s after the second oil crisis. That crisis,

along with changes in agricultural and trade policies in DCs, led to the worldwide collapse in agricultural commodity prices during the second half of the 1980s. The heterogeneous performances were in part related to the different policy reactions, with Asia adjusting earlier and more efficiently to the economic shocks (Balassa, 1989). But the decline in world export shares by Africa and LAC also reflected the fact that these regions were more dependent on DC agricultural export markets than was Asia, and that sectoral and trade agricultural policies in DCs were changing in ways that undermined LDC agricultural and agroindustrial production and exports. Analysis of the importance of LDC trade policies, controlling for time trends in war and violence, macroeconomic conditions, and world agricultural markets, requires moving beyond cross-country regressions (Durlauf and Quah, 1998). The next subsection focuses on one of these factors, agricultural protection in DCs.

3.2. *Agricultural trade policies in DCs*

Pre-Uruguay round studies (before the negotiations that started in 1986 and ended in 1994) aimed at quantifying the impact of agricultural protectionism in industrialized countries. This analysis predicted substantial positive effects on LDC incomes, production, and exports of agricultural and agroindustrial products from an eventual reduction of tariffs and other forms of agricultural protection in DCs (Valdés and Zietz, 1980; Goldin and Knudsen, 1990).

Post-Uruguay round studies conclude that agricultural and agroindustrial production in LDCs, as well as their net welfare, would increase if agricultural protectionism in DCs was reduced. But the studies also raise the possibility of negative welfare effects for some LDCs, particularly those in Africa that are net importers of agricultural products, due to adverse changes in the terms of trade (Sharma et al., 1996). Some studies, though, have argued that even for those countries suffering adverse trade effects, the domestic policy framework is still more relevant for general welfare results (Ingco, 1997). Also, simulations of LDC gains resulting from agricultural trade liberalization have usually lumped fruit and vegetables together with other subsectors, which may have led to underestimation of the benefits, considering the growing importance of this group of products in LDC

exports. For instance, Islam (1990) found significant gains for LDCs of liberalization of world trade in fruits and vegetables. Yet, even after the Uruguay round negotiations, production of fruit and vegetables remains highly protected in several DCs, mainly on a seasonal basis, allowing entry with lower levels of tariffs only when there is no domestic production (Swinbank and Ritson, 1995).

Among agricultural trade policies of the industrial countries, the Common Agricultural Policy (CAP) of the European Union has received particular attention. Since the mid-1970s, the EU, through the heavy use of domestic subsidies, import restrictions, and export subsidies, moved from being net importers of a variety of products (including wheat and other cereals, beef, sugar, and some fruit and vegetable products) to becoming net exporters.² Consequently, the question of CAPs impact on developing countries has been a recurrent theme (Koester and Bale, 1990; Sarris, 1991). It is still a key element of the debate regarding the Agenda 2000 and future modifications of Europe's agricultural policies (see for instance European Commission, Directorate-General VI Agriculture, 1999).

In particular, a specific trade practice that has been widely criticized as unfair and disruptive of international trade is the use of export subsidies. In complete contrast with industrial goods, this practice has not yet been completely eliminated for agricultural products, many of which are processed products. Therefore, the differential treatment of export subsidies under the current agreements of the World Trade Organization (WTO) is not only between primary agriculture and industry, but also between those industries based on agricultural raw materials (for which export subsidies are allowed) and the rest of the manufacturing sector (for which those unfair trade practices have been banned). The European Union has been the main source of subsidized agricultural exports over the years: over 1986–1997, European export subsidies were about 123.9 billion US dollars; the equivalent figure for the United States was 9.5 billion US dol-

² In the 1960s and 1970s the current countries of the European Union imported per year an average of about 21 million of metric tons (MT) of cereals, 550 000 MT of beef, and 2 million MT of sugar; since the 1980s, however, those countries became net exporters of 18 million MT, around 500 000 MT, and almost 3.5 million MT for the same products, on average per year.

lars (Leetmaa and Ackerman, 1999).³ Those export subsidies amounted to almost 13% of the value of all agricultural exports by Africa, LAC and Asia (minus China) combined, during the period.

Two additional issues, not included in the simulation models mentioned above, are tariff escalation and sanitary and phytosanitary measures.

Tariff escalation has been discussed at least since the Kennedy Round (Yeats, 1974). The practice of imposing high import taxes on processed goods, and low or no tariffs on primary products (thus granting a higher effective rates of protection to their own value added), reduced significantly the processing margin of LDCs. This placed agroindustrial production in those countries at considerable disadvantage, strongly tilting the export profile of LDCs towards raw materials (Balassa and Michalopoulos, 1986). Assume, for instance, that LDCs can sell raw material or processed products at world exogenous prices. Assume also that the cost structure for the agroindustry is such that the raw material amounts to 60% of the total value of the processed good, another 20% is spent in other cost items except factors of production, and 20% is value added. Assume then that the raw material, produced by the LDCs, is imported by DCs with zero tariffs but that the processed product faces an import tariff of 10%, and transport costs add 5% to the world price of the raw material in the DCs. Finally, assume the agroindustry in the DCs have the same basic cost structure except for trade taxes and transport costs. Then producers in DCs, even though the basic technology is the same and they have to absorb transport costs, still have a value added margin 35% larger than the LDCs (27 cents on the dollar in DCs, against 20 cents in LDCs). This implies that the factors of production in LDCs will be paid less than in DCs, discouraging the processing of the raw material in LDCs.

Although this characteristic of the tariff structure has diminished somewhat after the Uruguay round, significant levels of tariff escalation will still remain after the full implementation of the Uruguay round (Lindland, 1997; OECD, 1997,). In particular, OECD

³ These calculations do not include the tax treatment of foreign sales corporations by the US. The EU requested a panel in the WTO to analyze whether this practice was an export subsidy and the WTO ruling has been against the US. The practice appears to have included agricultural goods, among other products.

(1997) documents important tariff escalation in coffee and cocoa products, which can in part explain the increasing share of DCs in the international trade of processed goods using those raw materials. Golub and Finger (1979) in one of the few studies which analyzed quantitatively the issue of tariff escalation for some manufactured products, including only coffee and cocoa from the food sector, found that the removal of such escalation would lead to the reallocation of some processing of agricultural products from DCs to LDCs. Specifically, they found non-trivial increases in export revenues from cocoa and coffee exports.

Sanitary and phytosanitary (SPS) measures, as well as other technical, quality and environmental standards, can and have been used as barriers to trade. Concerns about the possibility that the liberalization of agricultural trade achieved with the agreement on agriculture could be negated by manipulation of those regulations led to the negotiation during the Uruguay round of two separate documents. The first was the agreement on SPS measures, directly related to human, plant and health issues linked to agricultural products. The second was the agreement on technical barriers to trade, which was more general in coverage than the first document.

LDC governments have complained over the years about SPS measures and inspections that tend to become stricter when there are agricultural surpluses in the domestic markets of DCs. They also complained about the long periods required by DCs to complete the pest and disease studies needed to allow the import of new agricultural products from LDCs (see Matthews, 1994, for other SPS issues and LDCs). Since the Uruguay round agreement, and in the preliminary discussions related to the continuation of the negotiations mandated in Article 20 of the agreement of agriculture, some LDC governments have argued for greater flexibility in the implementation of LDC obligations under the SPS agreement. However, a strong SPS framework is important for LDCs, not only because a competitive export position requires establishing and maintaining the sanitary and quality requirements for their products, but also as a way of improving health conditions in the LDCs. The best approach for LDCs would be to insist on receiving the technical and financial assistance considered in the SPS agreement (Articles 29 and 30) to build and improve their own systems of quality control and health and safety standards.

The combination of domestic support, market protection, and export subsidies by DCs depressed world prices for a variety of food products. This hurt LDCs that were net exporters and helped LDCs that were net importers of those products (Koester and Bale, 1990; Sarris, 1991). Considering that LDCs, as a group, are net importers of cereals and dairy products, and lately, meat products, it has been argued that those countries may benefit from the domestic support and export subsidies of DCs. This argument, however, does not address the distributional impact within LDCs between consumers and producers, and across types of households. Simulation models used to evaluate world agricultural liberalization have not disaggregated household and farm sectors in ways that would have allowed better understanding of the distributive implications of the policies suggested.

Additionally, simulation models show that agricultural production in LDCs (regardless of their net trade position) will increase if the distortions in world agricultural policies, particularly of the DCs, are reduced (Sharma et al., 1996). While those studies mainly project the impact of possible future scenarios of liberalization, other work supports similar conclusions from a historical perspective: they suggest important negative effects on production and employment in several LDCs for agroindustrial products such as meat products, sugar, and canned tomatoes, as a result of DCs agricultural policies (OXFAM, 1987; Díaz-Bonilla, 1999; Eurostep, 1999).

Conversely, it could be argued that the good production and export performance of oilseed products by LDCs is due in part to the fact that oilseed production has been relatively less distorted by support policies in DCs, allowing its expansion in LDCs. The European Union established lower bound tariffs for oilseeds in earlier trade rounds, and, at the beginning of the 1990s, it lost a panel under GATT, limiting the possibility of extending some of the highly protective measures of the CAP to those crops. Relatively low levels of support for oilcrops coupled with higher protection for other feed substitutes led to the expansion of European demand for oilseeds. The US, in turn, has had relatively low levels of domestic support for oilseeds as compared to support for cereals and other crops, as calculated in OECDs measures of producer support (OECD, 1998).

Another example is the market for fruits and vegetables. Income growth and changes in consumption habits, along with technological developments in packaging, cold storage, and transportation, allowed those markets to develop, particularly in DCs (OECD, 1996). In an environment of growing demand, the reasonably steady performance of LDCs in terms of world market share may be in part explained by their exports being relatively less affected by trade restrictions. This is either because they are tropical products non-competitive with domestic production (with the EU banana regime as an exception), or because LDCs are allowed entry with fewer restrictions during the off-season in the DCs.

In sum, even though agricultural trade policies in DCs may have reduced the import bill of net importing countries, it can be argued that those same policies have had a stifling effect on agricultural and agroindustrial production in LDCs. Considering that those sectors are the main economic activities in many LDCs, particularly poor ones, and that such activities usually have significant growth multipliers for the whole economy (see, for instance, Delgado et al., 1998, for Africa), the level of non-realized dynamic benefits for those economies may have been substantial.

4. Conclusions

Several policy conclusions emerge from the above discussion.

First, trade and other economic policies appear to have been generally more supportive of agroindustrial production and exports in Asia, have had a more uneven record in LAC, and seem to have been just one component in a larger array of forces inhibiting economic development in Africa. The policy changes of the last years, particularly in LAC and Africa, have improved the trade and macroeconomic framework in many developing countries. Although further strengthening of those policies is still needed in some of them, the performance of agroindustrial production and exports from LDCs may be now more dependent than ever from the completion of the needed process of policy reform in the agricultural and trade policies of the DCs.

Two DC policies in particular are in need of attention, as they have powerful disincentive effects

for the development of a thriving agroindustrial sector in LDCs: export subsidies, which affect mainly processed agricultural goods, and tariff escalation, which tilt the export profile of LDCs towards primary products. The negotiations mandated in Article 20 of the agreement on agriculture should complete the process of policy reform initiated during the Uruguay round, including increased market access, elimination of tariff escalation, further disciplines in domestic support, and the definitive elimination of export subsidies.

Second, in the case of Africa, however, a more supportive international environment and better macroeconomic and trade policies may not be enough to ensure a growing agroindustrial sector. In several countries, additional investments and policy reform efforts will be required to improve infrastructure, strengthen internal financial markets, develop institutions to manage risks and reduce transaction costs, and expand entrepreneurial and labor skills. More fundamental yet, for those countries affected by violence and war, the entire process of economic and social development will remain compromised until widespread violence and military confrontations stop.

Acknowledgements

We appreciate the comments of Chris Barrett, Tom Reardon, and two anonymous referees, who, of course, are not responsible for our errors and omissions.

References

- Athukorala, P.C., Sen, K., 1998. Processed food exports from developing countries: patterns and determinants. *Food Policy* 23 (1), 41–54.
- Balassa and Associates, 1971. *The Structure of Protection in Developing Countries*. Johns Hopkins University Press, Baltimore, MD.
- Balassa, B., 1989. Outward orientation. In: Chenery, H., Srinivasan, T. (Eds.), *Handbook of Development Economics*, Vol. 2. North-Holland, Amsterdam, 1989 (Chapter 31).
- Balassa, B., Michalopoulos, C., 1986. Liberalizing trade between Developed and Developing Countries. *Journal of World Trade Law* 20, 3–28.
- Collier, P., Gunning, J.W., 1999. Explaining African economic performance. *J. Econ. Literature* XXXVII, 64–111.
- Delgado, C., Hopkins, J., Kelly, V., Hazell, P., McKenna, A.A., Gruhn, P., Hojjati, B., Sil, J., Courbois, C., 1998. *Agricultural growth linkages in Sub-Saharan Africa*. IFPRI

- Research Report No. 107. International Food Policy Research Institute, Washington, DC.
- Díaz-Bonilla, E., 1999. Net trade position of industrialized countries and agricultural production in developing countries. Mimeo. IFPRI Trade and Macroeconomics, Washington, DC.
- Díaz-Bonilla, E., Reca, L., 2000. Trade and agroindustrialization in developing countries. Mimeo. IFPRI Trade and Macroeconomics, Washington, DC.
- Durlauf, S., Quah, D., 1998. The new empirics of economic growth. Discussion Paper No. 384. Center for Economic Performance, London School of Economics, January 1998.
- European Commission (Directorate-General VI Agriculture), 1999. Coherency between development policies and the common agricultural policy in the context of EU and WTO. Brussels, DG VI/MS/ms, March 1999.
- Eurostep, 1999. Eurostep Dossier on CAP & Coherence, prepared for Eurostep by Rian Fokker and Jan Klugkist (Novib). Brussels/The Hague, April 1999.
- FAOSTAT, 2000. <http://faostat.fao.org/default.htm>.
- Goldin, I., Knudsen, O. (Eds.), 1990. Agricultural trade liberalization: implications for developing countries. Organization for Economic Co-operation and Development, Paris. World Bank, Washington, DC, 488 pp.
- Golub, S., Finger, J., 1979. The processing of primary commodities: effects of developed-country tariff escalation and developing-country export taxes. *J. Political Economy* 87 (3), 559–577.
- Ingo, M., 1997. Has agricultural trade liberalization improved welfare in the least-developed countries? Yes. Working Paper No. 1748. World Bank, April 1997.
- Islam, N., 1990. Horticultural exports of developing countries: past performances, future prospects, and policy issues. IFPRI Research Report No. 80. International Food Policy Research Institute, Washington, DC.
- Koester, U., Bale, M.D., 1990. The common agricultural policy: a review of its operation and effects on developing countries. *World Bank Res. Observer* 5 (1), 95–121.
- Krueger, A., Schiff, M., Valdes, A., 1990. *Economía Política de las Intervenciones Agrícolas en América Latina*. Banco Mundial. Centro Internacional para el Desarrollo Económico (CINDE), San Francisco, 1990.
- Leetmaa, S., Ackerman, K., 1999. Export subsidies. Economic Research Service, USDA, January 5, 1999. <http://www.econ.ag.gov/briefing/wto/issues/export.htm>.
- Lindland, J., 1997. The impact of the Uruguay round on tariff escalation in agricultural products. *Food Policy* 22 (6), 487–500.
- Little, I., Scitovsky, T., Scott, M., 1970. Industry and trade in some developing countries. OECD, Paris.
- Matthews, A., 1994. Trade reform and the prospects for processed food exports from developing countries. *J. Agric. Econ.* 45 (2), 177–188.
- Messer, E., Cohen, M., D'Costa, J., 1998. Food from peace: breaking the links between conflict and hunger. 2020 Vision Discussion Paper No. 24. International Food Policy Research Institute, Washington, DC.
- Morley, S., Machado, R., Pettinato, S., 1999. Indexes of structural reform in Latin America. Serie REFORMAS ECONOMICAS 12. United Nations, Economic Commission for Latin America and the Caribbean, Chile.
- Ng, F., Yeats, A., 1996. Open economies work better! Did Africa's protectionist policies cause its marginalization in world trade? World Bank, Washington, DC.
- OECD, 1996. Export Fruit Boom from the South: A Threat for the North? Organization for Economic Co-operation and Development. OECD Publications, France.
- OECD, 1997. The Uruguay Round Agreement on Agriculture and Processed Agricultural Products. OECD Publications, France.
- OECD, 1998. Producer and consumer subsidy equivalent database. Directorate for Food, Agriculture and Fisheries, Agricultural Electronic Data Products. OECD, Paris.
- OXFAM, 1987. Common ground. How changes in the Common Agricultural Policy affect the Third World Poor (Prepared by Adrian Moyes, January 1987). OXFAM, UK.
- Sachs, J., Warner, A., 1995. Economic reform and the process of global integration. *Brookings Papers in Economic Activity* 1995, Vol. 1, pp. 1–118.
- Sala-i-Martin, X., 1997. I just ran two million regressions. *Am. Econ. Rev.*, May 1997, 87, 178–183.
- Sarris, A.H., 1991. European agriculture, international markets and LDC growth and food security. *Eur. Rev. Agric. Econ.* 18 (3/4), 289–310.
- Sharma, R., Konandreas, P., Greenfield, J., 1996. An overview of the assessments of the impact of the Uruguay round on agricultural prices and incomes. *Food Policy* 21 (4/5), 351–363.
- Swinbank, A., Ritson, C., 1995. The impact of the GATT agreement on EU fruit and vegetable policy. *Food Policy* 20 (4), 339–357.
- Valdés, A., Zietz, J.A., 1980. Agricultural protection in OECD countries: its costs to less-developed countries. IFPRI Research Report Series No. 21. International Food Policy Research Institute, Washington, DC.
- World Bank, 1987. World Development Report. World Bank, Washington, DC.
- Yeats, A.J., 1974. Effective tariff protection in the United States, the European economic community, and Japan. *The Quart. Rev. Econ. Business* XIV, 41–50.

