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CHANGES IN LATIN AMERICAN AGRICULTURAL MARKETS

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by

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ABSTRACT

This paper presents an overview of macroeconomic and agricultural trends in Latin America and the Caribbean. It argues that world-level macroeconomic and agricultural cycles, of expansion during the 1960s and 1970s, and stagnation and retrenchment during the 1980's, had an important impact on the economies of the LAC countries and on the performance of the agricultural sector in the region. They played over, and interacted with, a sustained trend of technological change in agriculture, that in the last quarter of a century spread to developing countries.

During the sixties and seventies LAC economies grew at rates above the world average, but the agricultural sector, constrained by a development strategy that prioritized the urban-industrial components of the economy, grew at rates somewhat below the world average. Still, these rates were high, due to general economic growth, supportive world prices and the acceleration of the process of technological change. The adjustment to harsher international economic conditions in the 1980's, along with the consequences of suboptimal economic policies, led to a painful period of adjustment in the region. The agricultural sector fared clearly better than other sectors, to the extent that the new policies (mainly devaluations and trade liberalization) in part corrected the previous bias against agriculture. However, world and regional depressed economic conditions, also affected agricultural growth, which, although above average growth for LAC economies as a whole in the 1980's, was clearly below the rates achieved in previous decades.

By mid-nineties, LAC's economy and its agricultural sector began to benefit from a more supportive international environment and improved domestic policies in the region. Annual average rates of agricultural and food production in the region clearly rebounded from the 1980s and were above world equivalent rates; however, they have been below both, LAC's average for 1960-1995 period and the 1990's rate of the developing countries as a whole.

The paper also documents the trend towards increased trade in the region (mainly due to the process of trade liberalization and economic integration in the region), and analyzes production, consumption and trade developments for major agricultural products. It highlights the important increase in fruits and vegetables, and oilseeds, which helped maintain a positive trade balance in the region, in spite of the historic deficits in cereals and dairy products.

The paper concludes that, while during the period of inward-oriented industrialization, LAC's agriculture was discriminated, and during the recent period of excess capacity, it was mostly neglected, these policy mistakes must be avoided for the sector to be able to play its key role in food production, poverty alleviation and environmental sustainability.

TABLE OF CONTENTS

I. THE WORLD MACROECONOMIC AND AGRICULTURAL FRAMEWORK [1/]

Changes in the agricultural sector and food markets of LAC countries over the last 20 years, and in fact in their economies in general, have been heavily influenced by major world macroeconomic developments, particularly by the cycle that has been labeled as the "rise and fall of inflation" (IMF, 1996). This macroeconomic cycle has been overimposed on, and has interacted with, important changes in agricultural technology, mainly the emergence and spread of the "Green Revolution" in developing countries.

Table 1 shows the initial economic push of the 1960's, where high rates of growth (almost 5%) combined with low inflation rates (between 2.5% and 4%). Growth continued high at an annual average of about 4% during the seventies, but inflation began to pick up, jumping to an average range of about 7-9%. Real interest rates were positive but small during the 60's and became negative in the 70's. After the second oil crisis at the end of the seventies inflation jumped to two digits and the expansionary policies of the previous decades were reversed. Tighter monetary policies in the first half of the 80's turned real interest rates strongly positive and led to the recessionary period of the beginning of that decade. Real interest rates continued high during the whole period at between 4-5% in real terms (more than double the values of the sixties) and world growth slowed down to about 2% (about half the growth rate of the sixties). Eventually, inflation was brought down during the first half of the nineties to levels comparable to the sixties, but the average annual growth rate was below 3% for that period.

All these developments provided support to the expansion of agricultural production and trade during the first two decades but worked in the opposite direction during the 80's (see Diaz Bonilla, 1991 b). During the upswing of the sixties and seventies, several factors contributed to encourage private and public investment in agriculture, and provided the funds and rationale for technological development and change. While long-term series of real prices for agricultural show a persistent downward trend over decades, the sharp rise in prices of the 70's rekindled worries about global food scarcity and led to speculative increases of land prices in US and other countries. Economic growth, high nominal prices for commodities and low interest rates provided support for the expansion of private investment in the agricultural sector.

At the same time, the oil crisis was perceived as part of the more general concern about the exhaustion of natural resources and the possibility of food shortages in the near future. Therefore, policies to protect and encourage agricultural production seemed sensible: developed countries continued and reinforced their

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[1] This section is based mainly on Diaz-Bonilla 1991 (b).

agricultural policies aimed at subsidizing and protecting the sector and efforts to spread the benefits of the Green Revolution were accelerated in the developing world during the seventies. Public investment in technological development and agricultural support was undertaken by governments which, in part as a consequence of high economic growth, were relatively less constrained on the fiscal side.

Table 3 shows that on per capita terms, agricultural and food production grew above 1% per year in developed countries. In developing countries agricultural and food production per capita also grew, but at lower rates during the sixties (about 0.6% per annum), slowed down during the first half of the seventies, but began to grow again since then (about 0.8%-1% in the second half of the seventies) (Table 3).

While the supply side of the equation kept on growing during the 70's, at the same time demand for agricultural products was also substantially reinforced by the expansion or the emergence of new international markets for agricultural products. Oil exporting countries of North Africa and Middle East became important food importers. After the first shock, developing economies, helped by easy credit and negative interest rates, maintained their economic growth, and increased substantially their imports of agricultural products. The USSR, a major oil and gold producer and exporter, also benefitted from the inflation of the seventies. In a major change of policies in mid 70's, the Soviet Union decided to use part of its export gains to complement the domestic food supply -which was lagging behind the central plan-, with imports. This decision was a major structural change that carried over into the 80's, adding to overall agricultural demand.

As a consequence, agricultural trade in the 1970's grew at 5% yearly, well above the growth rate of the 50's and 60's (3%), and more than two times faster than production (Diaz Bonilla, 1991 b). Fast-growing international demand (in an increasingly inflationary environment) sustained high agricultural prices over the decade (Table 2).

The macroeconomic and political environment changed substantially at the end of the 1970's and beginning of the 1980's. Tighter monetary policies greatly depressed effective demand, while supply continued to increase for some time due to a combination of the impact of the Common Agricultural Policy in Europe, the generous price support of the 1980 Farm Bill in the United States, the continuation and acceleration of technological change and more supportive policies to agricultural production in different developing countries, from China to highly indebted countries which were adjusting to the debt crisis (Table 3). The new

supply and demand conditions brought down prices over a whole range of commodities, particularly after 1986 (Chart 1 and Table 2). In the case of agriculture, fears of food shortages during the 70's shifted to concerns about deflation and excess supply in the 80's.

The initial stepping up of productive capacities during the period of inflation, negative interest rates and widespread government support and protection, was followed by a period of retrenchment in the agricultural sector when changes in macroeconomic conditions during the 80's both uncovered the imbalances in supply and demand and put additional constraints on fiscal policies of developed and developing countries. Adjustments in production took place, although for different reasons, mainly in Western and Eastern Europe. In the former, after an average growth rate of 1.6% in the first half of the eighties it declined to about 0.4% in the second half and turned negative in the nineties at -0.5%, reflecting the adjustments in the Common Agricultural Policy in preparation for the final agreement in the Uruguay Round. In Eastern Europe, the decline was related to the economic problems prior to, and following after, the collapse of the Soviet Union, which led to negative rates of agricultural and food production per capita. Also in the USA agricultural production per capita stagnated and even declined during the 1980's (with negative growth of 0.8% in the second half of the eighties), once the Farm Bill of 1985 began to move agricultural policies away from the levels of support of previous legislation (weather was also a big factor in the decline in production during 1988-1989). Developing countries, on the other hand maintained higher rates of growth of production per capita (although, obviously, from a lower base), mainly reflecting changes in Asian countries, and particularly China (Chart 2 and Table 3). The sustained growth of agricultural and food production in the developing world is noteworthy: with the exception of the 70's overall production per capita has been growing steadily at a rate of approximately 1% per year during the last three and a half decades.

All in all, a major policy-induced macroeconomic cycle of more than a quarter of a century, also contributed to generate an agricultural sub-cycle of expansion during the sixties and seventies and stagnation and retrenchment during the eighties and beginning of the nineties. This cycle played out over a sustained trend of technological development (Chart 2). The current world macroeconomic environment appears to be characterized by low inflation (back to the level of the 50's, before the Keynesian stimulus and real shocks of the 60's and 70's), fiscal constraints and expanded trade and capital flows. It could be argued that with a more stable macroeconomic environment, and with the important policy-induced imbalances in world agricultural markets somewhat diminished, the evolution of world agriculture has come back to be determined more by the internal dynamics of the sector, defined by increasingly market-oriented sectoral policies and the traditional interplay of technology, population, weather and natural resources.

Although agricultural and food production appears to have picked up again at the world level, the main question is for how long the cycle of technological change spurred by the Green Revolution can continue. This question is even more relevant considering that the deflationary supply and demand imbalances of the eighties appear to have been substantially diminished by higher economic and consumption growth, on the demand side, and the adjustment of excess productive capacity, on the supply side.

II. MACROECONOMICS AND AGRICULTURE IN LAC

(a) Brief macroeconomic considerations [2/]

The macroeconomic and agricultural cycles described above had a major impact on the economies of LAC countries and on the behavior of the agricultural sector in the region. During the 60's and 70's, LAC countries benefitted form the overall buoyancy of the world economy. There were indeed discussions regarding the adequacy and sustainability of the development strategy based on import substitution industrialization (ISI) (which was criticized because its negative impact on growth, macroeconomic stability, technological innovation and income distribution), and clearly accelerating inflationary pressures also led to worries about the adequate management of fiscal and monetary policies in the region. The oil shocks during the 70's were weathered in part because LAC's exports were helped by the increase in the prices of commodities (agricultural and non-agricultural) , and because of the increased availability of financing in private world capital markets.

The radical change in world macroeconomic conditions after the second oil shock, found LAC countries very vulnerable, in good measure because of policies that had left the region with a comparatively small export base, very dependent on primary commodities, and a greatly expanded external debt. The policy debate regarding the proper development strategy during the 70's was submerged by the urgency to absorb the triple shock in declining terms of trade and export volumes and skyrocketing interest rates, which hit the region at the beginning of the 90's. Although the rigidities of the inward-oriented development strategy hampered the possibility of an easy adaptation to the new circumstances, the size of the shocks was such that a painful process of adjustment was unavoidable. Different calculations indicate that the increase in interest payments and the decline in the terms of trade amounted to almost 4% of the LAC's GDP in 1982. And after the Mexican crisis in August 1982, external financing, that during 1980-1982 had been about 5% of the GDP, dropped to 1% in 1983 and became nil during 1984 and 1985 (see references in Diaz Bonilla E. 1991a).

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[2] This is based mainly in Diaz Bonilla 1991 a.

The region suffered another trade shock in 1986, when commodity prices collapsed worldwide (Chart 1 and Table 2). Although interest rates declined in nominal terms, they stood high in real terms, particularly if deflated by the prices of the region's exports. This new shock hit hard LAC countries, in many cases erasing the gains of the adjustment efforts of the first half of the decade.

The process of adjusting domestic absorption and the current account to the reduced international funding and value of exports, fell comparatively more on investments and imports, which affected the rate of growth of the economies. At the same time, money financing of the reduced but still high fiscal deficits led to higher and more variable rates of inflation in the region. Inflation moved from an annual average of approximately 45% (consumer prices) during the 70's to almost 190% per year during the 80's (Table 4). The unstable macroeconomic framework affected both private investment and the banking sectors, further depressing economic activity. While from WWII to the end of the 70's the region grew at an average of 5-6% per annum, the growth rate declined dramatically to an annual average of 1% during the 80's (and it was negative between 1981 and 1984) (Table 4). These growth rates were below population growth, and therefore income per capita declined during the 1980's (Table 4).

By the end of the decade, the strong adjustment effort, helped since 1989 by the implementation of the Brady Plan, led to better external indicators for several LAC countries, but internal economic and social indicators still reflected the difficulties of the decade. Prices of LAC's export commodities continued to be soft. At the policy level, governments in the region continued with the process of fiscal consolidation, at the same time that domestic markets and international trade were progressively liberalized.

Following the deceleration of the world growth at the beginning of the 90's, macroeconomic conditions changed once again, when the Federal Reserve shifted to an expansionary monetary policy to try to get the US economy out of the 1990-1991 recession. This coupled with an improved policy environment in LAC led to an important surge in capital flows to the region from 1991 until the end of 1994. After a brief interval following the 1994 Mexican devaluation, capital continued to flow to the region, lifting the external constraints under which the region had been operating during the 80's and leading to the resumption of growth in the region to about 3.1% per year (Table 4).

During the 90's, a general process of trade liberalization also took place in the region, as a result of different causes. One of them, has been the advance of regional trade integration, which included the creation of new trade agreements (such as NAFTA and MERCOSUR), the revitalization of older ones (such as the Central America Common Market, the Andean Pact and the CARICOM) and the

proliferation of smaller trade pacts (such as G-3, and the active presence of Chile in the signing of bilateral agreements). Moreover, several countries in Latin America liberalized their trade regimes in the last decade either because they joined the GATT (Mexico in 1986 and Venezuela in 1990), or because they unilaterally pursued policies of greater openness (like Chile and, more recently, Colombia, although in the latter case there has been some reversal of policies).

(b) The agricultural sector

The dynamics of the agricultural sector of LAC reflects both long-term trends as well as the impact of changes in domestic and international macroeconomic and sectoral conditions mentioned in the previous sections. Overall, the share of agriculture in total GDP in LAC has followed a well-known pattern: as income grows, the relative importance of agriculture has declined. In the period 1970-1995 agriculture in LAC grew at an annual rate of 2.7%, while regional GDP expanded at 3.3% per year (Table 4). As a result, while agriculture contributed with 16% of total GDP in the region in the mid 60's, currently, the share of agriculture is about 10%. Yet, there is a broad range within the region: from 4% in Venezuela to around 10% in MERCOSUR and 16% in Central America.

There has also been a strong trend toward the concentration of economic activity in the large economies of the Region. The combined total output of Brazil, Mexico and Argentina grew from 62% of the regional GDP in the mid 60's to 80% in the mid 90's. At the same time there has been a concentration in agricultural value-added: while the three largest economies accounted for 58% of the value added in that sector in 1965, the corresponding figure for 1995 was 77%. Brazil, the largest economy in LAC contributed with one fifth of the regional agricultural GDP in the mid 60's, while the Brazilian share thirty years later was one third of the LAC's agricultural GDP.

The pattern of agricultural growth, however, has not been uniform during the last 25 years. After an initial drop, during the 70's there was a distinct acceleration in agricultural production in LAC (Charts 2 and 3; Table 3): high world prices fueled the expansion of exportable and import- substitution agricultural products, while strong domestic demand sustained those products that (because policy reasons or intrinsic characteristics) were non-traded goods and the expansion of the industry provided demand for agricultural raw materials. It is true that the economy grew faster than the agricultural sector during this period, but the sectoral growth was significant nonetheless, and stood above the GDP growth rates achieved in subsequent years (Table 4). It has been demonstrated that during this time the agricultural sector and rural areas were affected by a policy strategy biased toward the industrial sector and urban areas (see, for instance, Krueger et al, 1991).

However, supportive world markets and domestic income growth, appear to have been enough to generate comparatively higher growth rates in the agricultural sector of LAC, notwithstanding the existent policy bias (Diaz Bonilla E. 1990).

During the 90's, as indicated, world and domestic conditions for the agricultural sector of LAC changed substantially. Devaluations of the exchange rates and the progressive advance of trade liberalization removed at least part of the policy bias indicated. Real exchange rates (defined as the price of tradable over non tradeable) increased in many countries in the region, favoring export and import substitution agricultural productions. However, reductions in government expenditures in infrastructure and technology, as well as the elimination of marketing and price support programs that were benefitting specific crop and livestock production in several countries, tended to affect supply negatively. Also the higher cost of imported inputs (as a result of the devaluations), and the reduction of credit to agriculture by the public and private banking sectors (partially linked to macroeconomic stabilization programs), had a negative impact on agricultural production. The slow down in domestic demand affected livestock and dairy productions, which have an important component of domestic consumption, the crisis of the industrial sector carried over to some agricultural raw materials, and the weakness in world markets hit hard exportable agricultural goods and made difficult for LAC governments to continue the support of some import-substitution products, such as wheat (Diaz Bonilla, 1990).

As a result of this combination of positive and negative circumstances, agriculture held better than the rest of the economy during the harsh decade of the 80's and continued to grow, even above the average for the economy and far more than the industrial sector (Table 4). In consequence, over time, agriculture has shown a much steadier path than either the manufacture sector or the whole economy, The variability of the agricultural growth rate has been about one third than that of the whole economy.

Still, the growth rate of the agricultural value added in the 80's was below the levels achieved during the previous decades (2% against 3.5% previously; Table 4). Table 3 shows the same story: agricultural and food production per capita grew during the 60's and 70's at about 0.5% per year (even after taking into account the period of negative growth at the beginning of the seventies); during the 1980's the rate of growth declined to about 0.37% per year.

The positive impact of the remotion of the policy bias against agriculture (through devaluation of the exchange rate and trade liberalization) was in good measure offset by several factors such as the decline in world prices (in the case of tradeable goods); the slowing down of domestic demand (which affected livestock and dairy production); problems of the industrial sector (which reduced demand for

agricultural raw materials); lack of infrastructure and credit, higher prices of inputs and machinery, and, in the case of the non trivial segment of crops that received net support from LAC governments (in spite of the overall policy bias against agriculture), the termination of such programs under the pressure of fiscal constraints and lower world prices (Diaz Bonilla E. 1990).

In the 90's, however, after a slow start due to the continuation of low growth at the world level and in the region, LAC's agricultural production seems to have picked up again, as well as exports and imports of agricultural goods. In some products, the combination of trade liberalization, some appreciation of the exchange rate (linked to larger capital flows), low world prices and the termination of internal support due to fiscal constraints have led to larger imports. But the restructuring of the agricultural sector is also generating larger exports (section III Agricultural Trade in LAC)

(c) Agricultural production per capita

In the long run the LAC region has been lagging behind world indicators, both for developed and developing countries, in terms of agricultural production growth per capita. Table 3 shows that over the 1960-1995 period, agricultural production per capita grew at 0.53% in developed countries and 1.03% in developing countries against a growth rate of 0.43% in LAC. However, it is interesting to note the discrepancies between food and agricultural growth. The region did somewhat better in terms of food production per capita: at an average growth rate over the 1960-1995 period of 0.69%, LAC grew more than developed countries (0.58%) but below developing countries (1.11%) [3].

The golden age of LAC agriculture corresponds to the 1970's, particularly once the slow down at the beginning of that decade was over, when agricultural growth benefitted from overall economic growth and the spreading of the Green Revolution. During the second half of the seventies agricultural and food production grew at an annual average rate (per capita) of 1.2% and 1.5% respectively, growth rates not achieved since, and more than double the world rates during that period. After that, there is a clear deceleration during the first part of 1980's (with rates dropping to about half the level of the second part of the seventies) and virtual stagnation between 1985-1990 (particularly in agricultural production where the yearly growth

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[3] FAO indices include the former Soviet Union and Eastern European countries linked to her, within the developed category. It must be noticed that although the two categories of developed and developing countries cover (almost) all countries in the world, the value of the global index does not necessarily have to (but most of the times will) be bracketed by the values of the indices of developed and developing countries due to the fact that, as any quick numerical example would show, it is a composite index reflecting in this case both, agricultural and food production, on one hand, and population growth, on the other.

rate was only 0.18%). Following "the lost decade" of the 1980's there has been an economic recovery in the 90's, resulting from more stable macroeconomic policies and market liberalization in the region as well as improved world economic conditions. The average growth rates of agricultural and food production during the nineties, at 0.4% and 0.6% respectively, have been above the world averages (by a factor of more than three), but they were still below both, growth rates of developing countries as a whole during the nineties, and LAC's own averages for the whole 1960-1995 period.

Chart 4 shows, at a more disaggregated level (considering cereals, crops in general and livestock), the pattern of accelerated growth during the 70's, stagnation during the 80's and beginning of the 90's, and what appears as a resumption of growth during the last 3-4 years (except for livestock production per capita that did not revert its declining trend).

This average picture however, is dominated, as it has been indicated above, by the performance of Brazil, Mexico and Argentina, and, therefore, masks important differences among countries. Chart 5 shows the different experiences of a number of LAC countries that were separated, somewhat arbitrarily, into five categories: Type I countries, where agricultural production per capita has an upward trend and in some cases, has been growing steadily for 20 years or more (Brazil, Belize and Chile). In the case of Costa Rica, although the overall trend is upward, the index in the 90's is back only to the mid-70's level. Type II countries, which in the past may have had a downward or flat trend, but where, over the last years, production per capita seems to have picked up again. This appears to be the case of Ecuador, Argentina, Mexico, Uruguay, Guyana, and Jamaica. Type III includes Peru and Dominican Republic, where a past downward trend seems to have settled into a stagnant agricultural production per capita. Type IV includes countries with worryingly downward trends in production per capita: El Salvador, Guatemala, Nicaragua, Cuba, Haiti, Honduras, Panama and Trinidad and Tobago. Except in the latter case, where the drop in agriculture simply reflects the expansion of the oil sector (in another example of the "Dutch Disease") and overall income per capita has been growing over the period considered, in other countries such as El Salvador, Nicaragua, Haiti and Cuba, the drop in agricultural production per capita, is part of a general pattern of economic difficulties. Finally, Type V includes countries that in the past had an upward trend in agricultural production per capita, but that, in the 90's, a reversal seems to have occurred and the index is heading downwards. This appears to be the case of Colombia, Bolivia, Paraguay and Venezuela.

III. AGRICULTURAL TRADE IN LAC

(a) Overview

LAC as a whole shows a positive and large net agricultural trade balance, which in 1995 amounted to about 21.5 billion dollars (Table 5). However, while agricultural exports (AGX) have grown at an annual rate of 7.5% for the last twenty five years, agricultural imports (AGM) have expanded at a rate of 10% per year. Consequently, the ratio between the value of AGX and the value of AGM has fallen significantly from a value of 3.2 in the 60's to 1.70 in the 90's, but it has recovered in the last two years to about 1.9 in 1995, from the lows of 1.6-1.7 in 1993-1994 (Chart 6).

After an important increase during the 70's, the growth in the value of LAC agricultural exports slowed down in the 80's (Table 5). The relatively sluggish performance of regional AGX in value terms during that period is the result of protectionist policies in high income economies which led to lower agricultural prices, the impact of deflationary macroeconomic policies in industrial economies, and even geopolitical changes such as the economic difficulties of the Soviet Union and its dissolution during the nineties (with direct impact on products such as sugar, grains and beef).

AGX have declined from 43% of the total value of merchandise exported by the region in 1970 to 24% in 1995 (Table 5). On the other hand AGM have remained quite stable as a percentage of total imports (10%-13%) for the whole period. Although agricultural production as a whole has been growing in LAC, increases in population and incomes over time, coupled with more liberal trade policies, maintained the share of agricultural imports. The fact that the average propensity to import agricultural products has remained constant in the presence of substantially larger total imports gives an indication of the magnitude of the domestic demand for agricultural products.

In general, the coefficients of internationalization, measured as exports over production (X/P) and imports over consumption (M/C), have increased for a variety of agricultural products, showing a larger exposure of the LAC agricultural sector to world markets in products like wheat, feed grains, vegetable oils and poultry (Table 10). This is the result of the supply and demand conditions, as well as the process of trade liberalization that has taken place in the region.

(b) Country structure of agricultural trade

In general, South America (except for Peru and Venezuela, which are exporters of non-agricultural primary products) and Central America show a positive trade surplus in agriculture. Mexico and the Caribbean, on the other hand, appear as net importers for most of the period.

Looking at the agricultural export/import ratio in individual countries, important differences appear from cases such as Argentina and Costa Rica which have ratios of more than 8.5 and 5.5, respectively, in 1995 to Haiti, Peru, Bahamas and Venezuela, with ratios of 0.3 or less (Table 9). Taking a longer view, net agricultural over the last 30 years, also show dramatically different performances. Countries like Argentina, Belize, Costa Rica, Ecuador and Uruguay have maintained a positive and increasing net trade balance in agricultural goods. On the other extreme, Haiti, Jamaica, Mexico, Venezuela, Surinam, Peru and Trinidad-Tobago have had negative agricultural trade balance most of the time, while other countries such as Cuba, El Salvador, Dominican Republic, Honduras and Nicaragua, although still showing mainly positive trade balances, have suffered a significant decline over the last years (Diaz-Bonilla and Reca, 1997) [4].

(c) Product Structure of Agricultural Trade

The region has been historically regarded as a supplier of "commodities" to world markets. The evolution of LAC agricultural trade by products between 1970 and 1995 (Tables 6,7 and 8) supports that view for most of the period.

Data on agricultural trade at current prices (Table 6) shows that traditional exports such as coffee and sugar increased less than other agricultural products over the whole period and declined since the 80's (particularly in the case of sugar). On the other hand, there has been an important dynamism in the oilseeds complex and in exports of fruit and vegetables, which grew by a factor of 18 and 11 respectively in current value. In fact, by 1995 exports of fruits as a group and exports of the oilseed complex were, each one, more than twice the value of exports of cereals, when in 1970 both were below the latter. There have also been important increases in crude materials (which includes flowers and plants), tobacco and other products such as wine and other alcoholic beverages.

Value shares of exports and imports in Table 7 show the same story from another angle. In 1970 coffee and sugar accounted for almost two thirds of the total value of AGX, and meat and fruits and vegetables (F&V, largely bananas) contributed

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4 The situation is particularly worrisome in Haiti, which has shown a negative trade balance in agriculture since the second half of the 70's, and it has grown larger in recent years. In the case of Cuba, agricultural exports that were as high as 4 billion dollars until the beginning of the 90's (supported by the purchases of sugar and other tropical products by the former Soviet Union) plummeted to less than 800 million dollars in 1995. Mexico has had a negative trade balance in agriculture since the 80's, although it managed to post surpluses in 1986, 1987 and 1995. Jamaica's agricultural trade balance turned negative in the second half of the 70's, but has somewhat reduced its deficits during the 80's and even had two positive years in 1991 and 1995.

with 12% and 14% respectively. Ten years later, in 1980, the relative importance of sugar and coffee was about the same, but meat and F&V had declined somewhat (to 7% and 10% of total exports, respectively). On the other hand, vegetable oils, cakes and seeds (the oilseeds complex) had climbed to 14% of AGX.

The relative composition of AGX shows changes of an even larger magnitude in the 90's: by 1995 the F&V aggregate has become the most important item of AGX, accounting for almost 30% of total AGX. Coffee today represents 26% of AGX, while the oilseed complex rose from 16% to 20%. Sugar and meat have lost importance and together they represent 18% of AGX (Table 7).

The emergence of F&V as the most important agricultural export from LAC implies a large departure from an agricultural sector based on the production of commodities to one where specialties, and off-season fruits and vegetables represent a large part of total exports. Different indicators coincide in forecasting a strong growth of this subsector, as production techniques, marketing strategies and infrastructure are improved, all stimulated by a freer trade environment.

In 1970, bananas were historically the largest component of F&V exports (57%) and accounted for 8% of total net agricultural exports. The growth and diversification of F&V exports in the last 25 years have been quite large: in 1995 the share of bananas declined to 34%; oranges (mainly juice) contributed with 17%; other fruits represented 25% of the subsector; and vegetables accounted for 24% of total F&V exports. However, because the whole F&V group increased dramatically as a whole, the shares of bananas relative to net agricultural exports in 1995 were 10%, while, both, other fruits and vegetables, had each one shares of 7% of net agricultural exports (Table 8).

The region is also a net importer (negative trade balance) of some agricultural products. Grains are the most important regional AGM and accounted for U$S 6.6 billion in 1995. At the same time the value of LAC grain exports was U$S 3.2 billion in the same year. Dairy products are second in importance to grains (U$S 2.4 billion imports in 1995), but dairy exports are negligible (Tables 7 and 8).

In summary, looking at the product composition of the agricultural trade balance, LAC countries show a surplus in the increasingly diversified fruit group (with bananas still the main item, but with a larger dispersion of products); oilseeds and oilseed products; coffee, cocoa and tea (where coffee is by far the largest product); sugar and sweeteners; meats and products; and some other smaller products. The region, on the other hand, is and has been in the past, a net importer of cereals and dairy products, as well as other products of smaller quantitative importance. The

emergence of new products such as F&V and oilseeds, compensated the stagnation or decline of more traditional products and allowed the region to maintain a positive trade balance in agriculture in spite of the growing demand for grains and dairy products (Tables 5, 6 and 7).

(d) Regional trade

An important characteristic of agricultural trade (and, in fact, of all international trade) in the region, is the steady increase in the share of intraregional commerce. Lee (1995) shows that intraregional exports of agricultural products in the Americas (including USA and Canada) moved from 26% of total agricultural exports of the Continent in 1981-1983, to 36% in 1991-1993. This pattern holds true for the majority of countries in the American Continent during that period, except for Brazil and the Caribbean (see Lee, 1995).

Table 11, with data on the ratio of agricultural exports toward regional trade agreements and the rest of the world in 1995, shows the following:

-Among LAC countries Brazil is the less dependent on the region for its exports and imports, while Mexico appears on the other extreme of the spectrum, as the only country that is included in the four categories of higher exports to, and imports from, the region.

-Other countries with greater diversification in the destination of exports and the source of imports of agricultural products and food are Argentina, Chile, Peru and, to a lesser extent Uruguay and Colombia. El Salvador and Nicaragua do not depend heavily on the Americas for their primary agriculture exports, but they have a strong regional orientation in food and beverage exports.

-Regional pacts do have an impact on the trade flows of their respective members. Clear cases are Mexico with regard to NAFTA and Uruguay, Paraguay and (to a lesser extent) Argentina with respect to MERCOSUR. But, for obvious reasons, NAFTA also has a strong presence in the trade flows of nonmembers countries in the region. For instance, for Brazilian agricultural and food exports NAFTA is more important than MERCOSUR, and in general NAFTA dominates in exports and imports, both the Andean Pact and the Central American Common Market for several countries and products.

The advance in the implementation of regional trade agreements and the possibility of a Free Trade Area of the Americas would most certainly expand further the share of intraregional trade.

(e) Trade Issues in the Region

Several scenarios characterize (and condition) trade within the Americas (see Diaz Bonilla et al, 1994):

i) Competition among different LAC producers in the fruits and vegetable markets of USA and Canada, where there are possibilities to complement local supplies with off-season exports.

ii) Competition among LAC producers in the USA and Canada markets in the areas of sugar, coffee, cocoa and other beverages, meats, tobacco and other tropical products.

iii) Competition between net grain exporters in the region (Argentina, USA and Canada) in the remaining LAC markets for grains, particularly in Brasil and Mexico, and to a lesser extent in other countries like Venezuela, Colombia, Peru and Chile. This competition also exists in other foreign markets.

iv) Competition between net exporters of vegetables oils and other products (Argentina, Brazil and USA) in different international markers as well as in other regional markets like Mexico and Venezuela.

v) Competition in regional markets for a variety of products. For example, Argentina and Chile compete between them in the Brazilian market for temperate fruits. In turn, Brazil and USA may compete for poultry exports to some LAC countries. Producers of tropical fruits compete in the markets for those products in countries with temperate climate, like Argentina and Chile.

The evolution of trade flows based on the complementary/competition patterns briefly described above will depend, inter alia, on trade and agricultural policies in those countries, which, in turn will be influenced by different multilateral, regional and bilateral agreements that will result from the complex negotiations ahead. These negotiations include the continuation of the process initiated during the Uruguay Round of GATT, and, for the countries of the region, the possibility of creating a Free Trade Area of the Americas, as well as extraregional negotiations such as the participation of NAFTA countries and Chile within APEC, and the discussions between MERCOSUR and the European Union.

These negotiations will probably cover the main agricultural issues discussed in the Uruguay Round, plus some other related issues [5]/. A brief review follows.

(e.1) Exports subsidies, dumping and related issues.

One issue would be the strengthening of disciplines in export subsidies and related practices, with a view to their elimination in the Continent. Such practices include from formal programs such as those administered by USA (the Export Enhancement Program, the Dairy Export Incentive Program, the Sunflower Oil Assistance Program and the Cotton Oil Assistance Program) to less transparent ones that may

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5 A more detailed discussion can be found in Diaz-Bonilla et al. 1994.

be operated by other countries. The important subject of state trading enterprises (with the possibility of practices that may operate as subsidies or dumping) can be considered here. Also the issue of how to deal with export subsidies from extra-regional exporters (basically the European Union) will require consideration.

Another issue is the administration of current remedies, such as countervailing duties and antidumping measures. This is a broader subject that goes beyond agriculture, but it has an impact to the extent that some of the products affected are from the sector.

Finally, there is the issue of the relationship among the three groups of disciplines related to export subsidies, export credits and food aid, which are separate from each other and which may have to be considered within a unified framework.

(e. 2) Market Access

The patterns of trade and market access in different countries in the continent will be influenced by the complex system of border measures resulting from the implementation of the Uruguay Round, NAFTA, and MERCOSUR and the revitalization of Central American Common Market the Andean Pact and CARICOM, as well as by the potential agreements between countries in the region and extra regional partners (the UE and APEC for example). The analysis of different scenarios will require the utilization of general equilibrium models of international trade, to disentangle the possible effects (Hinojosa, Lewis and Robinson, 1997).

The most important opportunities for expanded market access depend on increasing the volume of imports allowed under existing (or, even better, their phasing out) and further reduction of tariffs in some key products, such as sugar, meat and dairy products. Tariff escalation (or import tax differentials) is an important subject for less developed countries, to the extent that this practice undermines their possibilities of generating employment and increasing the value added of their products. The traditional subject of the administration of safeguards, along with new issues, such as price bands and measures taken at the sub-national level, will also be part of the discussion.

(e.3) Domestic support

The final agreement on domestic support reached at the Uruguay Round did not impose the disciplines initially envisaged in the Dunkel Proposal of the Draft Final Act. Other treaties in the region discuss the issue in general terms. For instance, article 704 of NAFTA indicates that "the parties recognize that domestic support measures can be of crucial importance to their agricultural sectors but may also have trade distorting and production effects and that domestic support reduction commitments may result from agricultural multilateral trade negotiations under the GATT". Consequently, the signatories agreed "to work toward domestic support

measures that (i) have minimal or no trade distorting or productions, and (ii) are exempt from any applicable domestic support reduction commitments that may be negotiated under the GATT". NAFTA, however, does not have any binding commitments and indicates "that a Party may change its domestic support measures at the Party's discretion, subject to its right and obligations under the GATT"

The 1994 Mexican Program of Direct Rural Support (PROCAMPO), where direct payments substitute for a widespread use of minimum support prices in corn and other crops, conforms with the above framework.

In MERCOSUR one of the objectives is to harmonize different general and sectoral policies, which include the agricultural sector. The Treaty of Asuncion established, for that purpose, the creation of several working groups one of which (WG 8) corresponds to agricultural policy. Harmonization within MERCOSUR has had to deal with the issue of divergent approaches at the sectoral level and asymmetries in the macroeconomic frameworks in Argentina and Brazil (Diaz-Bonilla, et al 1994).

The subject of domestic support may be tackled in the future as part of the negotiations after the implementation of the current agreements of the Uruguay Round. This issue may also come up in the negotiations of the Free Trade Area of the Americas, although there may be resistance in the region to addressing domestic support policies separately from a global negotiation in the WTO.

(e.4) Sanitary, Phytosanitary and Environmental Issues

The regulatory frameworks for development, adoption and implementation of measures to protect human, animal and vegetal health from risks caused by animal or vegetal diseases, foods, additives or contaminants, constitute an important area within the agricultural negotiations of the Uruguay Round. Negotiations on this subject also appeared prominently in NAFTA.

The regional experience in the context of expanded agricultural and food trade shows the increasing importance of sanitary and phytosanitary (SPS) issues in trade disputes. Here, a key issue will be to discern between legitimate differences in the interpretation of scientific evidence from the protectionist uses of SPS measures, as well as similarly double-edged environmental concerns.

(e.5) Other Issues

Different concrete problems in agricultural trade in the region are related to matters that go beyond the four main areas mentioned above. Some examples include:

rules of origin, technical standards, customs procedures and classification of goods, and, in general, administrative procedures of the different agencies that may have a participation in the regulatory or operational aspects of import/export activities.

The enumeration of the different subjects shows the complexity of the future negotiations for the expansion of agricultural free trade in the Americas, which in addition, will have to consider both the continuation of the related talks at the WTO level as well as the specific characteristics of the subregional agreements in the continent

IV. CHANGES IN PRODUCTION, CONSUMPTION AND TRADE OF SOME IMPORTANT AGRICULTURAL PRODUCTS

The pattern of production, trade and consumption of some of the most important components of agriculture in LAC has shown important changes in the last three decades.

(a) Total Grains.
LAC countries currently account for some 7% of the total area planted to grains in the world and represents about 6% of production. These shares have remained stable for the last twenty five years. In this period grain consumption in the region has increased slightly and currently amounts to around 7% of total world grain consumption. Total utilization per capita was 217 kg grains/year in 1970, increased by 17% during the decade, decreased by 5% during the 80's and reached a record level of 271 in the mid 90's.

A noticeable change in the grain picture of the LAC region is the increased use of feed grains, which doubled between 1970 and 1996, reaching 11% of total world feed grain consumption. Within the region, feed consumption accounts for 48% of total use.

LAC has historically been an active player in grain markets both on imports and exports, reaching a record in 1996 of 22 million MT of exports and 32 million MT of imports. The most important change in international trade in grains in the region has probably been the substantial increase in imports, which doubled in volume in the last twenty five years and today account for 14% of world grain imports (Chart 7). Most of this increase has taken place in this decade.

Grain imports (mainly wheat and corn) today represent 23% of total consumption, a share that has remained quite stable for the last fifteen years. This share shows considerable variations among countries and group of countries and through time. In Mexico grain imports were 1% of total consumption in the 60's, 10% in the 70's and increased abruptly since the 80's, when the share of imports in consumption

stabilized at around 25%. Central American grain imports were for a long time 20% of consumption. In the last seven years this ratio jumped to 36%. In the Caribbean imports were 45% of consumption in the 60's, moved to 70% in the 70's and to 80% in the 90's.

Currently the largest grain importers in the region are Mexico (30% of total grain imports), Brazil (20%) and the Caribbean Islands (10%). Venezuela and Central America (traditional importers) and Colombia (a newcomer) account for 7% of total import each. On the other hand grain exports -originated in few countries- absorb 15% of total production.

In general, increases in imports appear related to low world prices in the second half of the 1980s, and, later, to an acceleration of economic growth and consumption in LAC, the liberalization of international trade and the appreciation of some domestic currencies due to the return of capital flows to the region.

(b) Coarse Grains.
Production of coarse grains increased steadily between 1960/61 and 1979/80 (3.6% per year). Half of the increase was due to higher yields and the rest to expansion in area planted and to the combined yield/area effects. Consumption grew at annual rates of 4.1% during the same period, but because it began from a lower base, the region was a net exporter of coarse grains throughout the 60's and 70's. Since the 1980's consumption began to expand more vigorously (56% between 1981/82 and 1995/96) and production grew by 40% in the same period, with higher yields accounting for 80% of production increases. With differential growth rates of consumption and production, the region has become a net importer of coarse grains during the 80's (around 15 million MT/year lately)

Corn is by and large the most important component of the group. The LAC share of world corn production (14%) and world area planted to corn (14%) have remained very stable for the last 35 years. Yields also show minor relative changes throughout the period and currently are around 60% of the world average.

Important changes have taken place in the corn sector in the last 25 years. First, the adoption of hybrid seeds and a more intensive use of chemical inputs explain the increase in yields observed in LAC during the 90's (33% in the region compared with a 20% increase in the world in the same period).

Second, while production increased at a 2.7% annual rate in the last 25 years and consumption expanded at 3.9% per year, imports grew at 10% per year in the same period and exports grew at 1.6%. The region became a net (and significant) importer of corn. Total annual imports are currently in the order of 10 million MT/year.

Mexico, which began importing sizeable amounts of corn in the mid 70's is today the most important market in the region (3.5 million MT in 1996, declining from 6.4 million MT in 1995). Central America has followed a path similar to Mexico. Up to 1970 imports were very minor but today they account for 1 million MT per year (25% of total consumption). Colombia began importing corn after 1990 and today demands 1.5 million MT per year of imports. Venezuela (1.4 million MT of imports) has been a more traditional imported while Peru has moved from a 0.5 million MT market for imports in the 80's to a market of 1 million MT in the mid 90's.

The diversification of diets (mainly the higher demand for poultry) on the demand side, and adoption of better technologies (reflected in higher yields) on the supply side, interacted with other factors (such as the opening up of the economies, some overvaluation of the exchange rate linked to larger capital inflows, and low world prices), to generate important changes in the LAC corn market during the last years.

(c) Wheat.
The share of LAC in world wheat production has increased slightly from 2.5-3.0% in the 60's to 3.5% in the mid 90's. Yields remained close to world levels and have increased by 110% in the same period. The region is very active in the world market both as exporter and as importer of wheat. On the export side LAC contributes with about 5% of total world export supplies. The most noticeable changes are: the increased share of LAC in world imports (from 10% of total imports from the 60's to the 80's to 15% in the mid 90's) and, consequently, the increase in the share of imported wheat out of total consumption (from 40% in the 60's and 70's to 55% in the early 90's). Wheat consumption per capita peaked in 1985. Otherwise it has been very stable, at the level of 60 kg/person/year, for the last 25 years.

The consumption-production gap (Chart 8) narrowed down in the late 80's, mainly as a result of substantial increases in Brazilian production following an ambitious program to promote wheat production. Once the program lost impetus at the beginning of the 90's, due to its high cost and the negotiation of the MERCOSUR agreement, LAC wheat production resumed its historical trend.

(d) Rice.
Consumption of rice in LAC has remained almost constant for the last 25 years at a level of 3 kg/person/year. The area planted to rice grew at about 2% per year between 1960 and 1987, while output grew 3% per year as a consequence of a modest but steady increase in rice yields. Imports in the 60's and 70's accounted for 5-6% of total consumption, while a similar fraction of production was exported. LAC has become progressively more dependent on imported rice during the 90's (10% of consumption).

The liberalization of trade, in general, and the creation of MERCOSUR, in particular, brought about a drastic revamping in the rice industry in LAC. Between the late 80's and the mid 90's total area planted to rice declined by 18%, in part as a consequence of the opening up of trade. Yields, on the other hand, increased by 17%. The overall results of these changes were a modest decline in total rice production (4%), 1.5 million ha of former rice land released for other uses and rice imports jumping to 17% of total consumption in the mid 90's. LAC also participates in the world market as an exporter of high quality rice. In the last three years exports have reached 1.3 million MT of rice.

(e) Oilseeds and Vegetable Oils (VO).
Production of oilseeds and their transformation in vegetable oils and meals have become one of the most important agricultural activities from a regional point of view. The origins of the industry in the region can be traced to the early 40's, when as a consequence of the war embargo, olive oil imports from Europe to the region were discontinued. In those days the infant VO industry was mainly based on the industrialization of peanuts and sunflower seeds, a crop which readily adapted to the conditions of Argentine agriculture. But the phenomenal growth of VO production in the region is the result of a massive adoption of soybeans which took off in the late 60's, mainly in Brazil and Argentina.

Production of VO has been growing at an annual rate of 7% for the period 1975-1996. Consumption of VO has also grown from 4 kg/person/year in 1970 to 10 kg in 1980 and 14 kg in 1995. The high growth of VO, based in soybeans production, has been the result of strong export demand for the product matched by a system able to supply the technical inputs (seeds, agrochemical and know-how), adequate natural resources, a responsive entrepreneurial class and a conducive policy environment. Today VO and meals exports represent the second most important group of exports in the region. Under different policy and investment scenarios, projections for year 2020 show that this situation will persist (see Section V).

(f) Sugar.
LAC's share of world sugar production has declined from 30% to 25% in the past twenty years, as a result of a very low growth of sugar production in the region (1% per year between 1975 and 1995). The sugar industry in the Caribbean declined dramatically, particularly during the nineties when a significant decrease in Cuba's production of about 3-4 million TM followed the collapse of its main market, the former Soviet Union. The decline in sugar production in the Caribbean, contrasts with increases in Brazil, and to a smaller degree, in Mexico, and other countries in Central and South America.

LAC consumption of sugar increased during 1975-1995 at an annual rate of 2.7%, following long-run trends in population and income growth.

Different growth rates in production and consumption and the fall of production in the Caribbean resulted in an important decline in LAC's sugar exports, from 11-13 million TM during the 80s' to about 9-10 million TM during the 90's and LAC's share of total world exports shrank steadily from 54% in 1975 to 32% in the 90's.
In consequence, domestic consumption, which accounted for one half of sugar production twenty years ago, today absorbs two thirds of total production and has become the leading determinant of the industry's growth in the region.

(g) Coffee.
Coffee production in LAC, which was stagnant or declining during the 60's and until mid 70's at around 2.5-3 million tons (Chart 9), began to increase in the second half of the 70's, reacting to higher world prices in real terms. Production problems in several important producers in the region (mainly Brazil) and outside LAC, kept real prices high. As a consequence, production expanded in Central America, Colombia and other smaller producers in South America until the beginning of the 80's, when regional production stabilized at a higher yearly average, once Brazilian production went back to the levels of the late 60's and early 70's. Real prices declined sharply in the second half of the 80's, when deflationary pressures brought down the real prices of a broad range of commodities. Since then production has again stagnated at around 3.5-3.9 million tons (Chart 9). Exports, after being flat at about 2 million tons, jumped from mid 70's to mid-80's, but continued growing afterwards, although at a slower rate, reaching about 3 million tons in 1991, but declining somewhat afterwards. With a total value of export of about 6900 million dollars and a net trade of about 6700 million dollars in 1995, coffee is one of the most important items in the agricultural balance of trade of the LAC region (Table 8).

(h) Beef.
The region has been and continues to be a net exporter of beef. For the last twenty years exports have accounted for some 10% of total production. Beef, however, is not a homogeneous commodity, including components whose prices vary from U$S 1500/MT CIF to selected cuts at U$S 9,000/MT CIF (1996 prices).

Production and consumption grew at roughly the same pace between 1960 and the end of the 80's (2.8%). The rates for the last six/seven years are much lower (1.0% and 1.2% respectively) as a result of a virtual stagnation in the Argentine herd, and a much lower growth in Mexico. The Brazilian cattle industry, on the contrary, continued a vigorous expansion path. The fall in the demand for beef results from the interaction of a set of factors of which probably the most important are public health considerations (cholesterol awareness), availability of substitutes (poultry) and higher degrees of urbanization. Per capita consumption (20 kg/person/year) is similar to the level of the 60's and 20% lower than the record numbers of the early 80's. The shift in consumption toward poultry, in turn, has stimulated further developments in poultry production and in corn imports.

Beef production in the region may experience some changes as a result of the eradication of foot and mouth disease in Uruguay and Argentina, which is opening up new international markets for those countries.

(i) Dairy [6]/.

Dairy production takes place in the vast majority of LAC countries under a wide array of technological models and scale of operation. In spite of the excellent natural conditions for the industry to grow, a combination of domestic policies (such as maximum prices for dairy products, trade restrictions) and international policies (exports of subsidized powder milk) have postponed, for decades, the full realization of its potential. Some of these policy constraints have been removed or reduced in the recent past, so growth perspectives are now more favorable than a few years ago.

Dairy production in LAC grew at a rate of 2.9% between the early 60's and 1994. Growth was faster during the 60's and 70's but decelerated in the decade of the 1980's, following changes in overall economic conditions. The trend has been changing lately with the acceleration of growth in the region and policy changes such as the abandonment of maximum prices, trade liberalization and regional integration, and more liberal foreign investment regimes. All this has induced sizeable investments in the processing and marketing/distribution/ segments of the industry in several countries. These changes explain the increase in the annual rate of growth for the industry during the 90's to an average of 3.3%.

On the demand side, per capita consumption of dairy products, at the regional level, grew at 1.5% per year between 1960 and 1980 and has stagnated since then.

There are important variations within the region. Three countries (Brazil, Argentina and Mexico) have historically accounted for two thirds of all regional production. The share of Brazil has grown over time (now one third of the total) while Argentina and Mexico now contribute with one sixth each.

LAC has traditionally had a negative balance of trade in dairy products. The regional agricultural balance of trade (Tables 6, 7 and 8) shows the importance of this component. Dairy imports account for about 14% of total consumption (availability) in LAC. While the overall share has remained constant since the early 80's, there have been important readjustments. For example, imports of dairy products to Mexico reached 40% of total imports in the 90's, against 20% in the 60's and 70's.

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[6] The analysis in this section is based on FAO statistics, which aggregate all dairy products in terms of fresh milk equivalents.

If the acceleration of the growth rate in production proves sustainable, given the better economic and policy environment, the net importing position of LAC in dairy products may probably be modified in the coming years.

(j) Poultry.

There are two clear phases in the evolution of the poultry industry in LAC over the last 30 years (Chart 10). Up to the late 80's production grew at a rate of 6% per year. At the end of the period, exports accounted for about 6% of total output. However, during the last eight years the industry has expanded at the exceptionally high rate of 9% per year. Although this trend is linked to the evolution of the industry in Brazil (which has the largest share of the total production at almost 60% in 1996), the poultry industry in the rest of LAC has been also growing rapidly.

Average poultry consumption in the region has grown from 5 to 15 kg/person/year and exports currently account for 8% of production (Chart 10). This vastly integrated operation has been supported by the introduction of better breeding materials, the opening up of trade which facilitated the imports of coarse grains, the use of modern techniques, and the development of a vast network of production, marketing and distribution.

(k) Fruits.

Fruits are an important component of the regional food supply and with vegetables, are the largest agricultural net foreign exchange earners in LAC (Section III). Fruit production has expanded steadily, at an annual rate of 3.2% during the last three and a half decades. Fruit exports as a share of total production moved from 11% in the 60's to 22% in the 80's and 30% in the 90's.

Bananas and oranges are the dominant components (in quantitative terms) of the regional fruit basket. They accounted for 52% of fruit production in the early 60's and increased to 56% in the mid 90's. But while the share of oranges expanded from 16% to 30% of the total, the participation of bananas shrank from 36% to 26% of the total. Looked from a different angle, while oranges grew at an annual rate of 5.3% for the whole period, the corresponding rate for bananas was 2.2%. Bananas have their golden age during the 60's (5.5% of annual growth), stagnated in the 70's and resumed growth in the 80's at an annual rate of about 4%.

Another important components of the fruit supply in LAC are grapes (of declining quantitative importance, today they contribute with 6% of total fruit supply); pineapples, which have maintained a steady share of 3%; and apples which have doubled their share in the last three decades and today constitute 4% of the regional fruit supply. The remaining fruits (including tropical, subtropical and temperate species not discussed here) represent 30% of the fruit supply and they

have also grown at a compound rate slightly above 3% for the last 35 years. This sustained growth is an indication of their increasing importance in domestic and international markets.

V. SOME FUTUROLOGY

The International Food Policy Research Institute has done some extensive work in the area of world wide models with food markets projections to the year 2020 , for the world as a whole and for major geographical regions (Rosegrant M. et al, 1995).

The model has been estimated under different scenarios:

a) a base line scenario (BL) assuming 1.4% annual growth of population and low public investments -similar to the ones prevailing in the 1980's;

b) a low investment scenario (LI), where international financing of agriculture research is discontinued (U$S 1.5 billion/year), and yields grow by 20% less than in the BL case, investments in health, education and potable water are 20% below those of BL and agriculture income is 20% below BL levels. As a result of the conditions described population is projected to grow at an annual rate of 1%. Consequently world population in 2020 would be 7 billion people instead of the 8 billion figure corresponding to the BL case;

c) a free trade scenario (FT) assuming total elimination of subsidies, taxes and non tariff barriers to trade; and

d) a high investment scenario (HI) which assumes rapid growth and an increase in population similar to BL, increases in investments in agricultural research of 50% relative to current levels, grain yields 6% higher than in BL, agriculture income 25% higher than in 1990 and investment in social infrastructure 20% higher than in BL.

Under the BL scenario, grain production in LAC would increase by 75% to year 2020, consumption would grow by 66% and grain imports by 7%. The region would continue to be a net grain importer. Beef exports would increase, simultaneously with increases in poultry and pork imports, in such a way that the net meat trade would be similar to the present one. The region would maintain a strong position in soybeans productions and exports with increases of 82% and 28% respectively.

Under the LI alternative, production and consumption levels of grain would be lower relative to BL, and beef and grain exports would also be 47% and 20% lower than the BL levels.

Under the FT scenario, grain consumption would be similar to BL levels. However grain imports would be mulch higher and production will be lower than in BL. On the other hand soybeans exports would reach record levels, as well as beef exports. The FT scenario shows an intense specialization of the region in line with well-known comparative advantages.

Finally, in the HI alternative, production and consumption levels are the highest of the four cases, and soybeans and beef exports skyrocket.

In summary, the different scenarios discussed coincide in describing a region where production and consumption of grains, oilseeds and meat are very sensitive to changes in economic and technological conditions. All the alternatives forecast grain imports between 8% and 13% of total consumption. On the other hand, beef exports will vary by even wider margins: between 6% and 28% of total production.

The different scenarios also point out very clearly some of the social effects of alternative patterns of investments and growth: infant malnutrition, which is currently 20% in LAC would decrease to 14%-15% under scenarios BL and FT but would increase to 23% under the LI situation. These figures illustrate, quite neatly, the social implications of policies that disregard agriculture as a source of growth.

VI. SUMMARY AND CONCLUSIONS

When discussing LAC as a unit it is worth remembering that the region has wide disparities in terms of natural resources, ecological conditions as well as somewhat different policy backgrounds. In addition there are large, medium and small economies. Consequently the figures discussed in this report have all the advantage and limitations of dealing with averages. Bearing that in mind, we immediately summarize the main conclusions.

1. A major policy-induced macroeconomic cycle of more than a quarter of a century contributed, among other things, to generate an agricultural subcycle of expansion during the sixties and seventies, and stagnation and retrenchment during the 1980's and beginning of the nineties. This cycle played over, and interacted with, a sustained trend of technological change in agriculture, that had begun in the developed countries before, and that in the last quarter of a century spread to developing countries.

The macroeconomic and agricultural cycle had a major impact on the economies of the LAC countries and on the performance of the agricultural sector in the region. During the sixties and seventies LAC economies as a whole grew at rates above the world average. The agricultural sector, in part constrained by a development strategy that prioritized the urban-industrial components of the economy, grew at

rates somewhat below the world average. But these rates were high nonetheless, in part impelled by general economic growth, supportive world prices and the acceleration of the process of technological change. Similarly high growth rates for agricultural production in LAC have not been achieved since then.

The adjustment to harsher economic conditions in the 1980's, along with the consequences of suboptimal macroeconomic and development policies, led to a painful period of adjustment in LAC economies during that decade. The agricultural sector fared clearly better than other sectors, to the extent that the new policies (mainly devaluations and trade liberalization) in part corrected the bias against agriculture. However, world and regional depressed economic conditions, also affected agricultural growth, which, although still above average economic growth for LAC countries as a whole in the 1980's, was clearly below the growth rates achieved in previous decades.

After the initial weakness of the nineties, LAC's economy and its agricultural sector began to benefit from the new world conditions of higher growth, lower inflation, expanded trade and investment, and stronger agricultural prices, once the supply and demand imbalances of the previous years began to diminish. Also, inflation control and the elimination of some distorting government interventions in agricultural markets have had beneficial effects in terms of investment and long run planning of agricultural activities.

However, annual average rates of agricultural and food production in the region, although clearly rebounding from the 1980s and above world equivalent rates, are still below both, LAC's average for 1960-1995 period and the 1990's rate of the developing countries as a whole. During the period of inward-oriented industrialization, agriculture was discriminated, while during the recent period of low real prices and excess capacity, it was mostly neglected. To make sure that the LAC agricultural sector continues playing its key role in food production, poverty alleviation and environmental sustainability, this policy neglect has to be reconsidered.

2. A closer look at the evolution of food production per capita uncovers wide disparities within the region. A simple typology identifies countries where agricultural production has had a clear upward trend for a long time (Brazil, Belize, Chile and Costa Rica); countries that have moved from a downward trend to an upward one in recent years (Ecuador, Argentina, Mexico, Uruguay, Guyana, and Jamaica); countries that have moved from a downward trend to a stagnant agriculture (Peru and Dominican Republic); countries with worryingly downward trends in agricultural production per capita (El Salvador, Guatemala, Nicaragua, Cuba, Haiti, Honduras, Panama and Trinidad and Tobago; except in the latter case, their problems in agriculture are part of a general pattern of economic difficulties);

finally, there are countries that in the past had an upward trend in agricultural production per capita, but that, in the 90's, a reversal seems to have occurred and the index is heading downwards (this appears to be the case of Colombia, Bolivia, Paraguay and Venezuela).

Economic and agricultural policies in the region must take into account these widely differing situations.

3. Traditionally, LAC agriculture has been strongly linked to world markets. As such, the region had to absorb the impact from agricultural and trade policies of the developed countries. Production and export subsidies to grain, beef and dairy products affected LAC production. If, on the one hand, they represented cheap supplies for importing countries, on the other, they conveyed a negative message to several export oriented activities in the region. Consequently the current world scenario, with reduced price and export subsidies will allow the region to better materialize production potential.

LAC as a whole shows a positive and large net agricultural trade balance, which in 1995 amounted to about 21.5 billion dollars. However, the ratio between the value of AGX and the value of AGM has fallen significantly from about 3.2 in the 60's to 1.70 in the 90's (although it has inched up lately). Looking at the agricultural export/import ratio in individual countries, important differences appear from cases such as Argentina and Costa Rica which have ratios of more than 8.5 and 5.5, respectively, in 1995 to Haiti, Peru, Bahamas and Venezuela, with ratios of 0.3 or less.

A more friendly environment toward foreign investment and free movement of capitals has induced sizeable investments in the agroindustrial sector, which coupled with the process of trade liberalization that has taken place in the region and the implementation of trade agreements have fostered agricultural trade. This has led to larger coefficients of internationalization, measured as exports over production (X/P) and imports over consumption (M/C), for a variety of agricultural products, indicating a larger exposure of LAC's agricultural sector to world markets.

An important characteristic of agricultural trade (and, in fact, of all international trade) in the region, is the steady increase in the share of intraregional commerce, which, for the Americas as a whole (including USA and Canada), moved from 1/4 of total agricultural exports in 1981-1983, to more than 1/3 by mid-1990's. Among LAC countries Brazil is the less dependent on the region for its exports and imports, while Mexico appears on the other extreme of the spectrum. Other countries with greater diversification in the destination of exports and the source of imports of agricultural products and food are Argentina, Chile, Peru and, to a lesser extent Uruguay and Colombia.

Regional pacts have had an impact on the trade flows of their respective members. Clear cases are Mexico with regard to NAFTA and Uruguay, Paraguay and (to a lesser extent) Argentina with respect to MERCOSUR. But, for obvious reasons, NAFTA also has a strong presence in the trade flows of nonmembers countries in the region. For instance, for Brazilian agricultural and food exports NAFTA is more important than MERCOSUR, and in general NAFTA dominates in exports and imports, both the Andean Pact and the Central American Common Market for several countries and products.

The evolution of trade flows will depend, inter alia, on trade and agricultural policies in the Americas and elsewhere, which, in turn will be influenced by different multilateral, regional and bilateral agreements that will result from the complex negotiations ahead. These negotiations include the continuation of the process initiated during the Uruguay Round of GATT, and, for the countries of the region, the possibility of creating a Free Trade Area of the Americas, as well as extraregional negotiations such as the participation of NAFTA countries and Chile within APEC, and the discussions between MERCOSUR and the European Union. IFPRI is working on different modeling exercises to analyze future trade and macroeconomic scenarios for the agricultural sector in the Americas.

4. Looking at individual products, one of the most important developments of LAC agriculture in the recent past has been the emergence of fruits and vegetables as the leading agricultural export of the region (in value terms), displacing traditional commodities. This is, unquestionably, an important structural change. F&V, for the most part, are labor and technology intensive and require a smooth integration of the production /packaging /marketing/process. These characteristics are of particular importance in a region facing unemployment problems.

Along with the growth of the oilseeds complex, both groups account for an important part of the increase in production and the continuation of a surplus in net agricultural trade.

The region has been usually a net importer of cereals and dairy products, and the gap appears to have increased lately. This seems related more to increases in consumption than declines in production, which, for the region as a whole, has accelerated in recent times compared to the 1980's (although there have been declines in production in some countries, such as Colombia). The resumption of

economic growth, lower world prices, the opening up of the economies and some appreciation in exchange rates have been pushing imports up. In the case of coarse grains (and corn in particular) the jump in imports appears to be in part associated to the important increase in poultry production in the region.

5. To finish we want to mention three issues that although not covered in this document, we believe they deserve a detailed consideration that escapes the limits of this paper:

First, the problems of food security existing in the region are, in general, the result of insufficient income rather than lack of food. According to CEPAL some 195 million people (45% of the LAC population) live below the poverty line. Consequently, there is a potential demand for food in the region that will become effective as more attention and resources are channeled to improve the situation of the LAC poor.

Second, the region has made some progress in terms of environmental preservation in the last decade. There is public awareness on the subject and public institutions in charge of the environmental agenda have been created. International lending institutions condition their financial assistance to compliance with basic environmental protection procedures. Nevertheless, there is a generalized perception that the region, as a whole, is lagging behind in terms of effective efforts leading to a reconciliation between environmental objectives and agricultural growth.

Third, the agroindustrial sector in LAC seems to have grown considerably in the last decade, stimulated by more liberal trade and investment regimes which encouraged foreign investment in the region. The effects of these new actors in the food chain are relevant: on the supply side they induce the production of high quality and uniform products. On the demand side they increase the number of options available to the consumer and stimulate product differentiation. More research in this area - at the quantitative and qualitative levels- is of high priority.

TABLE 1 WORLD MACROECONOMIC INDICATORS

	1961-65	1966-70	1971-75	1976/80	1981-85	1986-90	1991-95	1996
Growth GDP	4.9	4.6	3.5	3.7	2.3	3.3	3.0	4.0
Growth Trade (Volume)	8.5		5.7		4.5		6.3	5.6
Inflation (CPI) a/	2.5	4.1	8.6	9.4	6.5	3.8	3.3	2.4
Interest Rates b/	4.0	5.9	6.95	8.9	12.2	8.1	7.4	6.1
Real Interest Rate c/	1.5	1.7	-1.5	-0.5	5.35	4.1	4.0	3.6

Source: IMF: IFS several issues; World Economic Outlook, several issues

a/ Industrial Countries
b/ Industrial Countries; nominal long term rates
c/ (((1 + interest rate in 1/100th)/(1 + inflation rate in 1/100th))-1)*100

Table 2. WORLD PRICES OF SELECTED COMMODITIES, 1970-96

In constant 1990 US dollars

YEAR	US HRW WHEAT /4	INDIC 5% RICE /5	MAIZE /6	SORGHUM /7	COFFEE OTHMILDS	COFFEE ROBUSTA	SUGAR FREEMKT	BEEF	SOYBEANS	SOY MEAL	SOY OIL	US IMP TOBACCO	BANANA /1	COCOA	ORANGES	COTTON
	($/mt)	($/mt)	($/mt)	($/mt)	(cents/kg)	(cents/kg)	(cents/kg)	(cents/kg)	($/mt)	($/mt)	($/mt)	($/mt)	($/mt)	(cents/kg)	($/mt)	(cents/kg)
Annual av																
1970	218 87	503 54	232 82	206 51	456.97	368.92	32.93	519.52	466.14	410 62	1144.16	4286.76	659.39	271.09	669 75	251.16
1971	233 45	421 81	220.86	210.65	375.76	357.58	37.76	509.85	477.27	385.75	1149.67	3949 42	533.61	204.22	578 62	279.85
1972	242 33	449 04	194 38	194 38	382.64	343.75	56 88	513 89	486 11	447.77	836 53	3727.93	558.50	222.15	538 02	274.22
1973	418 86	877.54	293.60	278 62	411.08	329.34	63.55	602.10	868.26	907.76	1306 22	3377.31	494.03	338 54	488 33	407.44
1974	441.92	1271 76	324 60	297 55	356.76	317.94	162.30	388.70	680 59	452.48	2045 98	3641.46	452.72	383.62	464.77	349 19
1975	329 67	755 14	264 52	247.49	318.58	297.79	99.98	293.58	486.50	342.81	1245.19	4075.20	545 63	276 46	504.27	256.56
1976	289 98	511.97	245.21	229.50	687.12	614.19	55.73	345.20	504 37	431.95	955.53	4774.49	561.32	447.22	471 22	368.69
1977	204.99	500.91	189.26	175.56	1025.60	978.77	35.50	298.81	555.95	456.78	1151 87	4472.07	545.55	752.69	504.44	307.83
1978	220.45	596.50	173.78	161.87	620.03	561.49	29.76	369.26	463.39	367.57	1047.49	3917.13	495.79	586.73	515.98	270.93
1979	244.26	477.06	176.00	165.03	582.47	556.10	32.46	439.63	454.27	370.28	1008.75	3573.83	496.15	501.33	609.52	257.52
1980	239.99	570 70	174.10	179.10	481.39	450.42	87.73	383.33	411.39	359.86	829.49	3160.91	526.59	361.25	543.27	284.83
1981	242 08	635 07	180.98	174.89	396.82	309 85	51.45	342.19	398 89	350.06	701.50	3211 19	555.25	287.79	560.37	255.97
1982	225.34	382.90	153 59	152.47	433.71	340.41	26.07	335.67	343.54	306.34	628.14	3601.06	525.98	244.51	541.02	224.84
1983	226.36	369.27	195.56	185.21	418.85	393.04	26.86	351.08	405.18	342.23	757.80	3822.37	616.60	304.85	536.36	266.02
1984	223.82	341 60	199.67	174.84	468.28	445.93	16.85	333.77	414.24	289.45	1065.22	4091.52	542.89	352.62	517 18	263.00
1985	197.97	287.03	163.53	150.12	470.99	386 09	13.06	313.99	326.53	228.83	833.70	3807.31	554.29	327.94	580 09	192.39
1986	142.05	230.23	108.28	101.98	530.66	401.09	16.48	258.59	257.11	228.68	422.75	3286.99	471.83	255.88	487.03	131.03
1987	127.05	241.52	85.19	81 93	282.09	253.19	16.78	268.69	243 24	228.46	375.89	3091.83	442.40	223.96	513 19	185.69
1988	152.81	292.02	112.51	103.66	318.36	218 17	23.57	264.11	318.47	282.05	487.28	2589.60	503.17	167.34	476.75	147.34
1989	169.24	299.16	111.50	105.90	252.09	174.83	29.78	271.28	290.39	246.00	432.00	3344.85	546.80	124.00	445 00	167.00
1990	132.57	264.95	106.92	101.63	197.22	118.17	27.67	256.32	246 80	195.64	437.25	3392.19	529.10	124.23	519.42	178.03
1991	120.65	275 02	100.71	98.56	183.31	104.88	19.33	260.61	234.44	184.73	425.73	3424.73	524.66	112.53	488.56	157.54
1992	142 20	252.25	98.04	96.63	132.45	88 22	18.72	230.26	220.92	191.86	403.46	3226.59	444.94	103.45	459 89	119.44
1993	127.25	213.60	92.63	89.86	146.77	108.88	20 71	246 26	239.98	188.73	435.53	2535.60	401.99	101.62	391 98	116.14
1994	125.40	224.11	90.08	86.99	300.15	237.79	24.23	211.52	228.52	160 80	515.91	2399.01	368.08	117.25	344.22	147.40
1995	152.04	258.59	106.09	102.28	279.09	232 05	24.52	159 72	216.92	169.24	536.94	2210.55	382.39	122.85	456.19	182.99

/1 Central and South American, first-class quality tropical pack, importer's price to jobber or processor, f.o.b. U.S. ports.
/2 Canadian No. 1, Western Red Spring (CWRS), in store, St. Lawrence, export price.
/3 US No. 2, soft red winter, export price delivered at the Gulf port for prompt or 30 days shipment.
/4 US No. 1, hard red winter, export price delivered at the Gulf port for prompt or 30 days shipment.
/5 Thai, 5% broken, white rice, milled, indicative market price based on weekly surveys of export transactions, government standard f.o.b. Bankok
/6 US No. 2, yellow, f.o.b. US Gulf ports.
/7 US, No. 2, milo yellow, f.o.b. Gulf ports.
8/ US Average producer
9/ Rotterdam CIF, pellets

Source: International Economics Department, World Bank and FAO PRODUCTION YEARBOOK.
July 12, 1996

Table 3. Agricultural and Food Production Per Capita (annual rates of change in percentages)

A) Agricultural Production

	61/65-66/70	66/70-71/75	71/75-76/80	76/80-81/85	81/85-86/90	86/90-91/95	Total Growth
WORLD	0.83	0.18	0.54	0.59	0.37	0.13	0.44
DEV.PED ALL	1.70	0.98	1.01	0.44	0.17	-1.11	0.53
DEV.PING ALL	0.58	0.13	0.83	1.60	1.29	1.76	1.03
EC (15)	1.19	1.15	1.10	1.58	0.44	-0.46	0.83
E EUROPE	2.40	1.54	1.21	0.13	-0.03	-3.39	0.29
LAT AM.+CAR	0.41	-0.15	1.21	0.57	0.18	0.36	0.43
USA	0.73	1.07	1.41	0.35	-0.82	1.07	0.63

B) Food Production

	61/65-66/70	66/70-71/75	71/75-76/80	76/80-81/85	81/85-86/90	86/90-91/95	Total Growth
WORLD	0.93	0.22	0.64	0.57	0.40	0.17	0.49
DEV.PED ALL	1.86	1.03	1.07	0.46	0.20	-1.09	0.58
DEV.PING ALL	0.60	0.20	1.01	1.56	1.37	1.91	1.11
EC (15)	1.23	1.18	1.09	1.58	0.41	-0.47	0.83
E EUROPE	2.43	1.58	1.22	0.14	0.03	-3.27	0.34
LAT AM.+CAR	0.95	-0.00	1.55	0.70	0.33	0.61	0.69
USA	1.25	1.08	1.48	0.42	-0.82	0.97	0.72

Source: Computed from FAO data.

Note 1: The annual growth rate was calculated taking first a five-year average of the yearly indeces. Then, the growth rate between those averages was calculated, transformed to an annual basis: [((five year average at t/five year average at t-1)^1/5)-1]*100.

Note 2: For the period 1971/75-1976/80 and for the total growth the world growth rate, which is the sum of developed and developing countries, is smaller than both of its components. This result can be possible because being the index a combination of agricultural production and population growth rates, and although usually the world values fall within the range of developed and developing countries, it is easy to construct examples where the world values may be above or below the other two.

TABLE 4. LATIN AMERICA AND THE CARIBBEAN: ECONOMIC INDICATORS AND POPULATION

A. GDP GROWTH (annual %)

	1970-1980	1980-1990	1990-1995	Average	%CV 2/
Total	5.90	1.00	3.10	3.3	74
Industry	5.70	0.40	2.90	3.0	88
Agriculture 1/	3.50	2.00	2.70	2.7	28

B. INFLATION (annual %) 3/

45.2	186.4	118.3 4/

C. POPULATION GROWTH (annual %)

2.4	2.05	1.8

Source: A.Inter-American Development Bank
B. IMF
C. World Bank

Notes:
1/ Including Forestry and Fishery
2/ Coefficient of variability in %
3/ CPI
4/ 1990-1996; it should be noticed that in 1995-1996 inflation declined significantly to an annual average of 28% and the projections for 1997 are still lower.

TABLE 5 . LATIN AMERICA AND THE CARIBBEAN:
A) MERCHANDISE AND AGRICULTURAL TRADE (Billion current u$s)

	1970	1975	1980	1985	1990	1995
Total Merchandise Trade						
Imports	18.2	58.6	125.6	82.2	120.3	218.7
Exports	17.5	47.7	115.2	105.4	133.6	194.7
Net Trade	-0.7	-10.9	-10.4	23.1	13.3	-25.1
Food (excluding fish)						
Imports	1.7	5.0	11.8	8.1	11.6	18.8
Exports	4.2	12.2	18.7	19.2	23.2	28.9
Net Trade	2.5	7.2	6.9	11.1	11.6	10.1
Agricultural Products						
Imports	2.3	6.2	14.5	10.2	14.7	24.6
Exports	7.6	17.3	32.0	31.0	34.9	46.1
Net Trade	5.3	11.1	17.5	20.8	20.2	21.5

B) MERCHANDISE AND AGRICULTURAL TRADE (Percentages)

	1970	1975	1980	1985	1990	1995
Agriculture % of Total						
Imports	13.0	10.0	11.0	12.0	12.0	12.0
Exports	43.0	36.0	28.0	30.0	26.0	24.0
Food % of Agriculture						
Imports	74.0	81.0	81.0	80.0	79.0	76.0
Exports	55.0	70.0	58.0	62.0	66.0	63.0
Food % of Total						
Imports	10.0	8.0	9.0	10.0	9.0	9.0
Exports	24.0	25.0	16.0	18.0	17.0	15.0

Source: FAO

TABLE 6. LATIN AMERICA AND THE CARIBBEAN: NET AGRICULTURAL TRADE (billion current u$s)

	1970	1975	1980	1985	1990	1995
Fruits & Vegetables	0.7	1.0	2.0	3.2	6.3	7.6
Coffee	1.9	2.4	7.5	6.6	4.2	6.7
Vegetable oils, cakes and seeds	0.3	1.3	2.8	3.4	4.8	5.4
Sugar	1.4	6.5	6.3	5.7	5.2	3.1
Meat	0.6	0.4	1.3	0.9	0.9	1.5
Tobacco	0.1	0.3	0.3	0.7	0.9	1.3
Others (flowers, etc.)	0.1	-	-	0.1	0.2	0.6
Textil Fibers	0.6	0.9	1.3	0.8	0.8	0.0
SUB TOTAL Net Exported Products	5.7	12.8	21.5	21.4	23.3	26.2
Cereals	-0.1	-1.3	-3.5	-1.0	-2.2	-3.4
Dairy	-0.2	-0.4	-1.0	-0.6	-1.3	-1.9
Pulses	-	-0.1	-0.3	-1.0	-0.3	-0.1
SUB TOTAL Net Imported Products	-0.3	-1.8	-4.8	-1.7	-3.8	-5.4
TOTAL Agricultural Net Trade	5.4	11.0	16.7	19.7	19.5	20.8
TOTAL Net Merchandise Trade	-0.7	-10.9	-10.4	23.1	13.3	-25.1

Source: FAO

TABLE 7. LATIN AMERICA AND THE CARIBBEAN: NET AGRICULTURAL TRADE (value shares in percentages)

	1970	1975	1980	1985	1990	1995
EXPORT SHARES						
Fruits & Vegetables	14%	8%	10%	16%	28%	29%
Coffee	37%	21%	37%	32%	19%	26%
Vegetable oils, cakes	6%	11%	14%	16%	21%	20%
Sugar	27%	55%	31%	28%	23%	12%
Meat	12%	3%	7%	4%	4%	6%
Tobacco	2%	2%	1%	3%	4%	5%
Others (flowers, etc.)	2%	-	-	1%	1%	2%
IMPORT SHARES						
Cereals	33%	72%	73%	59%	58%	63%
Dairy	66%	22%	21%	35%	34%	35%
Pulses	-	6%	6%	6%	8%	2%

Source: FAO

TABLE 8. LATIN AMERICA AND THE CARIBBEAN: TRADE, selected Agricultural Commodities (billion current u$s)

	1970	1975	1980	1985	1990	1995
Coffee						
Imports	0.1	0.1	0.1	0.1	0.1	0.2
Exports	2.0	2.5	7.6	6.7	4.3	6.9
Net Trade	1.9	2.4	7.5	6.6	4.2	6.7
Oilseeds						
Imports	-	0.1	0.5	0.7	0.5	1.3
Exports	0.1	0.8	1.2	1.7	2.1	2.0
Net Trade	0.1	0.7	0.7	1.0	1.6	0.7
Vegetable oils						
Imports	0.1	0.3	0.6	0.8	0.8	1.5
Exports	0.2	0.4	1.2	1.8	1.6	3.4
Net Trade	0.1	0.1	0.6	1.0	8.0	1.9
Oilseed cakes						
Imports	-	0.1	0.3	0.3	0.4	0.5
Exports	0.1	0.6	1.8	1.2	2.8	3.3
Net Trade	0.1	0.5	1.5	1.4	2.4	2.8
Sugar						
Imports	-	0.1	1.1	0.1	0.8	0.6
Exports	1.4	6.6	7.4	5.8	6.0	3.7
Net Trade	1.4	6.5	6.3	5.7	5.2	3.1
Beef and Prep.						
Imports	0.2	0.3	0.7	0.6	1.3	1.6
Exports	0.8	0.7	2.0	1.5	2.2	3.1
Net Trade	0.6	0.4	1.3	0.9	0.9	1.5
Beverages						
Imports	0.1	0.2	0.6	0.3	0.7	1.1
Exports	-	0.1	0.2	0.3	0.6	1.3
Net Trade	-0.1	-0.1	-0.4	-	-0.1	0.2
Others (flowers, etc.)						
Imports	-	0.1	0.3	0.3	0.4	0.6
Exports	0.1	0.1	0.3	0.4	0.6	1.2
Net Trade	0.1	-	-	0.1	0.2	0.6
Tobacco						
Imports	-	0.1	0.2	0.1	0.1	0.3
Exports	0.1	0.4	0.5	0.8	1.0	1.6
Net Trade	0.1	0.3	0.3	0.7	0.9	1.3
Fruits (including melon)						
Imports	0.1	0.2	0.5	0.3	0.5	1.3
Exports	0.6	1.1	2.2	3.1	5.7	7.1
Net Trade	0.5	0.9	1.7	2.8	5.2	5.8
Bananas						
Imports	-	-	0.1	-	-	0.1
Exports	0.4	0.6	1.0	1.3	2.2	2.7
Net Trade	0.4	0.6	0.9	1.2	2.2	2.6

Cont. Table 8 .

	1970	1975	1980	1985	1990	1995
Grapes						
Imports	-	-	0.10	0.20	0.40	0.40
Exports	-	-	-	-	-	0.10
Net Trade	-	-	0.10	0.20	0.40	0.30
Apples						
Imports	-	0.10	0.20	0.20	0.30	0.30
Exports	-	-	0.10	0.10	0.10	0.30
Net Trade	-	0.10	0.10	0.10	0.20	-
Oranges 1/						
Juice	-	0.10	0.40	0.70	1.50	1.20
Fresh	-	-	0.10	0.10	0.10	0.10
Total	-	0.10	0.50	0.80	1.60	1.30
Vegetables						
Imports	-	0.10	0.20	0.10	0.30	0.60
Exports	0.20	0.20	0.50	0.50	1.40	2.40
Net Trade	0.20	0.10	0.30	0.40	1.10	1.80
Tomatos						
Imports	-	0.10	0.20	0.20	0.40	0.60
Exports	-	-	-	-	-	-
Net Trade	-	0.10	0.20	0.20	0.40	0.60
Fruits and Vegetables						
Imports	0.10	0.30	0.70	0.40	0.80	1.90
Exports	0.80	1.30	2.70	3.60	7.10	9.50
Net Trade	0.70	1.00	2.00	3.20	6.30	7.60
Cereals						
Imports	0.70	2.70	5.50	3.60	4.10	6.60
Exports	0.60	1.50	2.00	2.60	1.90	3.20
Net Trade	-0.10	-1.20	-3.50	1.00	2.20	-3.40
Dairy						
Imports	0.20	0.40	1.10	0.70	1.50	2.40
Exports	-	-	0.10	0.10	0.20	0.50
Net Trade	-0.20	-0.40	-1.00	-0.60	-1.30	-1.90
Pulses						
Imports	0.10	0.20	0.50	0.30	0.50	0.40
Exports	-	0.10	0.20	0.20	0.20	0.30
Net Trade	-0.10	-0.10	-0.30	-0.10	-0.30	-0.10

Source: FAO
1/ Imports of oranges are negligible in LAC

TABLE 9

Agricultural Export/Import Ratios (1995)

Over 3		From 3 to over 2		From 2 to 1		Less than 1	
Argentina	8.5	Brazil	3.2	United States	1.8	Mexico	0.8 a/
Costa Rica	5.5	Belize	3.2	Paraguay	1.7	Dominican Rep.	0.8
Guyana	3.8	Colombia	2.5	Bolivia	1.6	Surinam	0.7
Ecuador	3.7	Honduras	2.5	Nicaragua	1.5	Trinidad Tobago	0.7
Guatemala	3.2	Uruguay	2.5	Canada	1.4	Barbados	0.5
		Chile	2.1	El Salvador	1.3	Peru	0.3
				Panama	1.2	Venezuela	0.3
				Cuba	1.1	Bahamas	0.2
				Jamaica	1.0 a/	Haiti	0.1

a/ 1994-1995

SOURCE: FAO

TABLE 10

EXPORT AND IMPORT RATIOS FOR SELECTED PRODUCTS (%)

	X/P		M/C	
	1970-1972	1994-1996	1970-1972	1994-1996
Poultry	-	4	-	7
Wheat	18	38	42	54
Coarse Grains	16	10	5	18
Vegetable Oils	9	50	15	27

Source: USAD/ERS

X/P : exports over production
M/C: imports over consumption

Table 11.

REGIONAL ORIENTATION OF AGRICULTURAL EXPORTS AND IMPORTS

	Percentage of X to the Americas				
	<35%	35%<50%	50%<65%	65%<80%	>80%
Primary Agriculture	Nicaragua(N,C) El Salvador(N,C) Brazil (N,M)	Argentina (M) Colombia (N) Costa Rica (N) Perú (N)	Chile (N,M) Guatemala (N)	Bolivia (A) Uruguay (M) Paraguay (M)	Mexico (N)
Food and Beverages	Chile (N,M) Perú (N,A) Brazil (N,M)	Argentina (M,N)	Colombia (A,N) Uruguay (M)	Costa Rica (N,C) Guatemala (C,N) Paraguay (M)	Bolivia(A) Mexico(N) Nicaragua(N,C) El Salvad. (N,C)

	Percentage of M from the Americas			
	60%<70%	70%<80%	80%<90%	>90%
Primary Agriculture	Brazil (M,N)	Argent.(M,A,N)	Chile (N,M) Colombia (N,A) Uruguay (M)	Bolivia(N,M) Guatemala(N) Mexico (N) Nicaragua(N,C) El Salvador(N,C) Venezuela(N,M)
Food and Beverages	Brazil (M,N)	Argentina(M,N) Chile (M,N) Uruguay (M)	Bolivia(O,N,M) Colombia (A,N) Paraguay (M) Guatemala(N,C) Mexico (N) Nicaragua(N,C) El Salvador(N,C)	

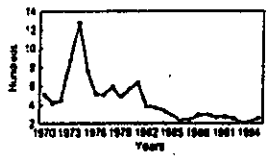
Notes: The letters close to the name of the countries indicate the main regional agreement or agreements for that country and trade item; the letters are M (MERCOSUR), N (NAFTA), C(Central American Common Market), A(Andean Pact), O(Chile, Dominican Republic, Haiti, and Panama)

Source: DATA INTAL IDB-Statistics and Quantitative Analysis Unit of the Integration and Regional Programing Dep.

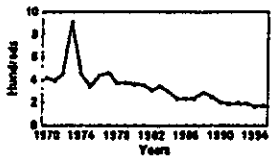
Chart 1. World Prices (1970-1995), in constant u$s 1990

WHEAT

RICE



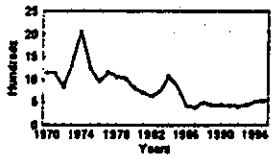
SOYBEAN MEALS



MAIZE

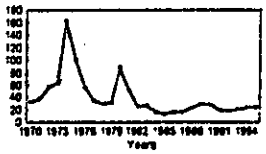
SORGHUM

SOYBEANS OIL

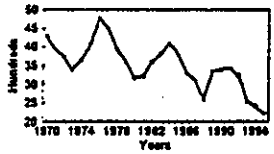


COFFEE (robusta)

SUGAR



TOBACCO

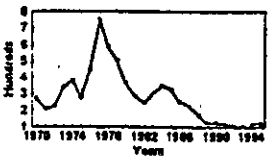


BEEF

SOYBEANS

BANANA

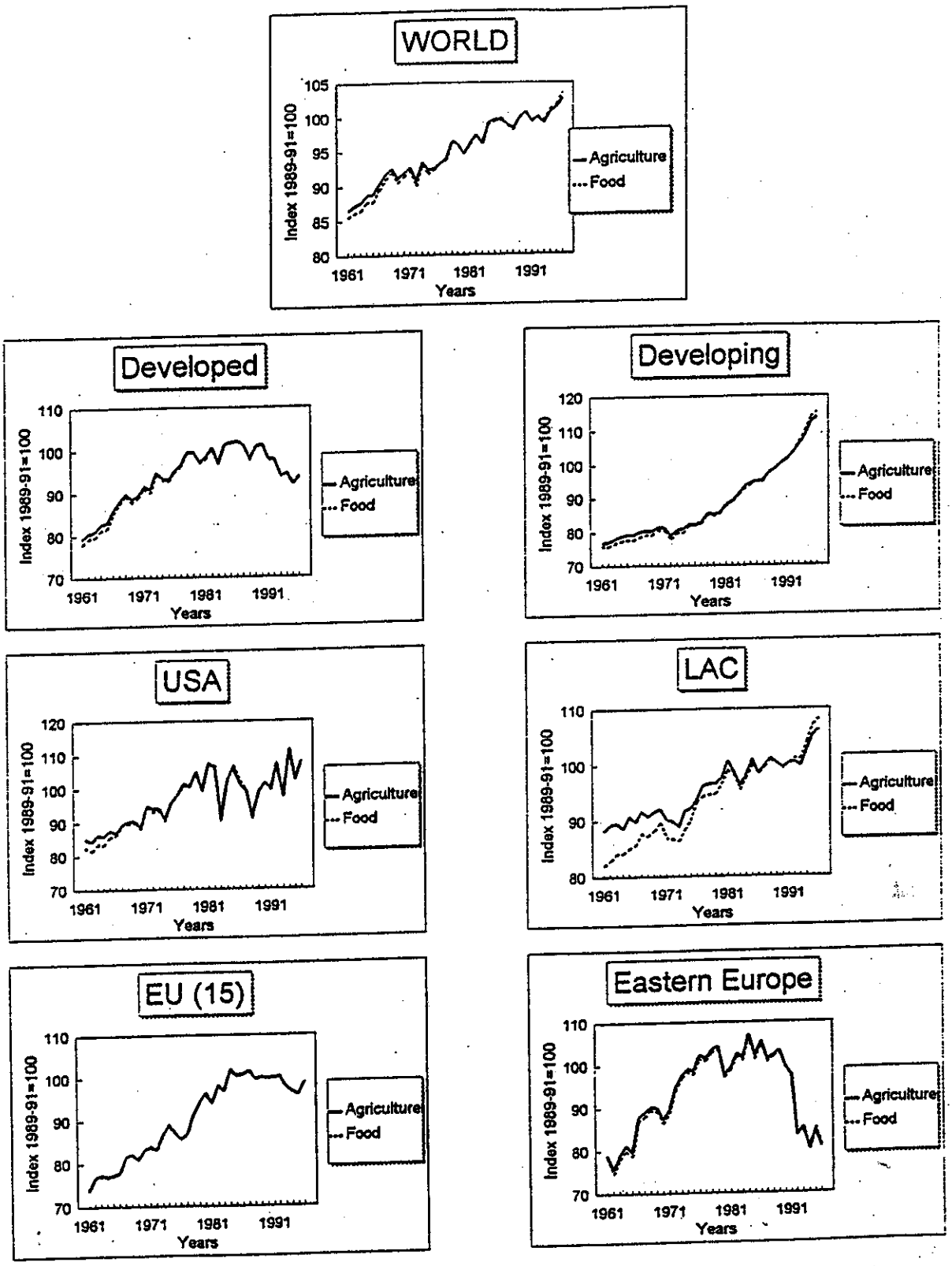
COCOA



ORANGES

COTTON

Chart 2. Agricultural and Food Product Index (per Capita)



Source: Data from FAO

Chart 3. Ag. and Food Prod.

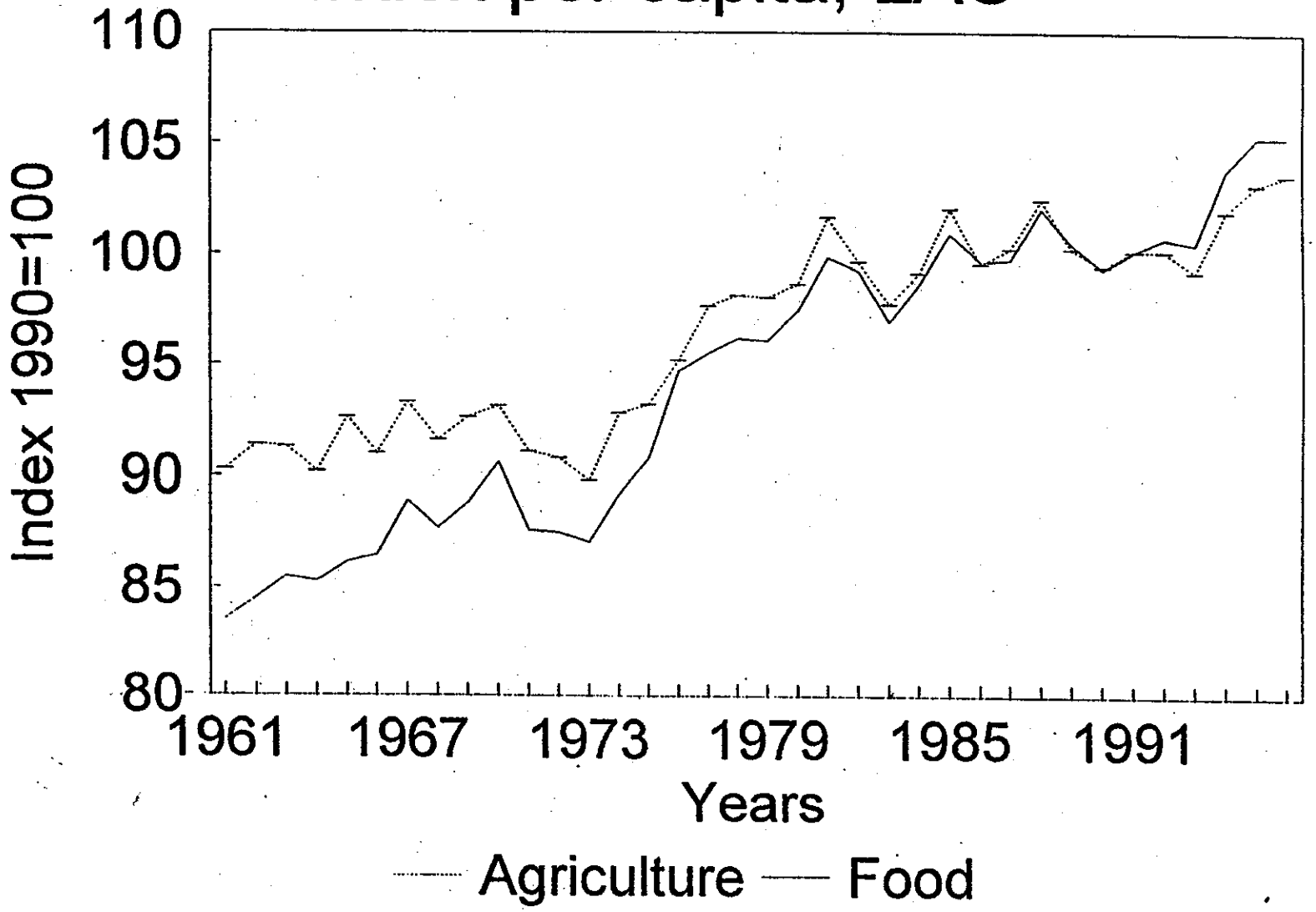


Chart 4.Cereals, Crops and Lstk.

Index of Production per Capita, LAC

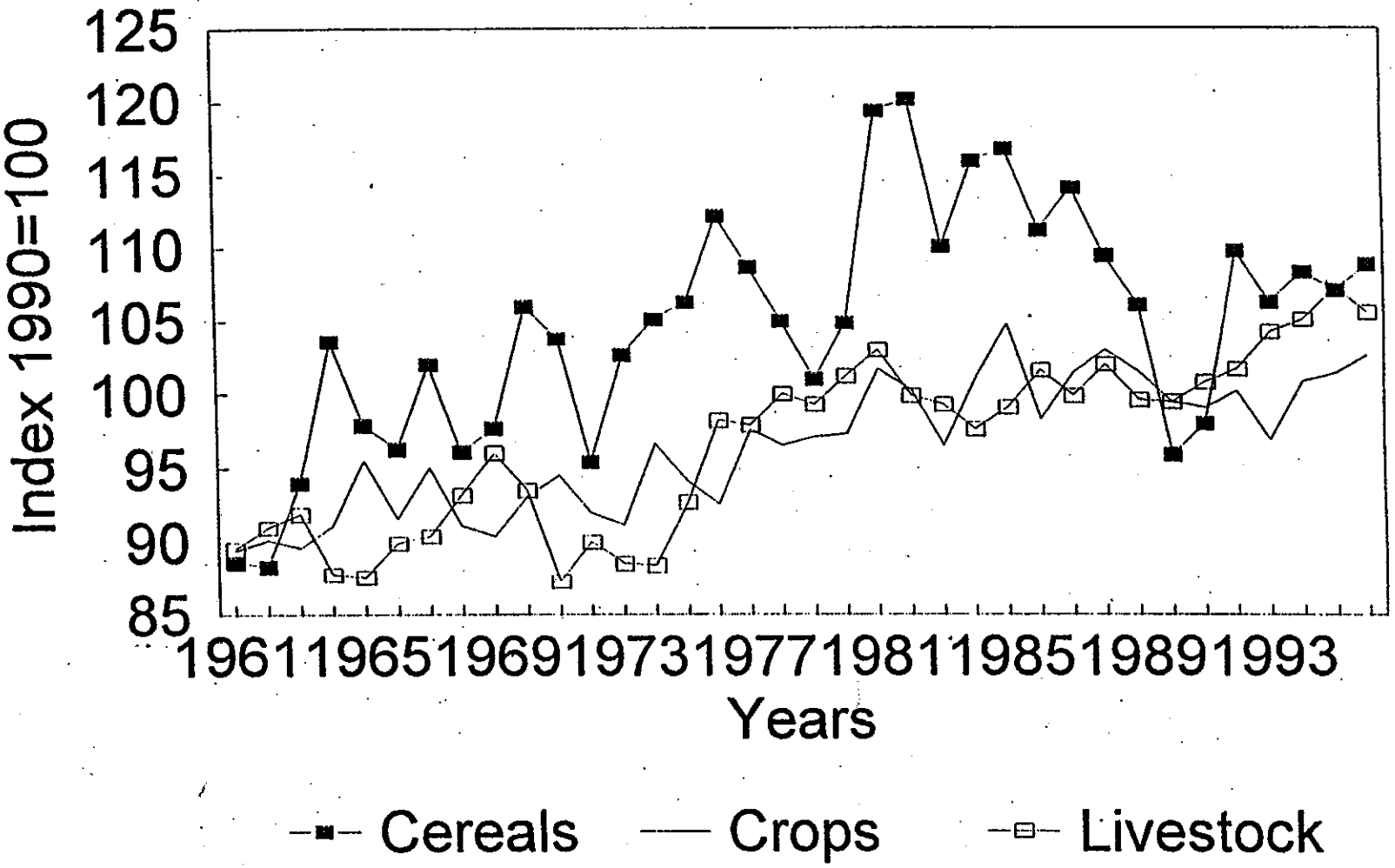
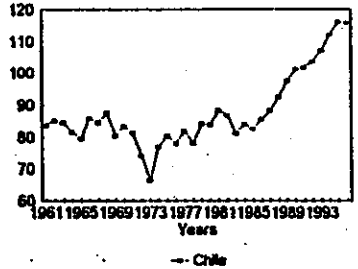
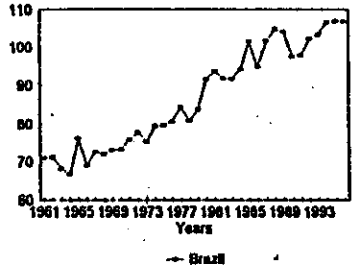
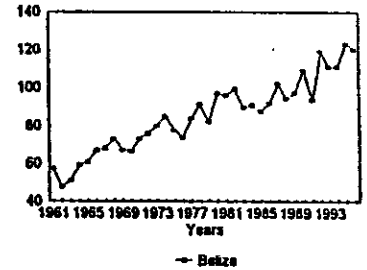


Chart5. AGRICULTURAL PRODUCTION PER CAPITA, FAO Index 1990

Type I







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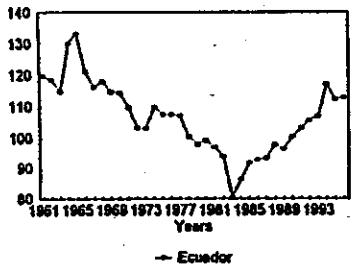

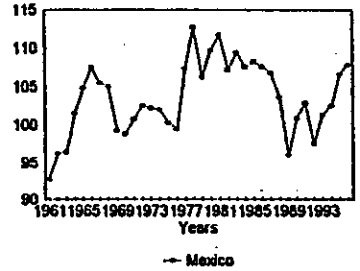

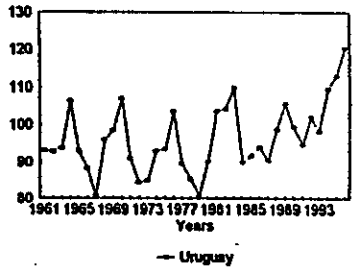

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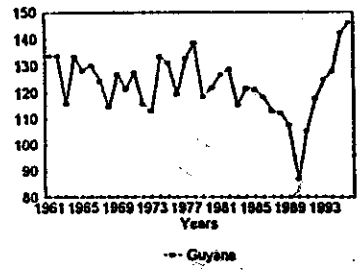
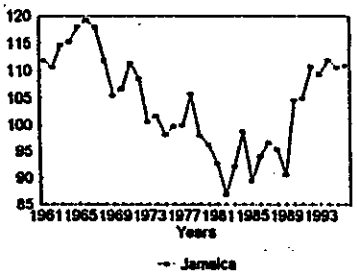
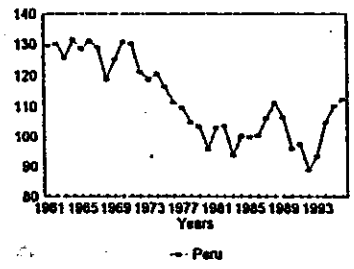
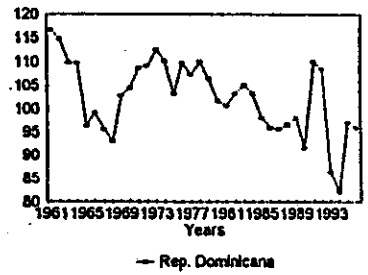


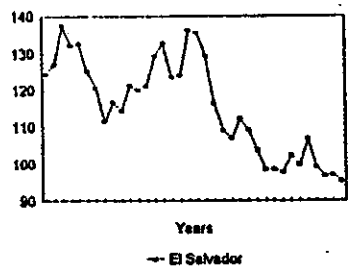


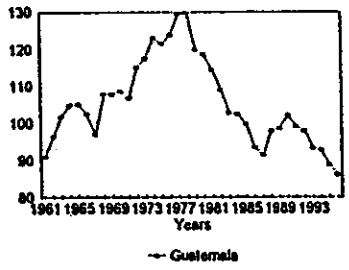


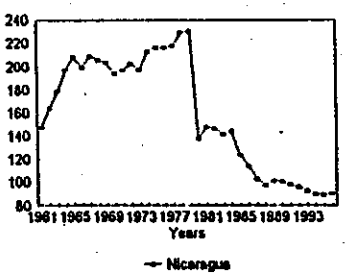


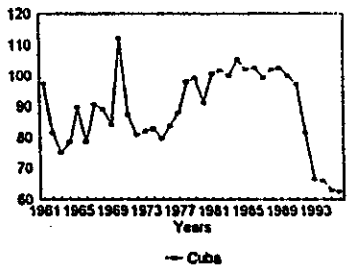
AGRICULTURAL PRODUCTION PER CAPITA, FAO index 1990

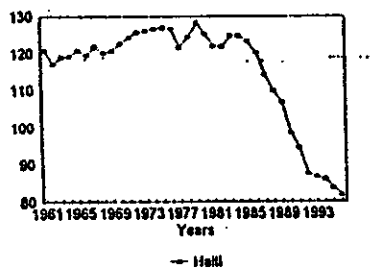
Type IV

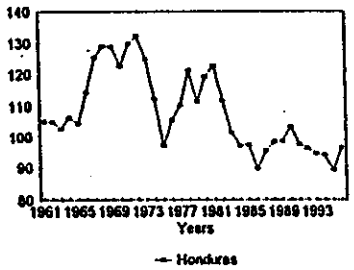


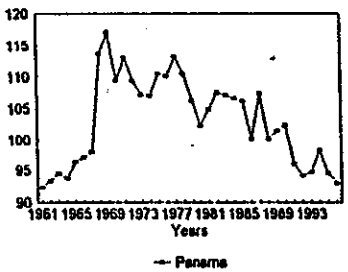


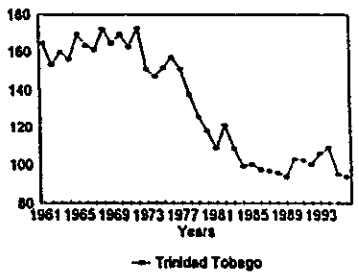












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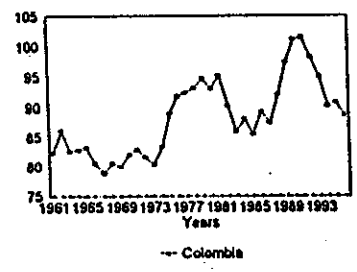
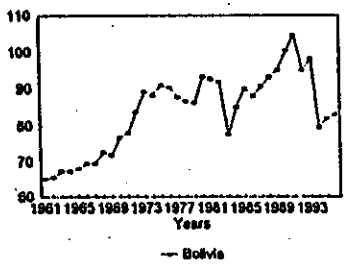
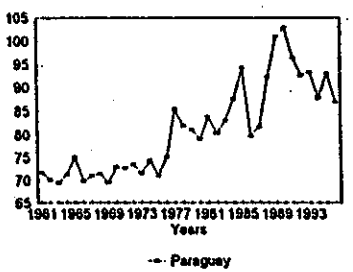






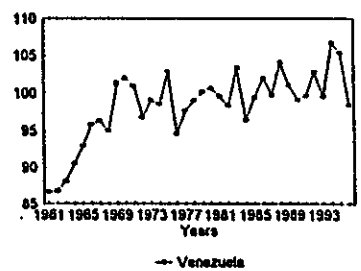


Chart 6. Exports/ Imports Ratio in LAC
(in value)

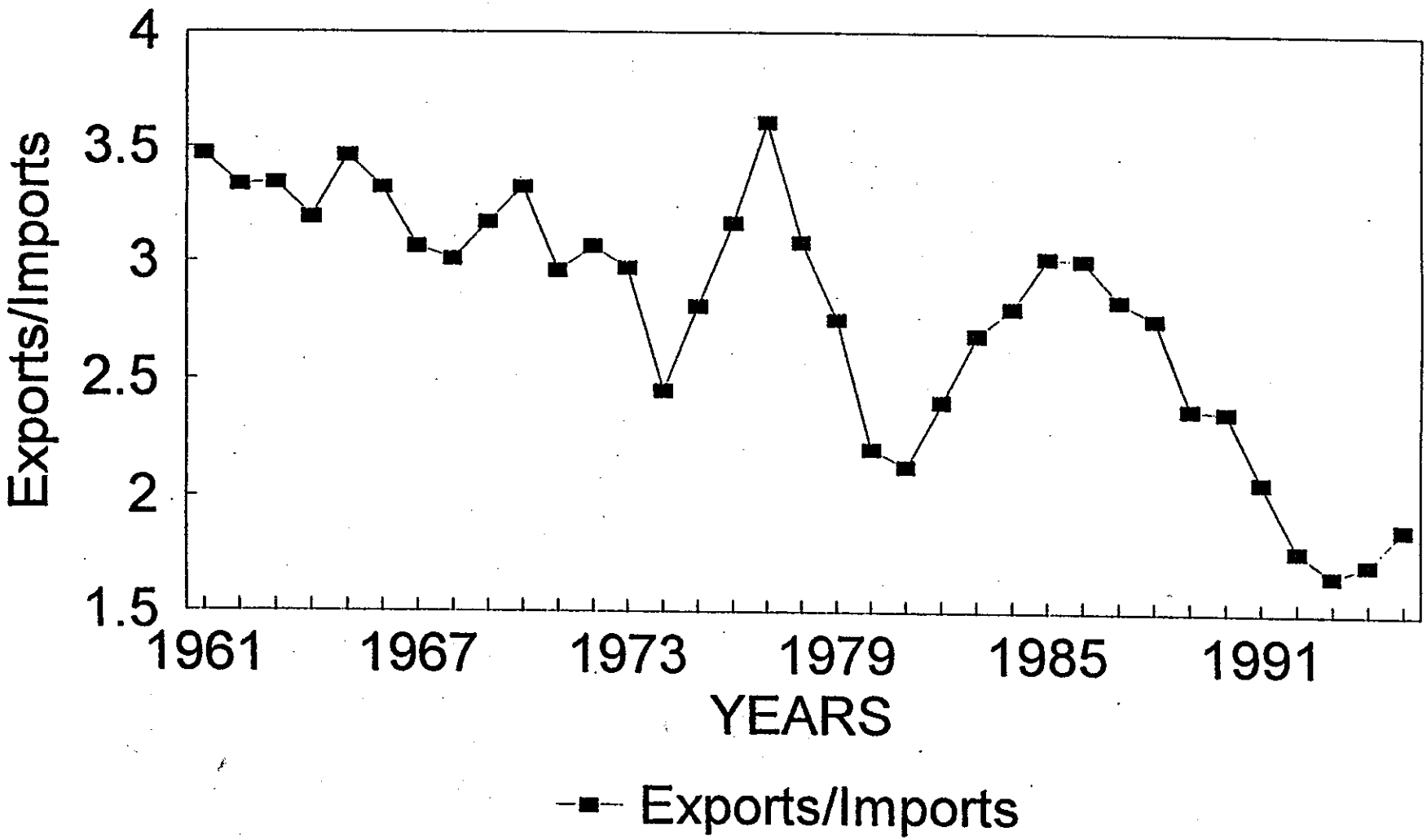


Chart 7. Total Grains in LAC

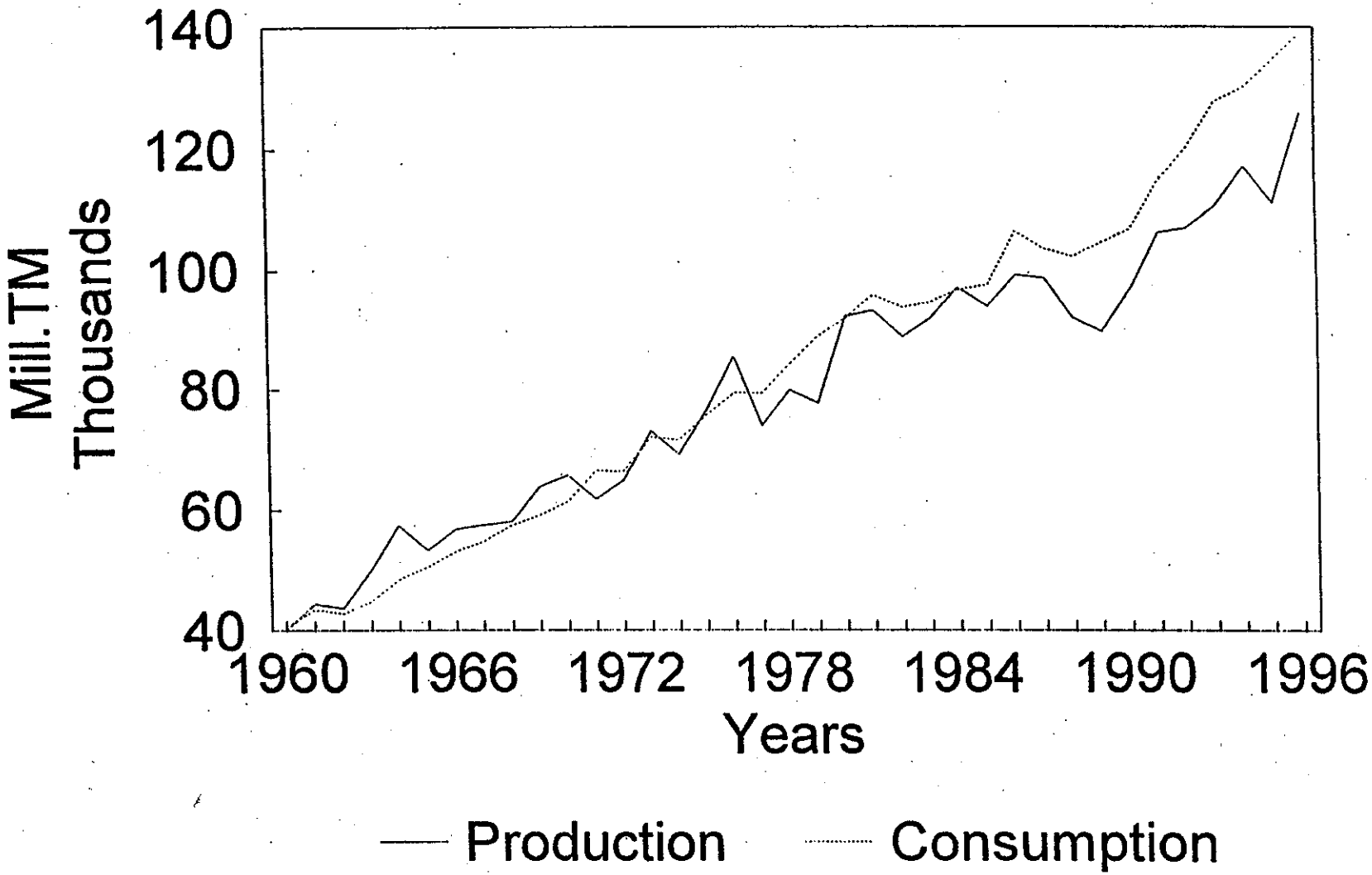


Chart 8. Wheat in LAC

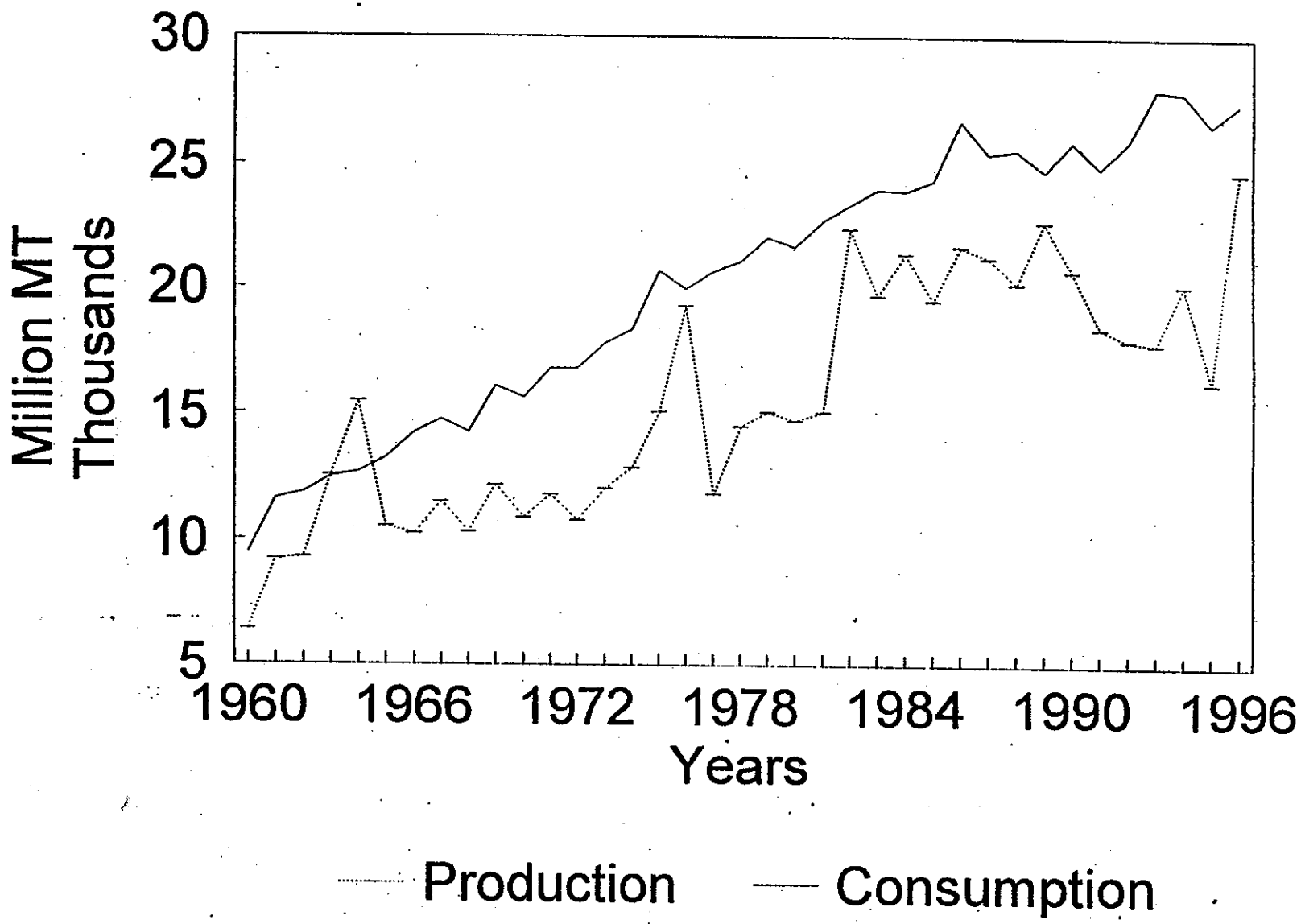


Chart 9. COFFEE in LAC

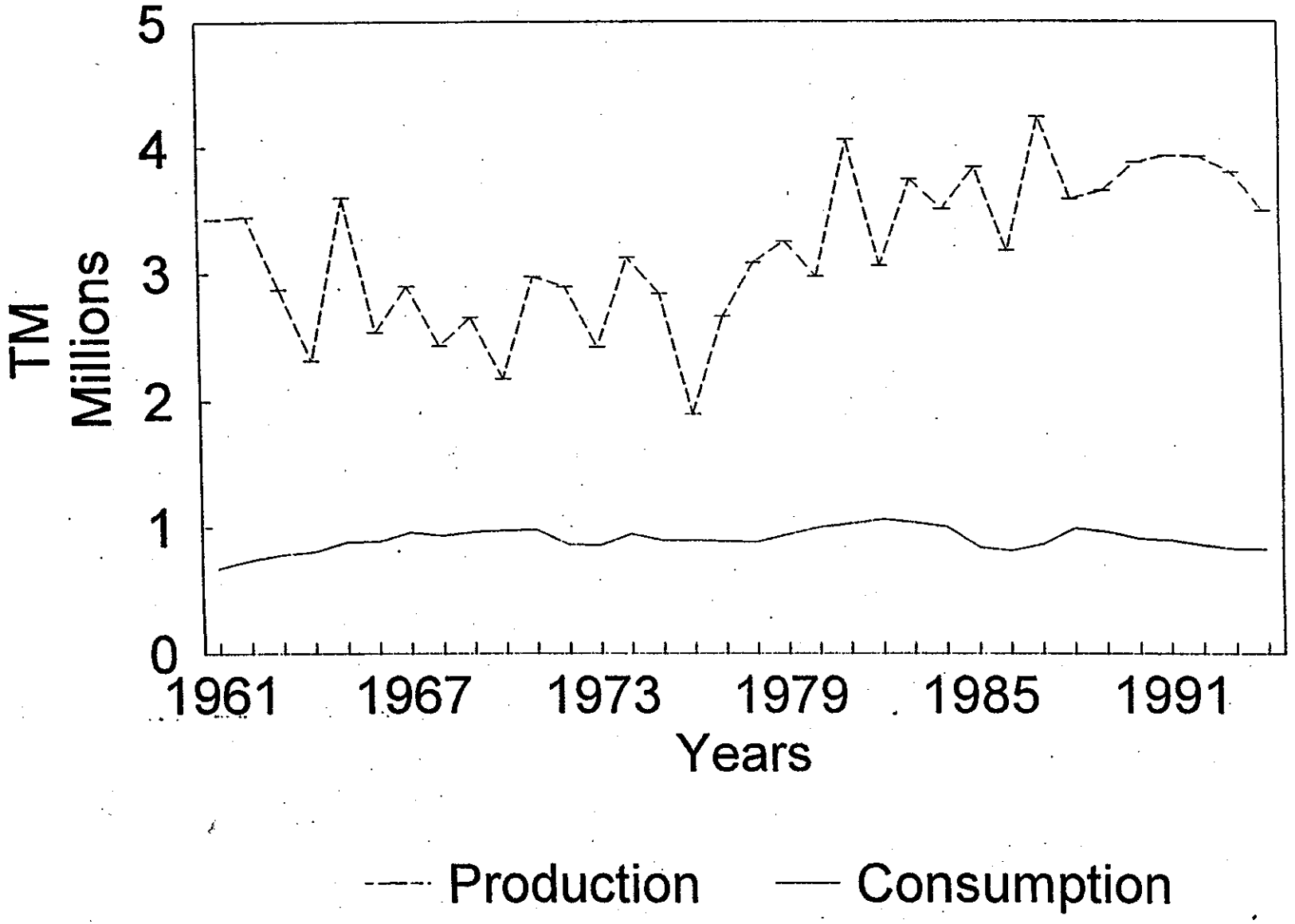
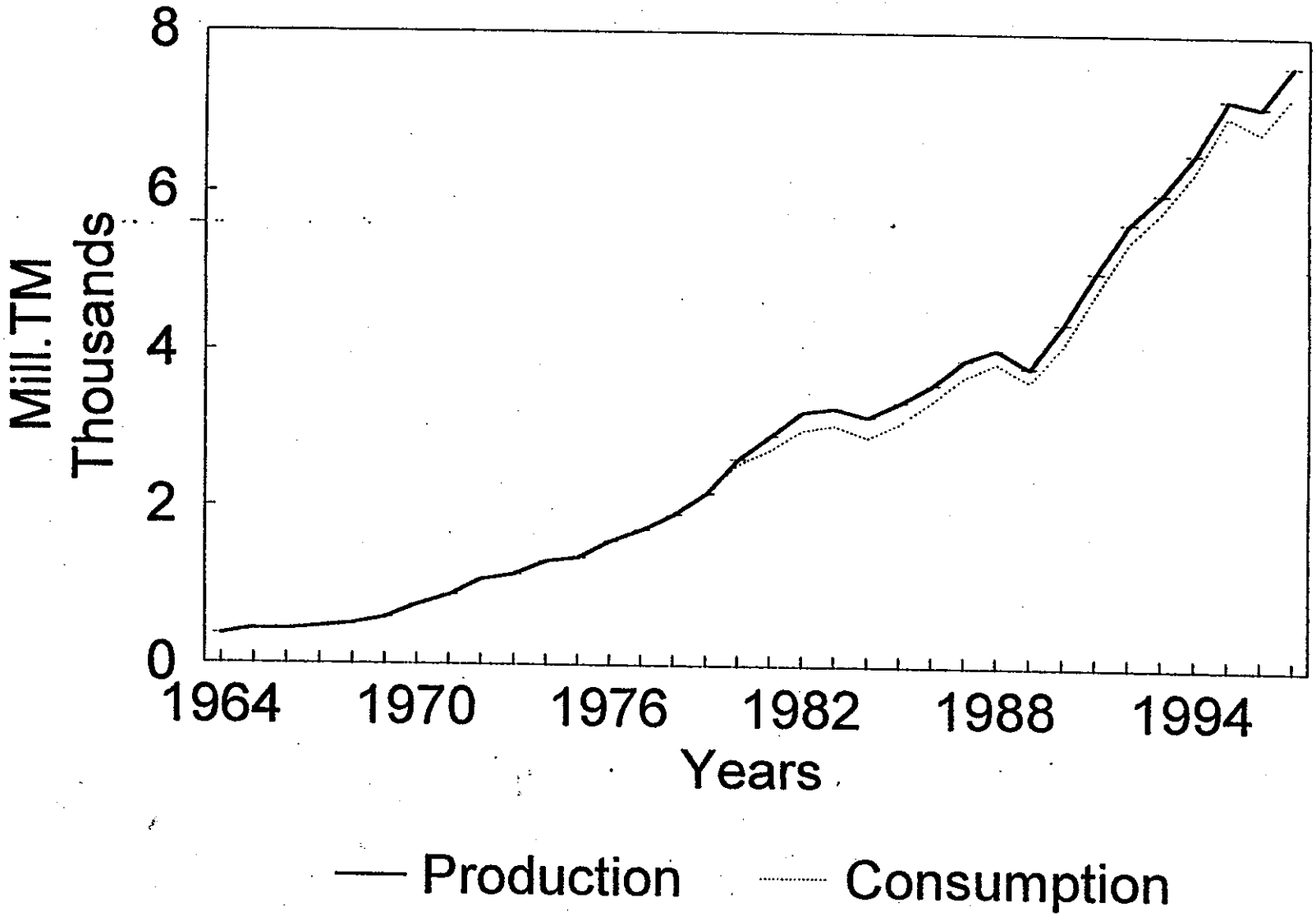


Chart 10. Poultry in LAC



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