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CHARACTERISTICS OF THE WORLD DAIRY PRODUCTS MARKET

(Aspects of interest for Latin America)

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INTRODUCTION

The evolution of dairy activity in Latin American and Caribbean countries is not extrinsic to the performance of this activity at world level, as expressed in the international dairy products market. Over the last twenty years many aspects of world situation have changed: the direction of trade flows, volumes traded, quality and diversity of products, mass consumption, performance of prices. The international market is precisely the space where all these factors integrate and where interactions occur and end up affecting the production systems of each country. That is why it becomes relevant to study and characterize this market, even if only in terms of its most basic components, especially when everything would seem to indicate that this space will progressively be transformed into one which, to good measure, will decide on the possibility of such-and-such economic activity occurring in the various countries.

This study is made up of four parts. In part one the production and consumption situation is reviewed; in part two, the effect of policies of the main producing countries on the world dairy market is analyzed; part three deals with trade and international prices; part four presents some general conclusions on the performance of markets and their possible future development.

A. WORLD MILK PRODUCTION AND CONSUMPTION SITUATION

1. World milk production

World production of cow's milk, in terms of fresh milk, rose from 324.4 to 461.7 million tons in the period between the years 1961-1965 and 1987, which meant an annual rate of progression of 1.5%. During this period, production grew at an annual rate of 3.0% in developing countries and 0.8% in the developed world, with important differences being observed within each of these two major groups of countries.

Within the same lapse, production in Latin America increased from 19.2 to 38.7 million tons, which implied an annual growth rate of approximately 3.0%. However, the intensity of growth was variable throughout the period. In effect, between 1961-1965 and 1970, production grew at an annual rate of 2.9%; then, between 1970 and 1983, the rate intensified until it reached an average annual rate of 3.4%, to finally drop significantly after the crisis of 1983, since in the period 1983-1987 the production growth rate reached a yearly average of only 1.7% (see table 1).

Despite the fact that milk production grew more rapidly in developing regions, production in these countries accounted for only 17.2% of world total, while developed countries contributed 51.6% and the Soviet Union and Eastern European countries the remaining 31.2%.

During the period of reference, the expansion of production of milk and dairy by-products of the European Economic Community (EEC) allowed it to generate surpluses which made it go from being an importer in the 1970s to being a net exporter at present. In the Asian continent dairy production recorded high growth up until 1985, particularly in China and India, both of which applied specific programmes to promote milk production.

Table 1

MILK PRODUCTION BY REGION

(In millions of tons)

	1961/ 1965	1970	1981	1983	1985	1986	1987
United States and Canada	65.4	61.4	67.9	71.5	73.1	73.2	72.8
Western Europe	107.7	114.3	139.6	146.3	142.7	143.3	137.4
Oceania	12.4	13.5	11.8	12.6	14.1	14.5	13.4
Other developed countries	6.2	8.0	9.9	9.7	10.8	10.9	10.9
Developed countries	190.8	197.2	229.2	240.1	240.7	241.9	234.5
Africa	4.2	5.2	5.8	6.5	6.3	6.8	6.6
Latin America	19.2	23.5	34.3	36.2	37.3	37.5	38.7
Far and Near East	15.5	21.2	27.5	30.9	34.9	35.4	34.0
Developing countries	38.9	49.9	67.6	73.6	78.5	79.9	79.5
USSR and Eastern Europe	91.8	116.0	126.4	135.9	139.8	143.3	144.0
Rest of the world	2.9	3.3	4.9	3.0	2.9	3.2	3.7
World	324.4	366.4	428.1	452.6	461.9	468.3	461.7

Source: Food and Agriculture Organization of the United Nations (FAO), FAO Yearbooks on production, Rome, various issues.

The latter also showed sustained growth in the Soviet Union and Eastern European countries, while, on the contrary, Africa exhibited a profile of semistagnation.

In the 1987 season, world production declined by almost 1%, thus reversing a trend which had remained unchanged for the last twenty years (GATT: 1988). This decline was primarily a consequence of policies applied by major producers to limit supply. In the EEC, production fell by 5.7%, while deliveries in Eastern Europe, North America and Japan were also declining. In the case of New Zealand, the severe drought suffered by the country during this season caused such a marked fall in production, that not even the favourable climatic conditions of the Australian dairy belt were able to prevent Oceania's production as a whole from dropping by 7.0%. That year production grew only, and albeit slowly, in Latin America and the Soviet Union.

During 1988, world milk production recovered by approximately 1%. In the European Economic Community production declined by 3.0%, remaining relatively stable in Japan and Canada and increasing in the United States, India and New Zealand, an increase to which one must add the growing supply from the USSR and from some developing countries. It is expected that in 1989 production will grow by close to 2.0% in Europe, which would mean a rise in world supply.

2. World dairy product consumption

Per capita milk consumption shows significant differences in the various countries. In 1970, per capita consumption in developed countries was 7.1 times greater than that of developing countries, a situation which did not change significantly in the 1980s, since in 1986 this difference was 6.2 times greater.

In developing countries this parameter also showed substantive regional differences. In 1986, for example, each inhabitant of Asia had 24.6 kg/year available, while in Latin America, average consumption was 110.7 kg/year. On the other hand, the productive performance of these countries as a whole was not regular either: while in the 1970s their per capita availability rose from 35.4 to 43.5 kg/year, towards 1986 it had dropped to 41.9 kg/year. In this sense, the 1980s were a period of open deterioration for all developing countries (see table 2).

Table 2

PER CAPITA MILK CONSUMPTION BY REGION

(Kg/year per person in fresh milk equivalent)

	1970	1981	1986
World	101.2	93.3	95.2
Developed countries	251.6	248.5	256.6
United States and Canada	255.7	262.0	248.6
Western Europe	311.8	314.3	330.8
Oceania	165.0	140.0	115.0
Developing countries	35.4	43.5	41.9
Africa	27.8	31.3	24.6
Latin America	97.5	111.9	110.7
Far and Near East	21.9	29.7	29.3
USSR and Eastern Europe	332.9	347.1	358.0

Source: Prepared on the basis of Food and Agriculture Organization of the United Nations (FAO), FAO production yearbooks, Rome, various issues.

3. Demand in developing countries

The expansion of demand in developing countries results from low initial consumption levels, the relative improvement in standards of living, changes in eating habits and greater incomes. Simultaneously, per capita availability of milk increased in these countries, with an observed increase in the various components which define that availability, namely, production, imports, and food aid programmes. In the case of Latin America, for example, between 1970 and 1986, production, imports and food aid increased at average yearly rates of 2.9%, 4.9% and 2.6%, respectively (FAO: 1988a). This dynamic, according to which increases in availability grow more rapidly on the imports side than on production side, is common in developing countries. In contrast, in developed countries the increase has been based exclusively on increases in production, which, on the other hand, currently greatly exceeds consumer needs, thus allowing them to increase their exports to the rest of the world. Such is the case of Western European countries, which between 1970 and 1986 increased their exports at an annual rate of 4.9%.

B. NATIONAL POLICIES AND THEIR EFFECTS ON WORLD MARKET

1. Policies for the dairy sector

Per capita consumption of milk and its by-products in developing countries is low. This fact has been the object of growing concern on the part of governments, which have sought to correct this by attempting to increase and extend milk consumption, given its high nutritional value and importance in the human diet, in particular that of children.

In many of these countries the rise in income levels meant an increase in the demand for dairy products, which fact benefitted, moreover, from the implementation of national policies aimed at reducing consumer prices through the setting of ceiling prices, which measures were complemented by reductions in effective protection against the importing of milk and milk products. However, these measures served at the same time as a disincentive to domestic production.

These types of policies continued to be applied in various countries of Africa, Southeast Asia and Latin America. Nevertheless, many countries of North Africa, Asia, some from Latin America and Subsaharan Africa placed priority on developing a national dairy products industry. Venezuela and various other countries of the Near East maintained policies subsidizing national production and decontrolling imports. Others regulated imports in order to not disincentivate national production (Ibañez: 1986).

The Korean Republic, Saudi Arabian Kingdom, Venezuela, India, China and Cuba were all outstanding cases of rapid growth in milk production. In India, this type of policy had remarkable success.

In Eastern European countries and the USSR, consumer and producer price stabilization policies were also put into effect. In the USSR, the total amount of subsidies increased by more than 50% between 1982 and 1984, which finally became an unbearable burden for the country's economy: today it is observed that Eastern European countries have begun to bring consumer prices into line with production and marketing costs.

Other European countries, such as Switzerland, Austria, Norway and Finland also regulated their foreign trade by supporting production. In Japan, on the other hand, support prices were set at higher levels, and, in addition, dairy imports were restricted, with the exception of casein and cheese.

At certain times, Australia and New Zealand also supported milk prices, but at levels very much below support levels of developed countries in the northern hemisphere.

a) European Economic Community

EEC milk products policy was essentially aimed at stabilizing domestic prices and ensuring an acceptable standard of living for country-side dwellers. This policy was essentially based on a system of domestic market intervention and in isolating the latter from the international market in order to avoid the effects of international price fluctuations. From the 1970s onward, the Common Agricultural Policy (CAP), a vast programme which took into account economic, social, political and strategic factors, implemented a series of measures for reaching these objectives. These measures, clearly protectionist in nature, brought about structural changes in the community dairy sector, which in turn had significant repercussions on the world market for these products.

Over 50% of world dairy product exports (excluding intracommunity trade) arise from the EEC. EEC advances in this field have been remarkable, since, as was mentioned, from being a net importer of these products in the 1970s, it managed to reverse that situation in the present decade, despite the high cost it bore in reaching this objective. The main problem which the EEC currently faces with respect to dairy products is, in fact, that of eliminating or reducing their large surpluses. Self-sufficiency rates for the entire gamut of fresh dairy products, excluding cream, exceeded 100% in the 1983-1984 season and were 135% for non-fat dry milk, 377% for whole dry milk powder, 128% for butter and 107% for cheese (Toro: 1988).

b) United States and Canada

The main objective of United States dairy policy was to reduce the entry of surplus production of milk and its by-products into the market, especially of butter, cheese and skim milk, and at the same time, to restrict imports, with the exception of casein (Toro: 1988).

The United States established price support systems and complementary measures for attenuating agricultural price instability in general and therefore, farmers' incomes.

In the specific case of dairy products, the policy currently being implemented first of all sets a support price for milk which, in turn, is backed by a series of complementary measures, such as the acquisition of milk products by a state agency, the application of export promoting standards and special treatment for importing of these products.

Canada employed a support system for butter and non-fat dry milk through deficiency payment prices. The country placed its surpluses on the international market through food aid mechanisms.

2. Costs of policies

Policies implemented in producer-exporting countries, especially in the EEC and the United States, for the purpose of stabilizing prices and assuring given income levels for dairy producers, translated into relatively sizeable accumulations of stocks, since the greater production caused by these policies did not reply strictly to an increase in domestic or external demand. Stocks acquired in recent years by government organizations to maintain prices in both production centres have thus accounted for considerable percentages of domestic production (see table 3).

Table 3

INTERVENTION STOCKS OF DAIRY PRODUCTS IN THE EEC AND THE UNITED STATES

(In thousands of tons)

	Butter		Non-fat dry milk	
	EEC	United States	EEC	United States
1980 a/	376	123	244	249
1981 a/	276	98	360	370
1982 a/	389	180	583	540
1983 b/	830	208	990	605
1984 b/	1 246	115	970	564
1985 b/	1 172	68	1 000	600
1986 c/	1 132	128	693	402
1987 c/	940	76	760	41

Source: Toro, J., "La industria lechera chilena, un análisis de organización industrial" (The Chilean dairy industry, an analysis of industrial organization), University of Chile Thesis, School of Engineering of the University of Chile, Santiago, Chile, 1983.

a/ Between January and September.
b/ Between January and August.
c/ Between January and April.

Table 4

EXPENDITURES FOR SUPPORT OF THE DAIRY PRODUCTS MARKET IN THE EEC AND THE UNITED STATES

	1983	1984	1985
EEC a/ (millions of ECU) b/	4 396	5 442	6 602
United States (millions of dollars)	2 600	1 598	2 000
ECU/USD ratio	0.8902	0.7890	0.7631

Source: Toro, J., "La industria lechera chilena, un análisis de organización industrial" (The Chilean dairy industry, an analysis of industrial organization), University of Chile Thesis, School of Engineering of the University of Chile, Santiago, Chile, 1983.

a/ Excluding aid given by governments of the countries.
b/ ECU: European Economic Community monetary unit.

Up until recent seasons, the growing increase in these government intervention stocks, together with other support programmes for domestic dairy activity both in the United States and in the EEC, meant major monetary disbursements to these producing centres (see table 4).

On the other hand, in developed countries with market economies, especially in those of Western Europe, the main objective of policies has been to achieve self-sufficiency in dairy products. In this sense it is revealing that in 1985 39.4% of agricultural assistance between Organization for Economic Co-operation and Development (OECD) member countries was destined for dairy production (OECD: 1986).

3. Surplus-reducing policies

The accumulation of stocks induced the main producing centres to implement policies allowing for a reduction in the generation of surpluses, attempting at the same time to adapt milk supply to real demand levels. Such is the case with the Milk Production Suspension Program of the United States, which lasted from April 1986 to September 1987, through which 40 000 farmers (who contributed 9% of total milk marketed in 1985) sold their dairy animals for slaughter or for export and ceased to produce milk for a minimum period of five years in exchange for compensatory payments in accordance with past deliveries. These payments were financed, to a great extent, through taxes on milk marketed by producers who continued in the dairy industry. In another area, North American agricultural legislation passed at the end of 1985 imposed a direct reduction in support prices for 1987 and in addition

contained provisions for subsequent price reductions, as well as successive measures aimed at reducing the dairy cow population in following years if there continued to be large milk surpluses.

In terms of measures aimed at withdrawing surpluses from the market, North American legislation established additional incentives for skim milk sales abroad. On the other hand, and as in previous years, part of the surpluses continued to be used in donation plans within and without the country.

Measures applied by the United States were quite effective, since surpluses were reduced, although it would seem that the government's capacity in this sense was weakened, since it was estimated that in 1987 it only managed to get rid of half the volume it withdrew in 1986, which amounted to an equivalent of five million tons of milk, i.e., 7% of milk production. But this surplus reduction is not an exclusive reflection of a drop in total production levels, it also corresponds to a considerable increase in consumption of processed dairy products (particularly cheese) brought about by the drop in support prices. Nevertheless, this situation could be reversed since output per cow has increased rapidly in recent years, reaching averages of over 6 000 litres of milk per cow a year.

In the EEC, surplus disposal was essentially carried out through food aid mechanisms abroad, through the sale of butter at reduced prices and through subsidizing the use of liquid and non-fat dry milk as feed for cows. However, up to the 1983-1984 season, the upward trend in production continued together with a rapid increase in stocks of butter and non-fat dry milk. This situation, which became untenable, forced EEC authorities to reinforce measures aimed at cutting back dairy product supplies. Within this framework, as of April 1984 and for a five-year period it was decided that a set of measures would be implemented which essentially consisted of reducing the guaranty amount and price to the producer, giving bonuses for the productive reconversion of dairy units and establishing a production quota system,1/ which basically consisted of applying a rate penalizing the support price for any production over the assigned quota (ECC: 1987). In 1986, it was agreed that the guarantee fund be reduced even further and that the quota system be strengthened, and temporary measures were simultaneously adopted to reduce or suspend support for determined products (European Community: 1987).

The response to these measures was positive, in the sense that, in effect, EEC production dropped for the first time in the last decade, although fluctuations continued to be observed since the measures involved were very complex to implement, and for that very reason required very frequent revision and modification (see table 5).

Table 5

TRENDS IN DAIRY PRODUCTS STOCKS AT WORLD LEVEL

(Thousands of tons)

	1982/84	1985	1986	1987
Butter and ghee	1 076	1 447	1 692	1 190
Cheese and curds	1 833	1 975	1 893	1 905
Non-fat dry milk	1 527	1 187	1 193	775

Source: Food Agricultural Organization of the United Nations (FAO), Situación y perspectivas de los productos básicos 1987-1988 (Situation and outlook for basic commodities 1987-1988), No.5, Rome, 1989.

4. Food aid

Surpluses channelled abroad in the form of food aid and subsidized exports introduced an important distortion in both the world dairy products market and the industries of the countries receiving these surpluses. The latest information available indicates that food aid was reduced as a consequence of the contraction in supply, a trend visible in 1986 and 1987, which will presumably continue in 1988 (see table 6).

Table 6

FOOD AID: NON-FAT DRY MILK BY MAIN DONOR AND RECIPIENT

(In tons)

	Donors			Recipients		
	Canada	United States	EEC	Africa	Asia	Latin America
1978	20 819	74 433	133 398	81 440	102 184	47 918
1980	11 722	66 634	147 014	82 683	73 895	39 451
1982	6 893	111 676	145 820	109 681	79 374	40 321
1984	19 212	103 341	177 283	170 446	115 368	44 547
1985	10 818	196 828	107 056	139 440	52 724	93 558
1986	5 673	235 099	100 265	123 037	37 723	124 099
1987	(unavailable)	170 752	109 193	61 166	71 511	83 150

Source: Food and Agriculture Organization of the United Nations (FAO), La ayuda alimenticia en cifras (Food aid in figures), vol. 6, Rome, 1988.

Traditional aid in milk products essentially has consisted of non-fat dry milk and butter oil. The United States has directed its aid primarily at Egypt, Brazil and Guatemala. In the case of EEC, its main beneficiaries have been Egypt, India and the World Food Programme. It is important to bear in mind the performance of food aid and its destination, since it could delay or serve as a disincentive to the development of domestic production, which will depend basically on the mechanisms used to distribute that aid and of the population sectors which benefit from it.

5. Effects on world trade

As stated in the World Bank report (World Bank: 1986), the set of policies implemented by producing countries on a large scale have contributed to the world dairy product market's being a child of protectionism. Practically all industrial countries isolate and protect their dairy producers through import barriers and through domestic market intervention. Producer prices are determined by governments and bear no relation to the value of milk products in the international market.2/ In OECD member countries, average domestic prices have approximately doubled international ones over the last 20 years; in turn, the enormous quantities of dairy products dumped in international trade have depressed the price of these products. As farmers in these countries react rationally to improvements in domestic prices, they increase their investments and efforts, consequently raising production even more. The outcome is that governments must buy growing quantities of these products, to then get rid of them, whether by selling them in a depressed world market or donating them as food aid.

One of the first effects had by policies of these countries was the raising of domestic price levels of dairy products, a fact confirmed by studies which have estimated nominal protection coefficients. The study undertaken by the World Bank for the period 1980-1982, which calculates coefficients by dividing domestic price by border price, concludes that the majority of countries studied offer positive protection to dairy production (see table 7).

Table 7

NOMINAL PROTECTION COEFFICIENTS FOR DAIRY PRODUCTS
1980-1982

	Producers	Consumers
Australia	1.30	1.40
Canada	1.95	1.95
EEC a/	1.75	1.80
Other European countries b/	2.40	2.40
Japan	2.90	2.90
New Zealand	1.00	1.00
United States	2.00	2.00
Weighted average	1.88	1.93

Source: World Bank, Informe sobre el desarrollo mundial 1986 (Report on world development 1986), Washington D.C., 1986.

a/ Excluding Spain, Greece and Portugal .
b/ Austria, Finland, Norway and Sweden .

As may be seen in the above table, the situation shown by, for example, a country that does not protect its dairy products and thus, where domestic price is equal to border price, is clearly distinct from that of other countries listed, especially that of Japan, where the price paid domestically for milk is almost triple that which would be found at the border. In any case, the average domestic price of industrialized countries, almost doubles the external price, which is equal to saying that nominal protection for this product is practically 100%. Projections made on performance of this variable from the period 1980-1982 onward seem to indicate that protection deepened at least up until 1985, given that international prices showed a downward trend precisely up to that year, and which was subsequently reversed (World Bank: 1986).

The multifarious distortions introduced in world market operation by the agricultural policies of developed countries were also manifested through a hypothetical estimate made by the World Bank in 1985, which calculated the effects that market decontrol of various products, among them dairy products, would have on prices and trade volumes. The results show that if countries or groups of countries decontrol their markets, both international price levels and trade volumes would rise; now, if this were done only by EEC, for example, international prices would increase by 12% and trade volume by 34%; if this initiative were carried out by all market economy countries, there would be a 67% rise in prices and 190% in volumes traded (see table 8).

Table 8

EFFECTS OF DECONTROL OF DAIRY PRODUCTS MARKET
ON PRICES AND TRADE 1985

Countries	Variation in prices	Variation in trade
EEC	12	34
Japan	3	28
United States	5	50
OECD	27	95
Developing countries	36	330
All market economy countries	67	190

Source: World Bank, Informe sobre el desarrollo mundial 1986 (Report on development 1986), Washington D.C., 1986.

These estimates were based on different hypothetical situations: unilateral decontrol of EEC, Japan and the United States; multilateral decontrol of all industrialized countries; decontrol of all developing countries and, global decontrol. All simulations indicated that any one of these decontrols would increase world trade volumes of dairy products over the long term. Likewise, the majority of projections indicated that decontrol would also raise world prices of these products. This same study included an analysis showing that decontrol of markets would likewise produce ever greater price stability.

In synthesis, policies of developed countries have introduced major distortions in the world dairy product market, distortions which ultimately translate into the formation of prices which do not respond to the relative scarcity or abundance of resources but to national or regional objectives of the countries, which, due to the magnitude of their production, could have a decisive influence on this market.

C. THE DAIRY WORLD TRADE SITUATION

1. Milk volumes traded

World trade of dairy products has been extremely dynamic over the last decades. Total exports of milk and by-products in 1970 accounted for 11% of world production; in 1986 they reached 17%. The volume of milk traded almost doubled, rising in that period of time from approximately 40 to 75 million tons although the greatest dynamism was observed in the period 1970-1980, since from 1980 onward volumes traded grew at a relatively moderate rate (see table 9).

In this context, the various regions have evolved differently. In effect, between 1970 and 1986 developed countries as a whole, raised their trade surplus from 13.5 to 30.3 million tons of milk, with Western Europe being the region which contributed the most to this surplus. Meanwhile, in the same period, developing countries saw their deficits rising, in effect, from 11.3 million in 1970 to 27.5 million tons in 1986.

In the same way, the volume, composition and direction of dairy product trade flows have also undergone modifications in the last decades.

Table 9

EXPORT AND IMPORT OF MILK BY REGIONS

(In millions of metric tons)

	1970		1981		1986	
	Imp	Exp	Imp	Exp	Imp	Exp
United States and Canada	1.00	3.60	1.50	3.90	1.70	5.20
Western Europe	24.30	26.40	33.20	56.50	39.90	56.90
Oceania	0.10	10.30	0.20	9.20	0.00	11.80
Other developed countries	1.40	0.00	2.00	0.20	2.10	0.10
Developed countries	26.80	40.30	36.90	69.80	43.70	74.00
Africa	2.40	0.10	6.10	0.00	5.10	0.00
LATIN AMERICA	3.90	0.10	6.50	0.50	8.40	0.30
Near and Far East	4.70	0.30	15.90	0.60	14.30	0.90
Other developing countries	0.90	0.00	0.00	0.00	0.90	0.00
Developing countries	11.90	0.50	28.10	1.10	28.70	1.20
USSR and Eastern Europe	1.90	1.40	8.80	3.30	6.30	2.90

Source: Prepared on the basis of Food and Agriculture Organization of the United Nations (FAO), Anuarios FAO de comercio (FAO trade yearbooks), Rome, various issues.

The EEC, which up until the 1960s was the region with the most imports, became a major exporter in the 1980s, contributing over half the dairy products traded in the world. Oceania, which up until the 1970s was an exporting region par excellence, in addition showing the lowest production costs in the world, has had problems in maintaining its previous export levels which today are stagnant and have even seen a decline in milk production levels.

Among developed countries with market economies, only Japan continues to be a net importer. North American countries, which were net exporters during the 1960s substantially reduced their exports during the first half of the previous decade, to once again expand from 1980 onward. Centralized planning countries, primarily the USSR, which up until the 1960s were dairy product exporters, are currently net importers, obtaining first place in this category in the 1980s. Thus, for example, butter imports of the Soviet Union, around which product their purchases are essentially concentrated,

accounted for about 26% of world transactions of the product. Only recently has the USSR begun to increase its domestic production.

For their part, developing countries are, as a whole, net importers. In the early 1970s, they imported almost 97% of volumes traded in the world market, a share which dropped to 70% in the 1980s.

Oil exporting countries have absorbed a major part of the increase of dairy imports corresponding to developing countries. From the early 1970s to the early 1980s they rose from 15 to 30% of world powdered milk imports, from 33 to 63% of cheese and they oscillated between similar figures for evaporated and condensed milk. Their share dropped from 52 to 45% only in the case of butter.

For its part, Latin America has progressively increased its imports in absolute terms, rising from 3.9 million tons in 1970 to 8.4 million tons in 1986. But dependency is also rising in relative terms: in effect, while in 1970 imported milk accounted for 17% of milk produced in the region, in 1981 this value rose to 19% and in 1986 to 22% from which it is deduced that imports grew much faster than did production. For its part, the performance of exports has been quite irregular, since despite their increase from 0.10 to 0.50 million tons between 1970 and 1981, in 1986 they dropped to 0.30 million tons. In any case, however, the amount of exports for the region accounts for a minute proportion of world trade. In fact, information available to the Food and Agriculture Organization of the United Nations (FAO) (FAO: 1988b) indicates that only Argentina, Brazil, Chile and Uruguay have exported dairy products and that only the exports of Argentina and Uruguay reached a volume of any consequence. This does not prevent the fact that, thanks to the current economic cycle and to the outlook for the medium-term, some nations of the continent may strengthen their position in the world dairy products market.

2. Performance of the main products

During the 1960s developing countries essentially imported condensed and evaporated milk and, to a lesser extent, powdered milk. With the creation of the recombination dairy industry, imports, primarily those of Southeast Asia shifted in preference towards powdered milk and butter oil. In mid-1970 and thanks to an improvement in the standard of living of those countries, condensed and evaporated milk imports increased moderately and other dairy product imports such as whole dry milk powder, non-fat and partly skim dry milk, cheese and butter increased with great dynamism. Recently, greater dynamism has been observed in children's dairy-based processed foods.

In 1985 there was a slight downturn in world trade, although information corresponding to the 1987 season indicated that world trade was once again on an upswing. In effect, non-fat dry milk exports recovered and reached over 1.2 million tons, a level comparable to that of 1985 and higher by 3.0% than that of 1986. The trade of whole dry milk powder maintained its upward trend and exceeded 900 000 tons, two-thirds of which corresponded to the EEC. Other dairy by-products maintained their upward trend, except for the butter oil and butter markets which continued to show the fragility exhibited during

1986. Information available for 1988 (CEPE/FAO: 1989), indicates that the external market has grown moderately, with increases in whole dry milk powder and declines in that of skim milk.

3. Dairy product prices

In the last ten years, international milk prices and those of its by-products have been relatively unstable. To get an idea of the general movement of prices, non-fat dry milk prices have been looked at, due to their being one of the most important forms of milk traded in international markets. For this effect, comparisons were made between support prices in the United States and those of the EEC, the price at which the product was traded internationally (FOB) and the price adopted by reason of the General Agreement on Tariffs and Trade (GATT) (see figure 1).

Figure 1

NON-FAT DRY MILK PRICES

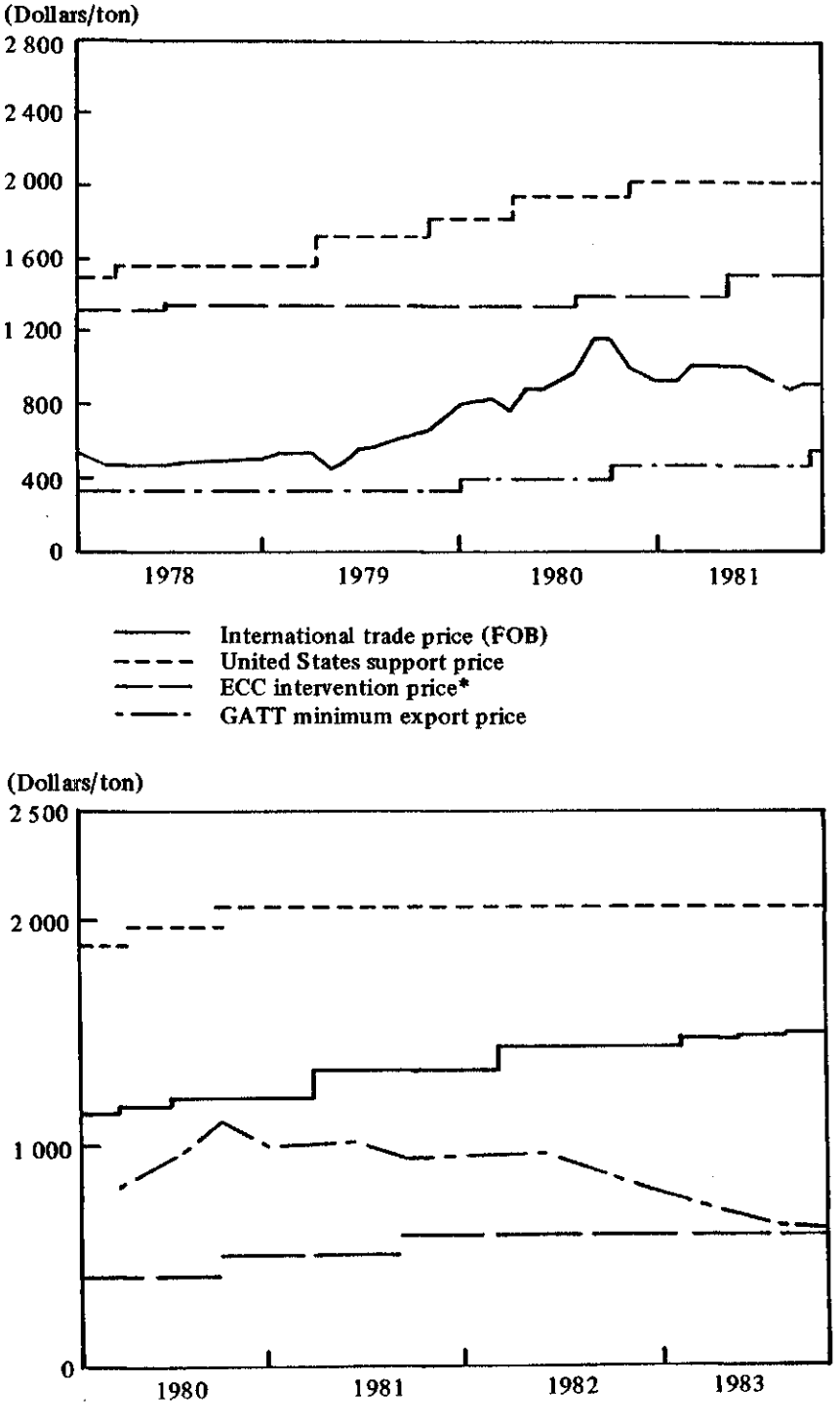
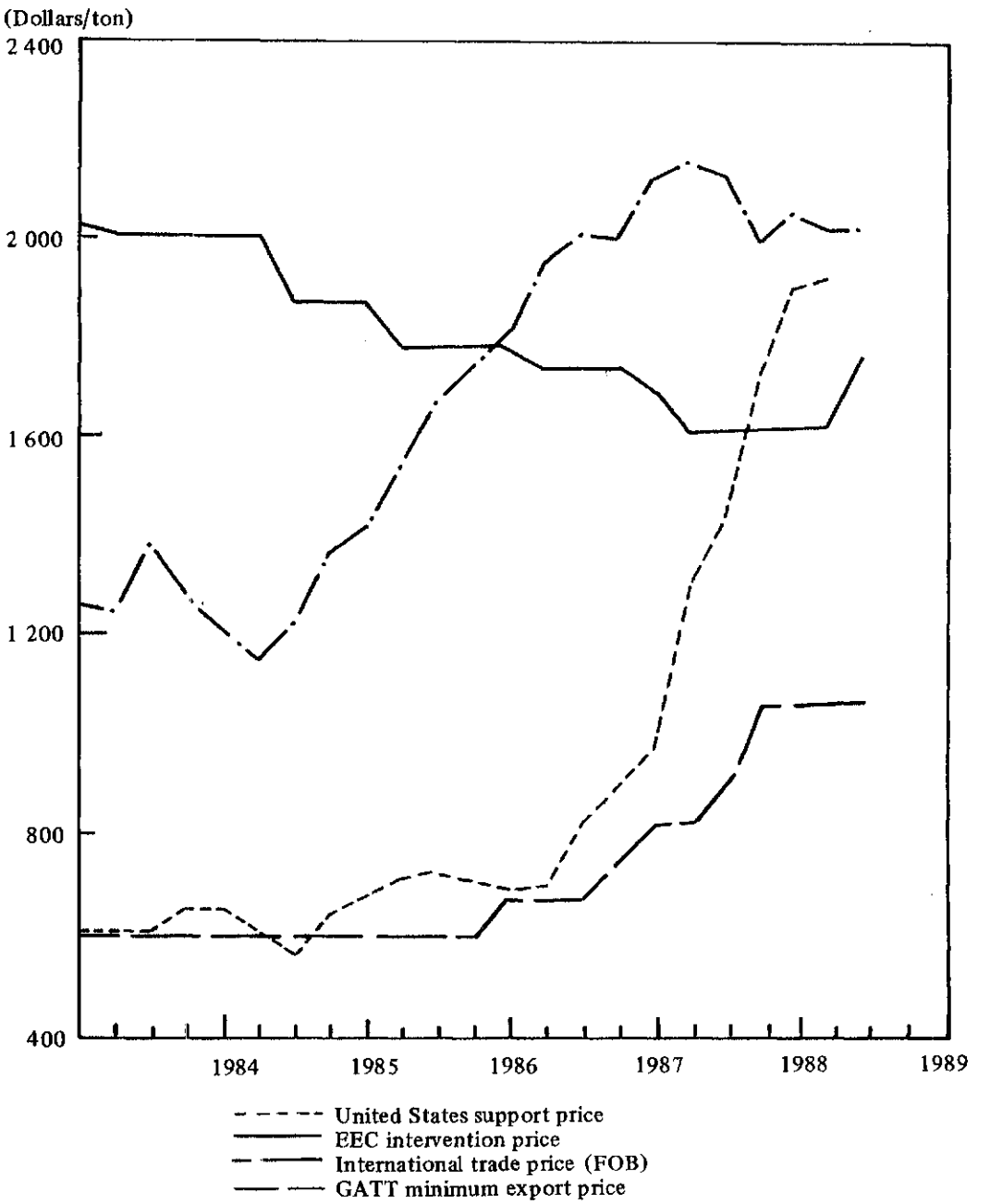


Figure 1 (concluded)



Source: Food and Agriculture Organization of the United Nations (FAO), *Situación y perspectiva de los productos básicos* (Situation and perspective for basic commodities), Rome, various issues.

*Uniform exchange rate used during the whole period.

From 1980 onward, there has been a clear trend towards declining non-fat dry milk prices. In fact, between 1983 and 1985 the international price equalled the minimum price established by GATT. The main reason underlying this trend is the increased supply of exporting countries in external markets, which in turn, is an outcome of protection policy, through support prices, put into effect by the United States and EEC and which turned out to be very stimulating for the productive sector. From 1986 onward the effects of efforts made by producer-exporting countries to reduce production and stocks began to be manifested. In reference to this phenomenon, a GATT study (GATT: 1987) indicated that in many countries support prices and prepayments were reduced, in order to avoid a new increase in milk production or as a necessary adaptation to lower export yields. Quota systems were implemented through the application of double-pricing, sanctions on overproduction above the quota and levies on production, intended to provide funds for market intervention and the making of payments for losses incurred in exports. Likewise, some countries attempted to reduce incentives on milk production restricting feed supplies, whether through pricing measures or through other mechanisms.

Important sums were invested in the implementation of various measures aimed at introducing structural changes in the sector, such as of dairy cow mass liquidation programmes, systems for promoting the abandonment of milk production and measures for limiting bovine mass. The promotion of milk cow exports to developing countries, frequently under very favourable conditions, may have had considerable impacts in this context.

Attempts have been made to determine and evaluate the results of measures adopted to check milk production, but up to now, the task has not yielded real results and more time and information are needed for drawing more definite conclusions. However, concluded the GATT study referred to, it should be mentioned that the upward trend in production has desisted and it could even have been reversed thanks to the application of measures to halt production and milk deliveries. In fact, in the 1988-1989 season EEC trade quotas were once again reduced. With a volume of 99 million tons approximately, cow's milk collections carried out in EEC dairy centres dropped by 3% in 1988 compared to 1987, and were almost 10% lower than those of 1983, the year immediately following the introduction of said quotas. Production also declined again in the majority of the remaining countries of Western Europe. However, Canada slightly increased quotas and reduced fines for excess deliveries in view of greater domestic sales and of improved export results. In Japan the quantity of milk for which government guaranteed a minimum price was also increased, although the price of the past season was lower than that of previous ones. In the United States, the only developed country with a market economy that did not use a milk trading quota system, an upturn in the economic cycle was recorded in 1988, despite new cutbacks in support prices and the effects of drought on supplies and price of feed.

The drop in EEC milk production brought with it another strong contraction in butter and non-fat dry milk processing, since consumption of liquid milk and of fresh milk by-products and production of cheese and whole dry milk powder continued to expand. Thus, purchases for support purposes on the part of intervention agencies practically ceased, export aid was reduced as was placement of domestic surpluses --although these continued to be

considerable-- and government stocks of butter and non-fat dry milk fell to very low levels towards the end of 1988.

On the other hand recent information indicates that dairy stocks in OECD member countries as a whole have also declined as a consequence of measures implemented. In early 1989 stocks of butter and non-fat dry milk in these countries were 0.3 and 0.2 million tons respectively; at the beginning of 1987 these were likewise 1.7 and 1.3 million tons.

The constant reduction of production and world stocks gave rise to an accelerated rise in international non-fat dry milk prices. Those in EEC and United States domestic markets also rose. From mid-1988 onward, the United States was able to compete without subsidies in the world market of this product, while EEC reduced their export reimbursements to nearly half. In 1988 international milk prices increased rapidly: in effect, in February, 1988, the price of non-fat dry milk was 45% higher than the average price the preceding year; whole dry milk powder, for its part, rose by 34% in the same period. This dynamic was reflected during 1988 in the price agreed to by GATT, which underwent rises in March and September of that year, affecting all dairy products traded in the world market as a whole (World Bank: 1988). Market prices of other dairy products also increased as did the respective minimum prices of dairy products agreed to within the GATT framework, but in the case of products with high butterfat content the rise was much lower than rises experienced by skim milk and casein.3/ In 1989 current prices of non-fat dry milk in the international market (FOB) have hovered around US$1 900 per ton, while the average for 1988 was US$1 350 per ton and US$750 per ton in 1987 (FAO: 1989a).

Despite these measures, it is probable that during 1989 OECD member countries will spend around US$7 000 in support of their dairy product markets. It is also foreseeable that in Eastern Europe and the USSR the greater part of milk and milk products will be sold once again to consumers at considerably lower prices than costs of production, processing and distribution, although probably higher than those that have prevailed in the past. To get a more complete idea of the possible dénouement of the world dairy market, one has to also bear in mind the appearance of some indicators as to the easing up of restrictive policies on markets and prices, which in various developed countries with market economies contributed to reducing the surplus in supplies since the mid-1980s. For this reason, a slight increase in world production is anticipated for the 1989-1990 season (FAO: 1989b).

With regard to the possible evolution of this market, FAO states that: "The rise in prices in the international dairy products market will likely favour a trend towards the reduction of subsidies on consumption in some countries with centralized planning economies and in heavily endebted developing countries, which must reduce their foreign exchange expenditures on imports or that wish to destine a part of dairy products for export... Consequently, world dairy product exports, which in recent years has reached an average figure somewhat higher than 30 million tons in the equivalent of milk (excluding trade between EEC countries), will probably suffer a strong contraction in the near future. Special transactions at very low prices, which in 1988 and 1987 accounted for a considerable portion of total trade, especially of butter and butter oil practically disappeared" (FAO: 1989b).

On the other hand, food aid in dairy products has decreased markedly, and it is expected that in 1989 it will be somewhat lower than 100 000 tons, as compared to a mean of almost 400 000 tons in recent years.

However, despite the reduction in current stocks, the possibilities of a new rise in international dairy product prices seems very limited. It is probable that domestic prices in producer-exporting countries will remain significantly higher than international prices.

For its part, the World Bank (World Bank: 1988) states that the recent trend towards rises experienced by dairy product prices are short-term in nature. In the long run, increased yields in this item and the relaxation of production controls in the United States and the EEC will probably contribute to generating an increase in stocks, which will be followed by the correlative drop in international prices. To this would be added a possible expansion in demand from developing countries, since a raise in income for these countries, in particular for oil-exporting countries is expected, given well-founded expectations that the price of this product will rise during the 1990s World Bank estimates permit one to expect an ostensible increase in world dairy product stocks towards 1992, which phenomenon would indicate a new price cycle for the 1990s: prices falling at the outset, dropping to their lowest point in the first quarter of the decade and then showing a tendency towards recovery (see table 10).

Table 10

ESTIMATED PRICES FOR WHOLE AND NON-FAT DRY MILK POWDER

(Dollars/ton, FOB)

	Non-fat dry milk		Whole dry milk powder	
	Current	Constant (1985 US$)	Current	Constant (1985 US$)
1987	835	642	1 048	806
1988	1 600	1 137	1 500	1 066
1989	1 400	936	1 200	803
1990	900	593	950	626
1991	725	472	850	553
1992	710	451	830	528
1995	1 250	691	1 500	829
2000	1 000	441	1 170	516

Source: World Bank, Price Prospects for Major Primary Commodities, Report No. 814/88, vol. II: Food Products and Fertilizers and Agricultural Raw Materials, Washington D.C., 1988.

D. SUMMARY AND CONCLUSIONS

As can be gathered from this general overview, the world dairy products market is far from operating at what is often called perfect competence, since international prices do not reflect interactions between supply and demand, and instead it is formed by distortions introduced by major producers who intervene in their own markets to assure a determined income for their producers. Nearly all developed dairy product exporter countries in one way or another support their domestic markets and, in general, also subsidize their exports. It is estimated that the cost of milk support prices in developed countries with market economies reaches, on average, some US$7 000 million a year. In nearly all OECD countries dairy support prices absorb the greater part of funds destined to support overall agricultural activity. To this must be added the high costs demanded by the administration of these complex dairy policies.

The significant increase in surplus placement costs has led governments to adopt measures aimed at reducing production and stock levels. Following are some of these measures: premiums for the slaughter of milk cows, bonuses for the productive reconversion of milk-producing units, the tax on concentrated feed and the reduction in the guaranteed price at which government buys a preset quota of dairy farmers' production. These quota systems for marketing milk have been applied in Canada from the early 1970s; they were subsequently used in some of the smaller western European countries and in the 1984-1985 season in the EEC. The United States never adopted them and, on the contrary, they implemented a system which places more emphasis on the market: by reducing producer support prices, they reduce consumer prices and thus promote consumption. This system has been accompanied by a premiums programme for stimulating dairy farmers to reduce milk sales, premiums which are financed through a general retention of milk prices.

Price instability has been one of the main characteristics of the evolution of the international dairy product market in the last 15 years. This market responds to the combined effect of various factors: fluctuating demand, rapid technical progress and in particular, protectionist policies practiced by northern hemisphere market economies, which markedly distort its operation.

In the early 1970s, international prices rose due to the direct influence of increased world demand arising primarily from oil exporting countries, which was felt over the entire period. In this way, after dropping in mid-decade, prices once again rose towards the end of the period, both as

a result of the persistent increase in demand as well as to the contraction in supply experienced in mid-decade. However, despite this rise, international prices continued very much below EEC and North American support prices. Early in the 1980s international prices once again plummeted, to a great extent as a result of protectionist policies implemented primarily by developed countries with market economies, falling even below prices established by GATT. This situation continued up to the 1984-1985 season, at which time the effects of measures adopted by the main producer countries, aimed at reducing supply, began to be felt, thus propitiating the upward trend observed from then onward.

Price instability and the distortions to which they are subject by protectionist policies have seriously damaged the possibility for developing countries with productive potential (such as Argentina and Uruguay, for example) to implement a sustained dairy investment programme, since although their characteristics allow them to produce at relative low costs, they remain outside the market by virtue of their not being able to compete with prevailing prices. At the same time, and as a result of the very drop in price, countries which supplied developed country markets have had to restrict their exports, if in fact they have not been excluded out and out from the market. Given that in recent years three quarters of dairy exports have been subsidized, Oceania, for example, one of the exporting regions which produced at low cost, was barely able to maintain its exports, despite the constant expansion of world market.

In terms of dairy product supplies, all forecasts permit one to expect them to grow, although probably at a somewhat lower rate than that prevailing in recent years. On the other hand, it is not expected that upward trends shown by prices in what has elapsed of 1989, will remain at the same rate, but rather it is expected that they will stabilize, without prejudice to the fact that upswings may be observed in economic conditions which producer countries will probably use to their advantage to reduce stocks. In sum, everything seems to indicate that dominant prices in world market will not undergo major changes.

In terms of developing countries, it is possible to conceive of the current rise in international prices and the raising of support prices in developed countries as allowing them to implement broader advanced technology and productive programmes. In effect, increased support prices in developed countries in practice constitute a tax on their own processing industry which obviously uses milk as an input, a circumstance which could be taken advantage of by the processing industry of developing countries in order to expand, given their lower costs and possibility of competing under better conditions.

It is possible that the sum of recent events give a new configuration to the world dairy product market. However, what is more probable is that the main producer-exporting countries will continue to be the ones that definitely determine this configuration, although as yet one cannot clearly see which other elements will also constitute it, precisely because we are not dealing with a new equilibrium point but rather a period of transition. For this reason, it is difficult to predict at the moment which way developing countries will be inserted into world market.

A recent FAO study (FAO: 1988c) sheds some light on the way in which Latin America could deal with current dairy market trends. The fact that, according to FAO estimates, current world market prices only accounted for 40% of the value which dairy products would reach in a truly free market, evidently attempted against the eventual comparative advantages of countries with great productive potential such as, for example, Argentina and Uruguay. But the depression of prices also affected the region in another sense, because in general it forced governments of these countries, debating amongst themselves the dilemma of importing at low costs or producing domestically, to take costly measures aimed at protecting national industry. This entire picture could undergo important changes if the upward trend currently exhibited by international prices is maintained. In effect, this possibility would not only permit countries of the region to improve their competitive standing in exports, especially in the case of countries with a natural variation for it, but also to improve the position of each country's dairy sector vis-à-vis its domestic market.

Production incentives arising out of these two fronts could doubtless promote important growth in the region's dairy sector which would subsequently translate into partial dairy product import substitution. On the other hand, the strengthening of domestic prices would provide the signal to increase investments in the sector and incorporate new technologies into productive processes (Zegers: 1987).

However, in order to take advantage of the opportunity offered by high international prices it is indispensable that governments adopt concrete and effective measures to improve the comparative advantages particularly in those countries of the Río de la Plata basin. Perhaps with only those measures it would be possible to open up an accelerated process of technological change which would permit productivity to be raised under profitable conditions. In these new production and productivity conditions the dairy industry would be transformed into a profitable activity, even if, as is expected, prices tended to drop over the medium term.

Notes

1/ The quota system is quite cumbersome and complex; for greater details see EEC: Milk, The Quota System, Green Europe, No. 203, Brussels, 1984.

2/ Sometimes extremes have been reached whereby EEC farmers paid more to import fodder for their cows than they could have received in world markets for the milk that this fodder contributed to produce. Moreover, not only did they not generate sufficient surplus in order to cover the cost of domestic inputs, but the EEC lost foreign exchange. The EEC would have been much better off in general if some farmers had not worked at all or even, if they had been paid not to work.

3/ Food and Agriculture Organization of the United Nations (FAO), Situación y perspectivas de los productos básicos, 1988-1989 (Situation and outlook for basic commodities, 1988-1989), Rome, 1989.

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