Economic Bulletin for Latin America

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UNITED NATIONS

The *Economic Bulletin for Latin America,* published by the Secretariat of the Economic Commission for Latin America, appears twice yearly, in February and September. The essential purpose of this periodical is to provide a résumé of the economic situation of the region designed to supplement and bring up to date the information published in the Commission's annual economic surveys. Apart from this summary, which is to appear in every issue, special articles on different subjects related to the economy of Latin America are also included.

The ECLA Secretariat assumes entire responsibility for the *Bulletin.* Its content —intended for the information both of public officials and of the general reader— was not submitted to the Commission's member Governments before publication.

EXPLANATION OF SYMBOLS

Three dots (...) indicate that data are not available or are not separately reported.

A dash (—) indicates that the amount is nil or negligible.

A minus sign (—300) indicates a deficit or a decrease.

A space is used to separate thousands and millions (3 123 425).

A stroke (/) indicates a crop year or a fiscal year, e.g., 1954/55.

An asterisk (*) is used to indicate partially or totally estimated figures.

"Tons" and "dollars" are metric tons and United States dollars, respectively, unless otherwise stated.

Minor discrepancies in totals and percentages are due to rounding.

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Page	*Line*	*For*	*Read*
34	2	31	23
28	24	securing	scrutinizing
42	28	currency	economy
55	18	country	century
57	36	obtained	contained

ECONOMIC BULLETIN FOR LATIN AMERICA

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Vol. V, No. 2, October 1960

UNITED NATIONS

ECONOMIC TRENDS IN LATIN AMERICA IN 1959

INTRODUCTION

Some of the chronic difficulties confronting the primary-producer countries in their attempt to secure a rapid rate of economic development were clearly revealed again in 1959. For the fifth consecutive year the external economic situation confronting Latin America as a whole was not conducive to the achievement of a satisfactory rate of growth. During the first post-war decade, demand for primary commodities was buoyant owing to reconstruction requirements and, later, to the circumstances arising out of the hostilities in Korea. Since 1955, however, world markets for the main commodities sold abroad by Latin American countries have tended to weaken perceptibly. In 1959, while gains were recorded in the marketing of a few major commodities, the balance of changes in world market conditions was such that Latin American exports failed to keep pace with the rising level of economic activity in the major industrial countries.

The deterioration in Latin American export trade, when viewed in relation to the rapid rate of population growth in the region, is the major factor underlying the low rate of increase recorded for *per capita* income in 1959. This development calls attention to the need to intensify the process of industrialization. But numerous obstacles, such as the structural inelasticities of supply, the low propensity to save and institutional deficiencies, which prevent the effective implementation of economic policies, make it difficult to secure an increase in domestic demand without price instability. In those countries where, despite a deterioration in the capacity to import, expansive economic policies continued to be pursued, there was mounting inflationary pressure. In other countries, affected in the past by acute inflation, stabilization policies continued to be executed and even intensified, with the result that the rate of increase in price levels slackened to a marked extent. The anti-inflationary measures, however, tended to act as a brake on economic activity, since they were intended almost exclusively to curb expenditure. The reconciliation between price stability and economic growth was most difficult to achieve in those countries which had experienced both a deterioration in their terms of trade and a decline in *per capita* agricultural output for domestic consumption.

The economic problems which confront Latin America can be rendered less acute but cannot easily be solved in the short-run. Various measures have already been taken or are being planned at both the national and international levels with the object of gradually overcoming some of the obstacles to economic growth without inflation. The liberalization of trade within the region and the common market project are mainly designed to accelerate the process of industrialization through their beneficial impact on competition and resource allocation. More recently the prospects of an increase in the volume of external financial aid and co-operation in the implementation of development programmes have improved. What is perhaps of paramount importance, however, is the fact that there is a growing recognition among Latin American countries of the need to alter the institutional environment so as to enhance the flexibility of internal supply.

I. CHANGES IN GROSS DOMESTIC PRODUCT IN 1959

The volume of gross domestic product for Latin America as a whole expanded in 1959 to almost 60,000 million dollars at 1950 prices—the highest level of output yet recorded. At the same time, however, the increase in output in 1959 over its level of the previous year (2.6 per cent) represented a marked slackening in the pace of economic growth. Thus, the course of events in 1959 perpetuated a trend which had become evident after 1954. Since that year, the annual rate of expansion in the volume of the gross domestic product has, with one exception, declined steadily (see figure I). The exceptional year was 1957, when circumstances associated with the Suez crisis gave a transitory fillip to economic activity in some of the major trading countries of the region.

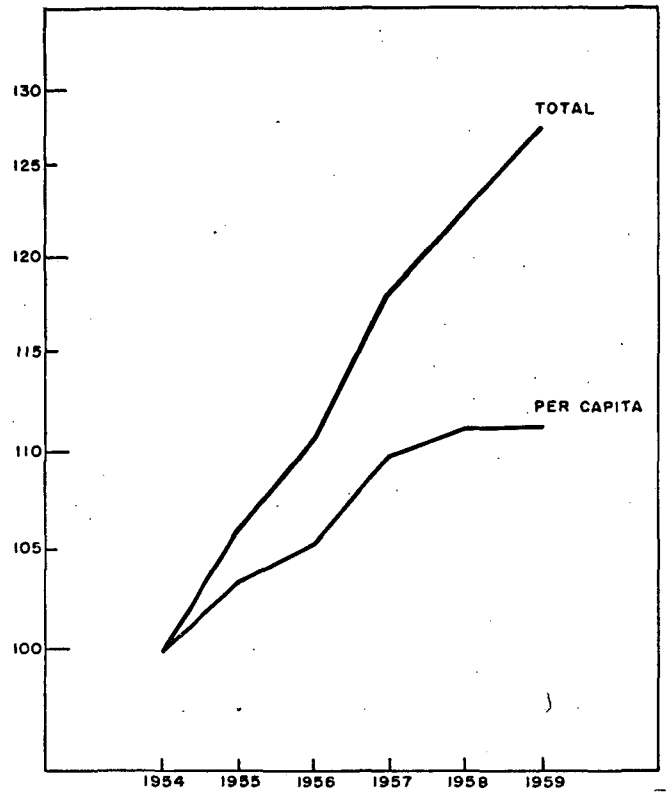
The rate of growth of output in 1959 was the lowest annual rate recorded in recent years, and should be compared with the average annual growth rate of about 6 per cent for the region as a whole over the period 1945-54. Furthermore, if the growth of domestic output in 1959 is considered alongside the annual population growth of 2.5

FIGURE I

GROSS DOMESTIC PRODUCT IN DOLLARS AT 1950 MARKET PRICES

(Index: 1954 = 100)

SEMI-LOGARITHMIC SCALE



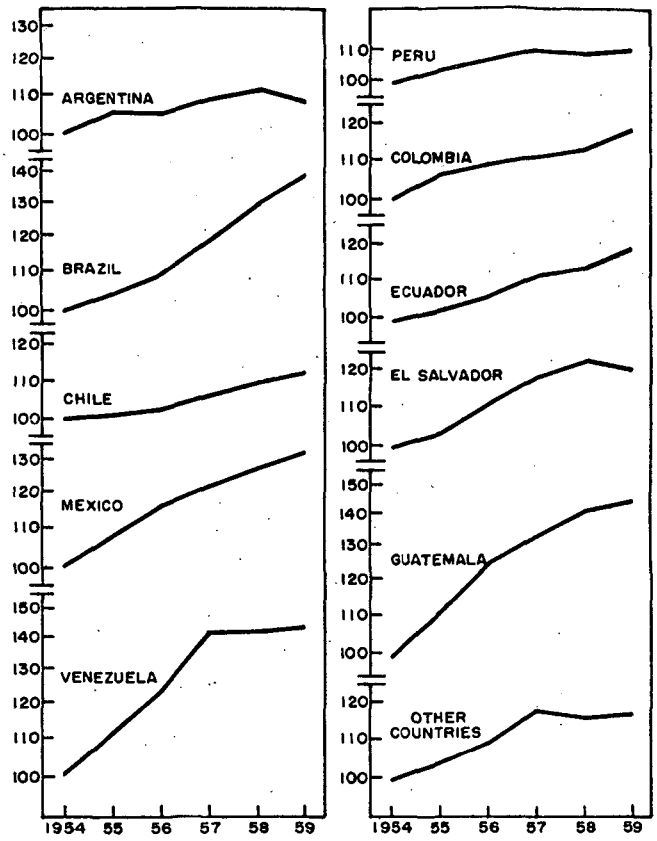
SOURCE: ECLA estimates based on official national statistics.

FIGURE II

GROSS DOMESTIC PRODUCT IN DOLLARS AT 1950 MARKET PRICES

(Index: 1954 = 100)

SEMI-LOGARITHMIC SCALE



SOURCE: ECLA estimates based on official national statistics.

per cent, the margin of progress achieved in terms of *per capita* output is shown to have been negligible.

This description of the evolution of gross domestic product for Latin America as a whole in 1959 applies equally well to almost all the individual countries (see figure II). In Argentina for instance, there was an absolute decrease in the volume of the gross domestic product in 1959, which fell almost 5 per cent below the output level of the previous year. El Salvador also experienced an absolute decline in real output. The weight carried by Argentina in the regional aggregate is relatively large, and to that extent that country's experience influenced the falling rate of growth of output recorded for the region as a whole in 1959. In Venezuela output recovered in 1959, after a slight absolute decline in the domestic product in 1958, and reached a level slightly higher than that of 1957. Since 1957, abrupt changes in the volume of petroleum output—one of the most important sectors in Venezuela—have been largely associated with the instability of the international market for petroleum and its products. Among the other Latin American countries for which data are available, Colombia and Ecuador also showed a higher level of output in 1959, which rose at a significantly faster rate than during the previous year. In the former, the principal stimulus came from the rapidly growing industrial sector, while in the latter an expansion in the volume of investment in public works was influential.

Of all the Latin American countries, Brazil recorded the highest rate of growth of output in 1959, which exceeded its 1958 level by approximately 7 per cent. The 1959 trend, however, represents a slackening in the vigorous rate of growth which has characterized the Brazilian economy in recent years. From the standpoint of the region, the relatively high rate of growth attained by Brazil in that year contributed substantially to the rate for Latin America as a whole, since Brazil accounts for roughly 30 per cent of the total regional output.

Data on the sectoral origin of output in 1959 are available for five of the major countries—Argentina, Brazil, Chile, Mexico and Venezuela—which together account for almost 80 per cent of the gross domestic output for the region as a whole. These data are shown in table 1 for three readily identifiable sectors—agriculture, mining, and industry (combining manufacturing and construction).

It is clear from table 1 that the mining and industrial sectors together contributed almost 60 per cent to the increase in output in 1959—proportionally much more than their combined weight in total output. On the same basis of calculation, agricultural output lagged behind the

Table 1

LATIN AMERICA: SECTORAL ORIGIN OF GROSS DOMESTIC PRODUCT FOR FIVE COUNTRIES,[a] 1958 and 1959

(Millions of dollars at 1950 prices)

	Agriculture	*Mining*	*Industry*	*Total*[b]
1958	8 629	2 597	11 286	45 158
1959	8 878	2 817	11 771	46 459
Percentage increase 1958-59	2.9	8.5	4.3	2.7
Weighted percentage increase 1958-59	20.7	18.3	40.4	100.0

SOURCE: ECLA estimates based on official national statistics.
[a] Argentina, Brazil, Chile, Mexico and Venezuela.
[b] The sum of the individual items does not correspond to the total given, since it has not been possible to separate other sectors such as transport, energy and services.

other sectors, thus perpetuating what appears to have become a chronic state of affairs not only for the group of countries under discussion but for Latin America in general. Supplementary data suggest that the increase in agricultural output in 1959 for the region as a whole was less than that for the five-country group, being approximately 2 per cent above the level recorded in 1958. Within the total, production for export increased by 2.2 per cent, whereas production for internal consumption rose 1.7 per cent above the previous year's level.

The contrast between the development of output since 1954 in the agricultural sector, on the one hand, and in the mining and industrial sectors, on the other, is clearly revealed in figure III. The pattern of sectoral output growth for the five Latin American countries—individually and combined—are presented there for the period 1954-59. Most of the countries recorded increases in mining and industrial output in 1959, whereas agricultural production rose significantly in Brazil and Venezuela only. In the former country, a larger coffee crop contributed to the expansion in total agricultural output; elsewhere, the lag in output in the agricultural sector was due largely to a decline in livestock production, particularly in Argentina.

After experiencing a temporary setback in 1958, output in the mining sector made a notable recovery in the following year. Petroleum extraction in Venezuela revived, although 1959 output fell just short of the record attained in 1957. An appreciable expansion in the output of petroleum was recorded in the minor producer countries as well. In Argentina, the increase was partly a result of the petroleum policy introduced in 1958, which extended contracts for prospecting and extraction to private companies. The output of iron ore and non-ferrous metals, stimulated in part by rising levels of economic activity in Western Europe and North America, expanded considerably in Brazil, Chile and Venezuela.

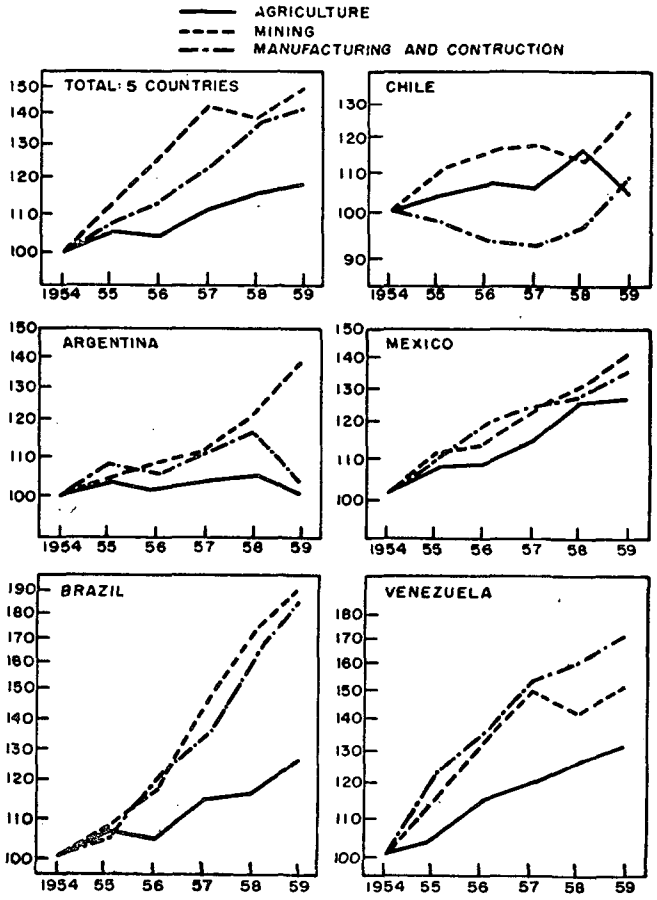
The relatively high rate of growth of industrial output in 1959 was common to four of the countries appearing in figure III, and, to judge from available evidence, was characteristic of a number of other Latin American countries as well, including Colombia and Cuba. In Argentina, however, partly because of a prolonged period of labour unrest in numerous industries, the volume of industrial output in 1959 contracted by almost 13 per cent. In general, increases in output were fairly widespread among the

FIGURE III

GROSS DOMESTIC PRODUCT BY SECTOR OF ORIGIN IN DOLLARS AT 1950 MARKET PRICES

(Index: 1954 = 100)

SEMI-LOGARITHMIC SCALE



SOURCE: ECLA estimates based on official national statistics.

various branches of manufacturing, notable gains being recorded in petroleum refining, steel, pulp and paper, metal transforming and, in Argentina, and Brazil, in motor vehicle production. On the other hand, the 1959 level of construction activity—one of the components of industrial output—fell below or matched that of 1958 in three of the countries under discussion. The exceptions were Chile, where a substantial increment in the volume of construction was recorded in 1959, and Mexico, where the increase was nearly 6 per cent.

One of the disturbing features of recent economic developments in Latin America is that the relatively slower pace of growth in output has coincided with an appreciable increase in economic activity in the industrial countries of Western Europe and North America. It is true that the upswing in the industrial countries has favourably influenced a number of traditional Latin American exports, but its general influence has been limited. The economic relationship between these two groups of countries has been analysed in a previous survey.[1] From that study, it appears that the root of the problem con-

[1] *Economic Survey of Latin America 1958*, Part I.

fronting the Latin American countries is not the periodic fluctuations in economic activity in the industrial countries but rather the chronic weakness of primary commodity markets. Events in 1959, which were characterized by a divergence in the rate of economic growth between the two group of countries, serve to bear out the conclusions reached in the 1958 *Survey*. These developments, which in the first instance affect the external trade and payments of the Latin American countries, are examined in some detail in the following section.

II. THE EXTERNAL SITUATION OF LATIN AMERICA: THE BALANCE OF PAYMENTS

1. The external market

Over-production and its aftermath—a drop in prices and an accumulation of surpluses—was the principal problem confronting the Latin American economies in 1959, and first few months of 1960, not so much because of the number of commodities affected (petroleum, coffee and sugar) as because these three alone supply more than 50 per cent of the total foreign exchange earned by Latin American exports. The recovery of economic activity in the big industrial centres and, in some of them, a fresh move to expand after the 1957-58 recession, undoubtedly led to a relative improvement in the external market for a certain number of products, particularly non-ferrous metals and textile fibres. But even in this case some adverse elements remained, such as the maintenance of quantitative restrictions on lead and zinc imports and the larger subsidies authorized in favour of cotton exports in the United States, both measures acting as a direct or indirect deterrent to Latin America's possibilities of expanding its exports in those branches.

One of the positive features in the over-all picture of primary commodity markets was the gradual and now almost complete abolition of the discriminatory controls imposed on imports from the dollar area by the Western European countries. But this movement towards full trade liberalization in the European countries was offset by the extension of the United States Trade Agreements Act which strengthened the escape clause authorizing the adoption of quantitative restrictions and/or a rise in customs tariffs whenever the imports of a specific product reached a volume sufficiently large as to endanger the stability of the corresponding domestic industry. Although the United States Government has so far made little use of this protectionist instrument,[2] there was a noticeable increase in the last two years in the number of requests addressed to the Tariff Commission for the application of similar restrictions to a variety of imports, ranging from certain kinds of meat to typewriters.

In order to enable a proper appreciation to be made of the circumstances in which Latin America's export trade was carried on in 1959, it is useful to give a brief account of the international market situation in respect of some of the region's major export items.

Because of the share represented by *petroleum* in the total value of Latin American exports (approximately 26 per cent of the total in 1956-57), over-production of this commodity posed very serious problems in 1959. The rapid expansion of output in the Middle East, although briefly interrupted by the Suez crisis, was the salient feature of the petroleum industry in the post-war years. Middle Eastern production in 1959 exceeded its figure for 1958 by 8 per cent.[3] Although it is believed in reliable sources that, the growth of production in the Middle East, in the next few years will be less than the yearly average of 11 per cent registered during the fifties,[4] the problem of how the markets are to absorb the extra quantity has been complicated by some recent events: the beginning of petroleum exploitation in North Africa and the rising rate of exports from the Soviet Union. Even in Latin America, the powerful impetus given to production in Argentina, Brazil and Chile means that a larger proportion of their requirements can be met locally and that less need be imported.

The pressure exercised by world surpluses led to a fall in prices. In February and April 1959, the different types of Venezuelan crude dropped in price and settled at about 7 or 8 per cent below their 1958 level (see table 2).[5]

Similarly, coffee market prices slumped as a result of the glut in production. The bumper harvests in Brazil raised exportable surpluses to unprecedented levels. World output for export increased from 34.6 million bags in 1956/57 to 51.4 million in 1958/59 and 65.2 million in 1959/60.[6] Although, from the end of 1957 onwards, Latin American producers applied a number of regulations to co-ordinate their exports in order to stave off a disastrous slump in prices, the surpluses were so large that prices moved down irresistibly. The annual average quoted for Brazilian Santos coffee on the New York market in 1958 was thus 15 per cent lower than in 1957 and it dropped by a further 23 per cent in 1959 in spite of the fact that, ever since the end of 1958, a system of withholding part of the exportable surplus was applied by all Latin American producers (see again table 2 and figure IV). A new International Agreement, which entered into force in October 1959, established a system of export quotas in which the Latin American countries were joined by some

[2] The two important cases in which it was applied were the fixing of import quotas for lead and zinc, at the end of 1958, and for petroleum and petroleum products at the beginning of 1959.

[3] The growth in world production, by main areas, in millions of tons was as follows:

	1950	*1958*	*1959*[a]	*Total percentage increment*	*Annual rate*
United States	266.7	330.1	346.5	29.9	3.0
Venezuela . .	80.0	138.6	147.0	83.8	7.0
Middle East .	88.7	214.7	231.3	160.0	11.2
Soviet Union .	37.9	112.9	129.0	240.4	14.6
World total .	522.9	908.0	977.0	86.8	7.2

Sources: United Nations, *Statistical Yearbook 1958;* and *Petroleum Press Service*, London, January 1960.
[a] Provisional figures.

[4] See *Petroleum Press Service*, *op. cit.*

[5] In mid-August 1960, the price of Middle Eastern crude fell again. Although up to the end of August it was not known whether the Venezuelan producers would follow suit, a publication specializing in petroleum considered that Venezuela would have either to readjust its prices or to grant larger discounts (on fixed prices) if its participation in the world market was not to be reduced. See *Petroleum Press Service*, London, September 1960.

[6] Estimates of exportable production for the respective trade years by the United States Department of Agriculture (see complete *Coffee Coverage*, G. Gordon Paton, New York, 1 April 1960).

Table 2

PRICES OF PRIMARY COMMODITIES ON THE INTERNATIONAL MARKET

Commodity	Monetary unit	1955	Indices: 1955 = 100							
					1959				1960	
			1958	1959	January-March	April-June	July-September	October-December	January-March	April-June
Bananas[a]	(Dollars per stem)	1.41	100.7	100.1	100.1	105.0	94.3	101.4	97.9	...
Sugar[b]	(Cents per pound)	5.00	108.2	107.0	102.6	105.4	110.6	109.7	101.0	104.2
Sugar[c]	(„ „ „)	3.24	108.0	91.7	96.9	88.9	87.7	93.2	92.9	93.2
Coffee[d]	(„ „ „)	57.10	84.8	64.8	68.9	64.6	62.7	62.9	64.4	64.9
Coffee[e]	(„ „ „)	64.60	81.0	70.0	71.2	69.5	70.0	69.2	70.6	69.2
Cacao[f]	(„ „ „)	36.20	119.6	97.8	99.7	102.8	97.2	91.2	77.3	72.1
Cotton[g]	(„ „ „)	37.10	86.5	76.5	76.3	76.3	75.2	78.2	78.2	78.4
Cotton[h]	(„ „ „)	35.40	77.1	70.9	...	72.6	69.8	...	73.2	73.7
Cotton[i]	(„ „ „)	49.70	84.1	73.8	68.4	71.0	75.3	80.5	95.2	...
Meat	(Pence per pound)	28.90	91.7	99.7	102.8	102.4	103.8	89.6	99.7	104.2
Wheat	(£ per long ton)	26.90	92.2	90.3	90.7	88.5	90.7	92.6	91.1	90.7
Maize	(„ „ „ „)	26.10	81.2	81.2	82.8	80.5	80.8	80.4	82.0	82.8
Quebracho	(Cents per pound)	11.70	84.6	84.0	84.6	84.0	83.8	83.8	83.8	83.8
Wool	(„ „ „)	82.00	80.5	91.5	74.4	92.7	102.4	95.9	98.8	101.2
Linseed oil	(„ „ „)	90.00	107.8	98.9	88.9	95.6	102.8	109.7	101.1	107.8
Copper	(£ per long ton)	352.00	56.0	67.6	67.6	66.8	64.8	70.7	73.6	72.2
Tin	(„ „ „ „)	740.00	99.3	106.1	104.1	106.1	107.2	107.2	106.8	106.6
Lead	(„ „ „ „)	106.00	68.9	67.0	67.0	66.0	67.0	67.9	70.8	71.7
Zinc	(„ „ „ „)	91.00	72.5	90.1	82.4	83.5	92.3	103.3	100.0	101.0
Nitrate	(Dollars per short ton)	51.20	97.3	91.2	88.3	88.9	93.8	93.8	93.8	93.8
Petroleum	(Dollars per barrel)	2.87	106.3	99.0	103.1	97.6	97.6	97.6	97.6	97.6
General index[j]			92.5	84.7	86.4	84.1	84.1	84.3	85.0	85.0
Index, excluding petroleum			86.2	78.3	78.9	78.0	78.0	78.3	78.0	78.0

SOURCES: The indices were calculated on the basis of the price series published by the United Nations, *Monthly Statistical Bulletin*, and the International Monetary Fund, *International Financial Statistics*. The weighting for the general index and the figures for previous years may be seen in the bi-annual issues of the ECLA *Economic Bulletin for Latin America*.

[a] Unit value of United States imports.
[b] *fob* price Cuban port, centrifugal sugar, unrefined, 96%, for export to United States.
[c] *fob* price Cuban port, centrifugal sugar, unrefined, 96%, for export to the free market.
[d] Domestic/import price, ex-dock at New York, immediate delivery, Santos No. 4 in bulk.
[e] Domestic/import price, ex-dock at New York, immediate delivery, Manizales type, in bulk.
[f] Domestic/import price, ex-warehouse at New York, immediate delivery, Bahia cacao.
[g] Domestic/import price, *cif* Liverpool, United Kingdom, immediate delivery, Mexican Matamoros cotton SM 1-1/32".
[h] Domestic/import price, *cif* Liverpool, United Kingdom, immediate delivery, São Paulo (Brazil), type 5.
[i] Domestic/import price, *cif* Liverpool, United Kingdom, Weekly quotations, for shipments during the next three months, Peruvian cotton Pima No. 1.
[j] Indices: base 1955 = 100.
Meat: Domestic/import price, *cif* London, Argentine beef, frozen hind quarters.
Wheat: Domestic/import price, *cif* United Kingdom, Argentine wheat from up-river, sales outside the International Agreement.
Maize: Import price, *cif* London, La Plata maize.
Quebracho: United States, ex-dock at New York, duties extra.
Wool: United States, import price at Boston, clean wool, Buenos Aires 5/6's (40-36's).
Linseed oil: United Kingdom and Continent of Europe, *cif* import price. European ports, in bulk, Argentine and Uruguayan.
Copper: United Kingdom, domestic/import price, standard electrolytic copper.
Tin: United Kingdom, domestic/import price, standard tin.
Lead: United Kingdom, domestic/import price, ex-warehouse London, 99.97 per cent fine.
Zinc: United Kingdom, domestic/import price, ex-warehouse London, 98.75 per cent fine.
Nitrate: United States, crude Chilean nitrate, *fob* price, loaded on trucks at port warehouses.
Crude petroleum: Venezuela, *fob* export price, Puerto La Cruz-Office, API gravity 35.0 — 35.9.

of the African producers, thereby ensuring a better balance between world supply and demand. In any event, and partly as a result of the drop in prices, there was a marked upsurge of demand in importer countries during 1959. Total world imports reached 41.5 million bags, as against an annual maximum of 37 million in 1956-58. The United States took the major share of the increment, but the upward trend could also be perceived in most European countries.[7]

The problems of the international *sugar* market presented a different picture. World output in 1958/59 increased approximately 10 per cent as compared with the previous year, but the most important point is that the increment did not take place in the export areas only but also in those which depend on imports to a greater or lesser extent, mainly Western Europe. The weakening of the sugar market was therefore confined to the free-market area, i.e. sugar trade outside the preferential areas of the United Kingdom and United States. Prices on the free market fell with increasing rapidity during the first half of 1959 and by mid-July were lower than at any time in the last 18 years.[8] They revived somewhat in the next few months, but were unable to reach even the level specified in the International Sugar Agreement far less that prevailing at the beginning of the year, despite the fact that the Council administering the International Agreement applied the maximum restrictions on exports.[9] In the other market sector—the United States preferential area—the decline in prices was relatively moderate in 1959, but was accentuated in the early months of 1960, particularly in relation to the levels prevailing in the second half of 1959 (see again table 2 and figure IV). Moreover, the fact that Cuban exports to the United States were smaller in 1959 than in 1958, simply indicated that other suppliers (Hawaii and Puerto Rico) had regained their position after the contraction that their production underwent in 1958.[10]

In 1959, Latin America's principal problems as regards its export trade were centred round the three commodities under discussion—petroleum, coffee and sugar. In the case of the other commodities the trends were mixed. After losses sustained in 1958, *wool* prices recovered somewhat owing to the resurgence of demand and of activity in the textile industry (see figure V). An estimate of world wool consumption in 1959 indicates that it was 12 per cent higher than in 1958. This revival of demand enabled the exportable surpluses, which had piled up in Argentina and Uruguay by the end of 1958, to be sold in the course of 1959, although certain incentives—principally a more favourable exchange treatment—agreed upon by the producer countries were a contributory factor.

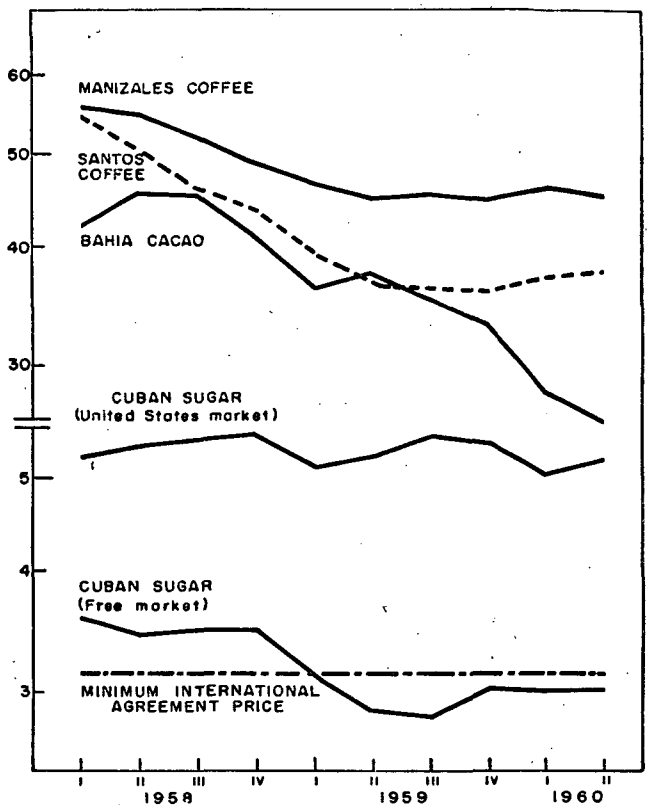
In contrast to the recovery in the price and volume of wool exports, a further decline took place in *cotton* prices in 1959 (see again figure V), largely as a result of the 25-per-cent increment in total output and the larger sub-

FIGURE IV

COFFEE, CACAO AND SUGAR PRICES

(Cents per pound)

SEMI-LOGARITHMIC SCALE



SOURCE: Table 2

[7] From the standpoint of world exports, the increment registered in 1959 over the 1958 figure was 15.8 per cent, while the corresponding rise in Latin America was 18.6 per cent. According to *Complete Coffee Coverage* (op. cit.), of 31 March 1960, the figures for 1957-59 were as follows in millions of bags:

	1957	*1958*	*1959*
World exports	36.6	36.8	42.6
of which:			
Latin America	26.2	26.4	31.3

SOURCE: *Complete Coffee Coverage*, G. Gordon Paton, New York, 31 March 1960.

[8] On 16 July 1959, free-market sugar prices reached 2.62 cents per pound (f.o.b. Cuba), the lowest price since 29 November 1941. The minimum fixed by the International Sugar Agreement is 3.15 cents per pound (f.o.b. Cuba).

[9] Partly owing to these restrictions, total sugar exports from Cuba and other countries in 1959 were less than in 1958, in contrast to the situation in the external market for coffee, in which the drop in prices was to some extent offset by the expansion in the volume exported.

[10] Cuba's sugar exports to the United States market are not covered by the provisions of the International Agreement. The decline in the price they commanded on that market therefore reflects the contraction in other areas' import requirements. The following figures (taken from the *New York Coffee and Sugar Exchange*, December 1959) show the initial quotas fixed for imports from Cuba, and the actual volume of those imports in the last two years:

United States sugar imports
(Thousands of tons)

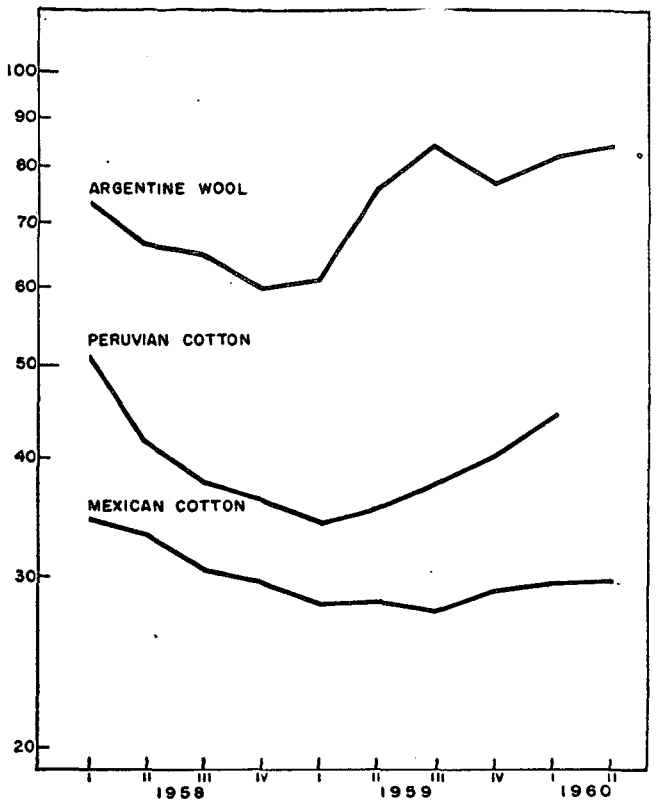
	1958		*1959*	
	Initial quota	*Actual imports*	*Initial quota*	*Actual imports*
Hawaii	967	635	1 011	887
Puerto Rico	1 011	739	1 058	880
Philippines	889	889	889	889
Cuba	2 669	3 119	2 777	2 917

FIGURE V

COTTON AND WOOL PRICES

(Cents per pound)

SEMI-LOGARITHMIC SCALE



SOURCE: Table 2

sidies authorized in favour of cotton exports in the United States.[11] This price deterioration affected not only short- and medium-staple but also extra-long-staple cotton[12] in which the United States is not a serious competitor. Nevertheless, the market for extra-long-staple cotton (mainly important for Peru) showed signs of recovering in the second half of 1959; this did not, however, prevent the annual average price from falling 12 per cent lower than in 1958. With this decline the prices for extra-long-staple cotton sank to the nadir of the entire post-war period and at certain times even the premium for quality, which normally distinguishes this type of cotton from the short-staple type, disappeared. In the first few months of 1960 the recovery of prices for this type of cotton was consolidated, while prices for short-and medium-staple cotton remained at the same levels as in 1959.

The *non-ferrous metals* group generally showed signs of a frank recovery in both price and volume. Lead was the only one among the four staple non-ferrous metals exported by Latin America (tin, copper, lead and zinc), whose prices, in 1959, showed a further although small decline in striking contrast to the increments recorded for the other three (see again table 2).

The most important change took place in the case of *tin*, the price of which followed a steady upward trend, settling after the first half of 1959 at a higher level than the floor price established by the International Agreement for this commodity (see figure VI). The expansion of world consumption, together with the price recovery, paved the way for a slight relaxation of the export restrictions which the signatories of the Agreement had applied in 1958. Hence, the export quotas, which were fixed at 20,300 tons in the first quarter of 1959, were successively raised to 30,500 tons in the last quarter, and to 38,000 tons by mid-1960. This improvement in the market originated, as has just been stated, in the expansion of world consumption,[13] but a contributory factor was the agreement signed early in the year between the International Tin Council and the Soviet Union to limit USSR exports to markets outside the group of countries with centrally-planned economies to approximately 13 500 tons a year.[14] The activation of demand in consumer countries was reflected not only in better prices and less stringent export restrictions but also in a substantial reduction of the large reserves which the Buffer Stock, set up by the International Agreement,[15] had accumulated.

The recovery of *copper* prices, which, in 1958, had sunk to the lowest level recorded in recent years, was attributable in the main to two factors: heavier world consumption and smaller output in the United States which was obliged to import a much larger volume than in 1958. Taken as a whole, world production of refined copper in 1959 was slightly larger than in 1958, but even so failed to regain the levels of 1956 and 1957. Similarly, while total inventories of refined copper were bigger in 1959 than at the end of 1958, world inventories were substantially smaller at the end of 1959 than in 1956 and 1957 when the market was in the midst of a depression.[16] In short, the international copper market was in a much more stable position in 1959 than in the two preceding years, although its buoyancy was largely a result of the decline of United States output following prolonged strikes.

[11] In the trade year August 1958-July 1959, the United States subsidized its cotton exports to the extent of 6.5 cents per pound, subsequently raised to 8.0 cents per pound for exports in the trade year 1959/60. In the 1960/61 trade year, the subsidy was reduced to 6 cents per pound.

[12] In relation to certain technical advances which reduce the use of this type of staple in cotton textile manufacture.

[13] World consumption, in the first half of 1958, was estimated at some 68 000 tons and, in the first half of 1959, at about 80 000 tons, according to the *Statistical Bulletin* of the International Tin Council.

[14] In 1958, they had exceeded 18 000 tons.

[15] The inventories amassed by the Buffer Stock amounted to more than 25 000 tons in September 1958, and, in order to enable it to continue intervening in the market, the States members of the Agreement had to be asked to set up an additional fund for the purchase of a further 5 000 tons. Because of the recovery of the market from the end of 1958 onwards, the supplementary reserve of 5 000 tons was sold in the first two months of 1959 and part of the main reserve was put on the market in the following months. By the end of 1959, the Buffer Stock's reserves had already shrunk to 10 200 tons, less than half their total at the beginning of the year.

[16] According to a press release of 18 March 1960, issued by the New York Copper Institute, production and inventories of refined copper in the last two years were as follows in thousands of tons:

	Production		*Percentage variation*	*Inventories*		*Percentage variation*
	1958	*1959*		*1958*	*1959*	
Other Countries .	1 312	1 109	—15.5	73	59	—19.2
United States . .	1 238	1 547	24.9	165	207	25.4
	2 550	2 655	4.1	238	266	11.8

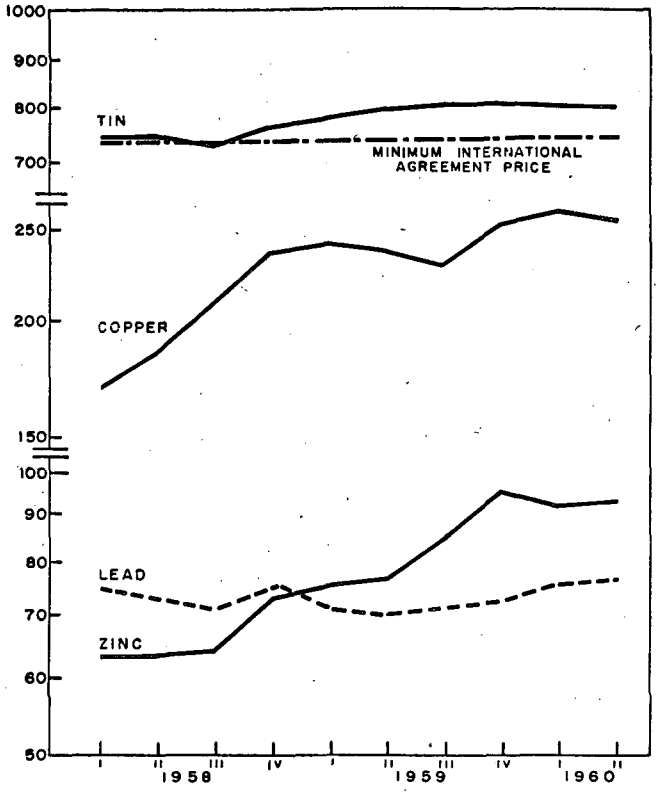
[17] Excluding the production of China (mainland) and the USSR.

FIGURE VI

COPPER, TIN, LEAD AND ZINC PRICES

(Pounds per long ton)

SEMI-LOGARITHMIC SCALE

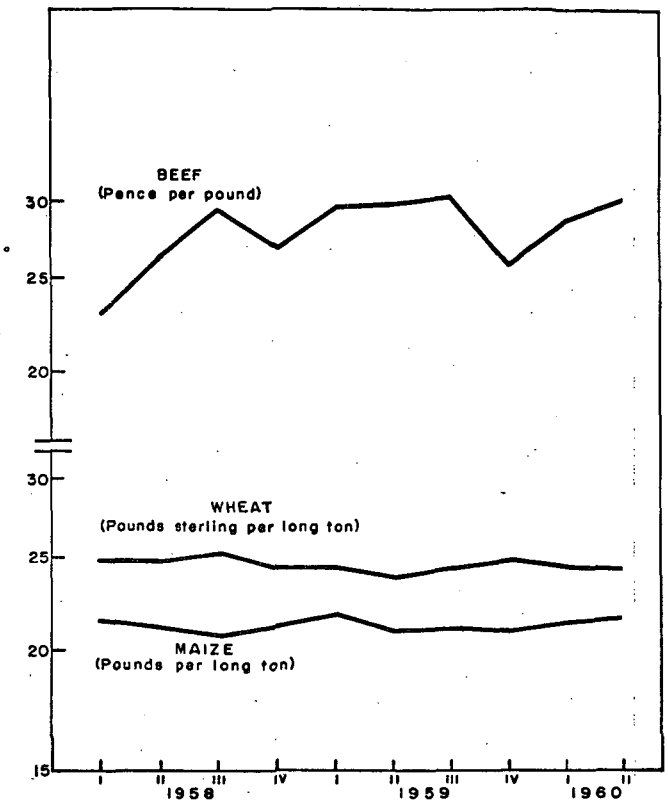


SOURCE: Table 2

FIGURE VII

WHEAT, MAIZE AND BEEF PRICES

(SEMI-LOGARITHMIC SCALE)



SOURCE: Table 2

Although it is customary to study the *lead* and *zinc* markets together because of the close relationship between the production and price of the two metals, their respective market trends followed widely divergent courses in 1959. While zinc prices moved steadily upwards, thereby partially making up for the losses sustained in 1958, lead prices dropped below their depressed levels of the preceding year. Both movements—the recovery of the zinc and deterioration of the lead market—reflected the opposing tendencies in the consumption of the two metals. At the beginning of 1959, during the third session of the United Nations Lead and Zinc Committee, the ratio of output to consumption was taken to indicate a probable surplus of 150 000 tons of lead and 120 000 tons of zinc in 1959, i.e. 8 and 5 per cent respectively of world production in 1958.[17] Early in the second half of 1959, estimates of lead and zinc surpluses had been reduced to 16 000 tons for the latter and 59 000 tons for the former. This reflected a revision of the monthly consumption figures in the case of zinc (while world production maintained a slightly higher level than that of the previous year) and, in the case of lead, a more moderate rise in consumption and a decrease in output.[18]

Developments in 1959 as regards Latin America's other exports may be summed up more concisely. *Cacao* prices fell 18 per cent below their 1958 level (see again figure IV), primarily because of the revival of African production, the decline in which had led to the price rises recorded in the 1957/58 farm year. The decline in prices became more marked in the first half of 1960, when preliminary estimates could be made of world production in the 1960/61 farm year, which is substantially higher than in the previous year. This means that, in 1960, cacao prices will revert to the low levels prevailing in 1956.

Meat prices rose again, as a result of vigorous demand on the world market and the rather critical situation of Latin America's exportable surpluses, especially in Argentina (see figure VII). The United States placed a ban on imports of certain meats from Latin America from May 1959 onwards and in December the United Kingdom applied some administrative restrictions, both measures being intended, according to statements made by the respective authorities, to prevent the possible spread of foot-

[18] World lead and zinc output in 1959, compared with that in 1958, was as follows (in thousands of tons):

		1958	*1959*
Zinc:	January-March	606	603
	April-June	595	625
	July-September	573	600
	October-December	595	597
Lead:	January-March	488	472
	April-June	484	477
	July-September	438	405
	October-December	491	426

SOURCE: United Nations, *Monthly Bulletin of Statistics.*

and-mouth disease. But the action taken by the United States did not cut down purchases from Latin America; it led instead to a change in the kinds of meat imported.

No important events occurred in the *grain* market. The prices of *wheat* and *maize* fluctuated very slightly, remaining at virtually the same levels as in 1958, while the volume of exports surpassed the previous year's figure (see again figure VII). The reincorporation of the United Kingdom into the International Wheat Agreement, which was renewed in August 1959, and the inclusion in the new Agreement of certain provisions as a safeguard against the possibility of non-member countries' expanding their exports to the detriment of member countries' trade, offered some assurance that the minimum price level specified would at least be upheld. The provisions in question are primarily intended to ensure that sales of wheat by the Soviet Union, whose exports have increased in recent years, do not weaken the wheat market in the same way as happened in the tin market in 1958.[19]

An over-all assessment of international price fluctuations, as given in table 2, reveals that the decline affected more than half Latin America's staple exports and—what is even more important—was particularly marked in the case of commodities which were the major sources of foreign exchange earnings for specific countries such as those that mainly depend on their sales of coffee, sugar, cotton and petroleum. On the other hand, as will be seen later, the decline of 8.5 per cent in the general price index for the export commodities of Latin America as a whole was partly offset by an expansion in the volume exported, above all in the case of coffee, cotton, petroleum and other items of minor importance, although, from another point of view, the deterioration in the terms of trade which has existed in recent years is becoming more serious.

[19] See p. 7 above and footnote 14.

2. Exports, imports and the trade balance

The aggregate value of Latin American exports in 1959 declined 2 per cent in respect to the 1958 figure. External market developments, as indicated in the preceding section, had a distinctly unfavourable impact on the prices of a number of staple exports; nevertheless a recrudescence of external demand for some of these commodities helped to a certain extent to counterbalance the effect of the drop in prices through an increase in the volume of sales. This generalization is, of course, more applicable to the coun-

Table 3

LATIN AMERICA: EXPORTS, IMPORTS AND TRADE BALANCE

(Millions of dollars)

Main exporters of	*Exports*		*Imports*		*Trade balance*	
	1958	*1959*[a]	*1958*	*1959*[a]	*1958*	*1959*[a]
Coffee						
Brazil	1 244.0	1 282.0	1 325.0	1 348.0	— 81.0	— 66.0
Colombia	539.1	548.6	430.5	445.0	108.6	103.6
Costa Rica	93.1	80.0	98.7	103.0	— 5.6	— 23.0
El Salvador	118.0	111.8	108.3	99.6	9.7	12.2
Guatemala	107.2	108.0	155.9	134.0	— 48.7	— 26.0
Haiti	42.1	23.9	44.2	31.4	— 2.1	— 7.5
Nicaragua	70.4	75.0	85.2	71.1	— 14.8	3.9
Sugar						
Cuba	763.2	638.0	888.0	736.0	— 124.8	— 98.0
Dominican Republic	134.7	130.1	147.1	135.0	— 12.7	— 4.9
Bananas						
Ecuador	137.6	143.4	122.2	113.2	15.4	30.2
Honduras	71.4	72.0	76.5	71.0	— 5.1	1.0
Panama[b]	74.4	76.0	137.8	140.0	— 63.4	— 64.0
Wheat and agricultural commodities						
Argentina	993.9	1 000.6	1 232.6	983.6	— 238.7	17.0
Uruguay	138.6	97.8	151.3	159.7	— 12.7	— 61.9
Non-ferrous metals						
Bolivia	53.5	61.5	87.1	73.4	— 33.6	— 11.9
Chile	364.4	485.0	427.1	435.0	— 62.7	50.0
Miscellaneous commodities						
Mexico	751.7	752.7	1 128.6	1 006.6	— 376.9	— 253.9
Paraguay	34.2	36.7	46.3	38.6	— 12.1	— 1.9
Peru	291.8	311.8	387.6	330.0	— 95.8	— 18.2
Total: 19 countries	6 023.3	6 034.9	7 080.0	6 454.2	—1 056.7	— 419.3
Venezuela	2 510.3	2 314.5	1 744.2	1 667.0	766.1	647.5
Grand total	8 533.6	8 349.4	8 824.2	8 121.2	— 290.6	228.2

SOURCES: International Monetary Fund, *Balance of Payments Yearbook*, Vols. 11 and 12, and *International Financial Statistics*.

[a] Provisional figures.

[b] Including the Free Zone of Colón.

NOTE: The figures given here differ in some cases from those in customs registers of foreign trade in that they include the readjustments made in balance-of-payment statistics.

tries which supply the bulk of Latin American coffee and petroleum exports, i.e., Brazil, Colombia and Venezuela. In other cases, the fluctuation in prices and volume exported had a cumulative effect on a few countries foreign exchange earnings. As regards sugar, for example, the two factors combined to lessen the value of exports from Cuba and the Dominican Republic, while the rise in the prices of tin and copper and the larger volume exported were jointly responsible for the increase in the total value of these exports from Bolivia and Chile respectively. It should also be noted that in the two countries—Haiti and Uruguay—where the fall in the value of exports was steepest, the primary causes were adverse weather conditions, and were reflected in a drastic contraction of exportable surpluses.

Although the decline in Latin America's foreign exchange earnings was fairly moderate, most of the Latin American countries were obliged to cut down the value of their imports, owing to the magnitude of the deficit in their trade balance for 1958 and to the shrinkage in the international holdings of many of those countries in 1959. As pointed out in table 3, the total value of Latin American imports in 1959 fell about 8 per cent below its 1958 level, involving 14 out of the 20 countries in the region.

Following the reduction in purchases abroad effected by most of the Latin American countries in 1959 there was a substantial lessening of the deficit in the trade balance of Latin America as a whole, excluding Venezuela (see again table 3). If Venezuela is included, the trade balance picture changes: in contrast to the deficit of 290 million dollars in 1958 the balance became positive in 1959 to the tune of some 230 million. But, as is common knowledge, the large surplus in Venezuela's trade balance was offset by a big deficit in the services account of the balance of payments.

Consideration will now be given to each country in turn, in order to show the characteristics of its trade situation in 1959.[20]

Brazil succeeded in raising the total value of its exports by 3 per cent, despite falling prices for the commodities (coffee, cacao, sugar and cotton) which made up more than two-thirds of that total. The improvement was primarily due to the remarkable recovery in the volume of coffee sales abroad, which rose from 12.9 million bags in 1958 to 17.4 million in 1959, the highest peak reached since 1949. Cotton exports also underwent a substantial expansion in volume (from 40 000 tons in 1958 to 80 000 tons in 1959), although their level is still low in comparison with those reached in 1953-56. The effect of the fall in external market prices for these two commodities was offset by the increment in the volume of sales, but cacao and sugar exports fared differently and dropped in volume as well as in price.

The decline in external prices for Brazil's staple exports led the Government to make successive devaluations in the official exchange rate of the cruzeiro and to authorize the sale on the free market of foreign exchange earned by a number of exports. The exchange rate applied to coffee exports, fixed at 37.06 cruzeiros per dollar in October 1958, was raised to 60 cruzeiros in January and 76 cruzeiros from 1 July 1959. Other products, which at the end of 1958, were quoted at 70 cruzeiros to the dollar, were revalued at the rate of 100 cruzeiros per dollar, while a third group, including sugar and cotton, was transferred to the free-exchange market, payment for them in terms of local currency thereby increasing from an average of 138 cruzeiros per dollar in the last quarter of 1958 to an average of 190 cruzeiros in the last quarter of 1959. Almost at the end of the year, a new change in the exchange system extended the free-market rate to all exports[21] with the exception of coffee and cacao, for which the fixed rates of 76 and 100 cruzeiros per dollar respectively were retained.

As regards imports, Brazil was one of the few countries in which a modest increment was registered, although there had been no relaxation or liberalization of the import regulations in force. On the contrary, at the beginning of the year, the rate of exchange for preferential imports (wheat, petroleum and petroleum derivatives, Government imports, etc.) was raised from 80 to 100 cruzeiros per dollar, while the average quotation at auctions of foreign exchange for imports in the general category passed from an average of 119 cruzeiros per dollar at the end of 1958 to one of 208 cruzeiros at the end of 1959. Moreover, since the beginning of the year, it was stipulated that payment of freight and insurance for imports would be transacted through the free-exchange market, which was, in practice, a way of raising import costs even higher, since dollar quotations on that market moved steadily upwards during 1959. The effect of the devaluation of the cruzeiro in the exchange market on import costs may be appreciated from their price index (in unit values in terms of cruzeiros). This registered an increment of 47.6 per cent over the 1958 figure, while the price index in dollars showed a drop of 22 per cent in comparison with the previous year.[22] The expansion of imports was mainly reflected in the machinery and motor vehicle groups and in that of foodstuffs. As regards the latter, an increment of 20 per cent was registered in wheat purchases. In the fuels and lubricants group, which in the last few years has absorbed a growing proportion of the country's exchange resources, a small decline was observed, as a result of the lower prices for these commodities on the world market and of a qualitative change in their composition when purchases of refined products were cut in favour of more crude, the unit value of which is lower than of refined products.[23]

In 1959 Brazil's trade balance, which had shown a deficit of 81 million dollars in 1958, was again negative, this time to the extent of 66 million dollars. The magnitude of these debit balances and the increasing accumulation of coffee surpluses (despite the expansion in coffee exports) led the Government to make a determined effort to broaden external markets, especially those for coffee. A trade agreement was signed with the Soviet Union at the end of 1959 which provided for the expansion of trade between the two countries during the three years 1960-

[20] The countries have been listed in accordance with the system adopted in table 3, instead of alphabetically as is the normal practice.

[21] The system operates in the following way: exporters receive 130 cruzeiros per dollar in cash and promissory notes from the *Banco do Brasil* (falling due in 6 months and bearing an annual rate of interest of 6 per cent) in respect of the difference between that sum and the free-market quotation. Dollar quotations on this market during the last quarter of 1959 fluctuated between 180 and 200 cruzeiros.

[22] According to data published in *Desenvolvimento e Conjuntura*, Río de Janeiro, February 1960.

[23] National production of crude was 27 per cent more in 1959 than in 1958. For technical reasons, however, not all the crude produced in the country could be processed in Brazilian refineries and therefore had to be sold abroad. The value of such exports rose to 24.0 and 28.9 million dollars in 1958 and 1959 respectively.

1962 up to a total amount of 25, 35, and 44 million dollars on either side, in each of the years covered. Under the terms of that agreement, Brazil hopes to step up its coffee sales to the Soviet Union to a total of 450 000 bags in 1960 and to more than a million in 1962. In addition to coffee, Brazilian exports will include cacao, hides and skins and vegetable oils, while its imports from the Soviet Union will consist chiefly of crude, petroleum derivatives and equipment for the petroleum industry.[24]

Colombia's total exports in 1959 showed a small increase of about 2 per cent in comparison with their level in 1958. Although the two staple exports—coffee and petroleum—commanded lower prices on the external market than in the previous year, in both cases the volume exported showed a substantial increment, thereby adequately offsetting the fall in prices. Between 1958 and 1959, coffee exports rose from 5.4 to 6.4 million bags, while crude petroleum sales climbed from 3.4 to 4.0 million tons. Among minor export commodities, bananas and raw tobacco may likewise be mentioned as showing increases.

Imports went up 3 per cent in 1959 over their total in 1958, although in May 1959 a new customs tariff entered into force and in July prior deposits for imports were increased from 100 to 130 per cent. The new tariff raised *ad-valorem* duties on imports all round, although in actual fact part of the increment represented the incorporation into the tariff of taxes which had hitherto been made on the transfer of funds abroad. One of the innovations in the tariff was the reduction of elimination of import charges on agricultural machinery, fertilizers and insecticides.

Colombia's trade balance revealed a surplus of 104 million dollars in 1959, as compared with one of 109 million in the previous year. In the last two years, much of the surplus—obtained by the application of strict controls on imports—has been used to amortize trade debts accumulated in 1955-57. Another portion, however, was earmarked, as is customary, for payments against the services account which traditionally shows a debit balance.

Costa Rica recorded a contraction of 14 per cent in the value of its exports in 1959, chiefly owing to the drop in coffee prices plus a decrease of almost 10 per cent in the volume exported. Cacao, another of the country's export staples, which also underwent a drop in its external price in 1959, was exported in larger quantities than in 1958, which compensated for the fall in prices. Both the volume and value of banana exports were reduced as a result of the losses caused by hurricanes.

Despite the contraction in export earnings, imports expanded approximately 4 per cent in 1959 in relation to 1958. In consequence, the trade deficit, which had been 5.6 million dollars in 1958 rose to 23.0 million in 1959. Nonetheless, no new restrictions were placed on imports, and the system of multiple exchange rates which had been in force since the middle of 1958 was maintained intact.

El Salvador exported 5 per cent less in 1959 than in 1958, owing to the fall in coffee prices. The volume of coffee sales abroad was slightly bigger than in the preceding year, but the increase did not suffice to offset the decline in prices. In the case of cotton, which has been sold abroad in increasingly larger quantities in recent years, a further increment was recorded in 1959, thereby helping, despite the fact that its price also dropped, to soften the impact of lower coffee prices.

Total imports declined more than exports: 8 per cent between 1958 and 1959. The trade balance, which had registered a surplus of aproximately 10 million dollars in 1958, showed a credit of 12 million dollars in 1959.

In 1959, *Guatemala* raised the total value of its exports by almost 1 per cent. The drop in coffee prices was offset by an increase in the volume of coffee sales. Both the volume and the value of banana exports represented an improvement on the preceding year's figures, whereas the reverse was true of cotton. Heavier customs duties on a certain number of items and the levying of additional charges of up to 100 per cent on imports from countries with which Guatemala's trade balance had been negative in 1958, helped to discourage imports in 1959, which, as a result, were 14 per cent less than in 1958. The measures indicated were effective in reducing the deficit in the 1959 trade balance to 26 million dollars. The deficit had amounted to 49 million dollars in 1958.

Haiti's total exports in 1959 were greatly affected by a severe drought which reduced exportable surpluses of coffee and sugar. Their total value was 43 per cent less than in 1958, not only because of the drop in external coffee and sugar prices but also as a result of a contraction of 34 per cent in the volume of coffee sales abroad and another of almost 50 per cent in the volume of sugar exports, which had already declined substantially in 1958. In contrast to the critical situation of Haitian agriculture, bauxite production took a more active turn towards the end of 1959 as a result of an agreement with a United States enterprise to expand bauxite mining. The shrinkage in foreign exchange holdings was reflected in a 29-per-cent cut in total imports, yet Haiti's trade balance in 1959 showed a deficit of about 7 million dollars, as against only 2 million the year before.

Although coffee continued to account for a significant proportion of *Nicaragua's* foreign exchange earnings, lower external prices and a smaller volume of sales relegated it to second place among the country's exports. In 1959 the value of coffee sales abroad decreased considerably, for the reasons mentioned; the volume of cotton exports, on the other hand, maintained the rising trend shown in previous years. To this increase in the volume of sales of cotton and other secondary commodities must be attributed the 6-per-cent increment in the total value of exports in 1959, in relation to the 1958 figure. Total imports, on the other hand, shrank by 10 per cent in 1959, principally because of the rise of 5 to 20 per cent in duties on some 600 imported items. The trade balance, which had been 15 million dollars on the debit side in 1958, showed a surplus of 4 million in 1959.

The total value of *Cuba's* exports diminished 16 per cent owing to the joint effect of lower external prices and a smaller volume of sugar sales. As indicated in the first section of this chapter, the drop in sugar prices was particularly heavy in the free-market area (15 per cent); similarly, the volume of exports to that market decreased 16 per cent. Although the volume of sales to the United States preferential market contracted by 10 per cent, the price of sugar commanded was hardly 1 per cent lower. The volume of total sugar exports in 1959 was 12 per cent less than in 1958. As sugar production in that year

[24] According to export statistics, no coffee was shipped from Brazil to the Soviet Union in 1958 whereas 69 000 bags were sent in 1959. Nevertheless, Brazil's aggregate coffee exports to the Soviet Union, Poland, Czechoslovakia, Hungary and Eastern Germany increased from 150 000 bags in 1958 to 504 000 in 1959, according to figures published in the *Boletim Mensual de Estatistica* of Brazil, March 1960.

was greater than in 1958, by the end of 1959 total inventories had risen more than 100 per cent in respect to their level at the end of 1958.[25] The slump on the world sugar market and the consequent contraction of export income led the Government to apply some exchange controls in order to ensure that foreign exchange earned by exports returned to the country. Apart from stopping the flight of capital, these measures were designed to maintain parity between the Cuban peso and the dollar.

The contraction in income from exports and from the tourist industry made it necessary to apply import restrictions. Goods were divided into five schedules, exchange charges ranging from 30 to 100 per cent being levied on the c.i.f. value for the different groups. This was effective in reducing imports 17 per cent below their 1958 level, thus holding the trade deficit to 98 million dollars, as compared with 125 million in the previous year. International reserves nevertheless declined by a relatively large proportion in 1959, reaching by the end of the year their lowest level since 1950.

The exports of the *Dominican Republic* shrank aproximately 3 per cent in 1959 in relation to their 1958 level, as a result of lower prices for sugar, coffee and cacao on the external market. In addition, a small contraction took place in the volume of coffee and cacao exports, mainly because of smaller output. The resultant decrease in income was partly offset by the emergence of a new export commodity—bauxite—of which the sales volume in 1959 amounted to about 500 000 tons, with a value of 5 million dollars. Export earnings from tropical fruits also increased. Again, total imports underwent an 8-per-cent contraction, partly because certain import restrictions were imposed, and partly owing to the weakening of the country's economic activity. The measures which the Government took to control imports comprised the complete suspension of sales to the Republic's free zone, the increase in customs duties on some commodities and the obligation to obtain a licence prior to importing, in the case of others. By these means, it succeeded in considerably reducing the trade deficit, which dropped from 13 million dollars in 1958 to scarcely 5 million in 1959.

Ecuador experienced a 4-per-cent increment in the total value of its exports, chiefly owing to a larger volume of banana and cacao sales. The increase in the amount of cacao exported (26 per cent) fully compensated for the drop in the world market price. By contrast, coffee exports were affected both by the fall in external prices and by a contracting volume of sales following a decline in production. Total imports fell off approximately 7 per cent, although this was not due to the intensification of the restrictions in force. On the contrary, at the end of August 1959, the goods included on Schedule II (non-essential or luxury), for which prior deposits had been required amounting to 100, 75 and 50 per cent of the value of the respective articles, continued to be subject to a standard prior deposit of 50 per cent, whereas the 25-per-cent deposit needed for certain goods on the same schedule was abolished. A prior deposit is not necessary for the articles on Schedule I (essential or semi-essential), covering approximately three-quarters of all imports. Another measure adopted was the abolition of customs duties which had been levied since 1956 on imports from Japan, with which country Ecuador had a trade deficit.

Ecuador's trade balance showed a surplus of 30 million dollars in 1959. (In 1958 it also had a credit balance, of 15 million dollars.)

In *Honduras*, the total value of exports showed a small increment of about 1 per cent. The volume of banana exports contracted by aproximately 10 per cent, but those of coffee and timber, on the other hand, increased by 35 per cent. Imports, on the contrary, shrank by 7 per cent without the application of any special import restrictions. Owing to this decrease, the country's trade balance, which had shown a deficit of 5 million dollars in 1958, registered a surplus of 1 million dollars in 1959.

Panama exported rather more bananas and cacao in 1959 than in 1958. In the aggregate, this expansion amounted to 2 per cent, while total imports also showed an approximately equivalent increase. This country's trade balance traditionally displays a heavy deficit (about 64 million dollars in each of the years 1958 and 1959), but this is offset by the surplus normally achieved in the tourist industry account and the income deriving from the Canal Zone.

At the beginning of 1959, *Argentina* introduced a radical exchange reform which replaced the system of multiple exchange rates hitherto in force by a single variable rate. In order to absorb part of the additional income which would accrue to exporters as a result of the difference between the old official rates and the free-market rate, withholding percentages (duties) of 10, 15 and 20 per cent were applied to the principal export commodities. Towards the end of the year, some of these duties had been reduced or withdrawn. Another measure taken to encourage exports consisted in an authorization for the purchaser and seller to decide upon the period of payment between themselves.[26] Although the total value of exports showed a relatively trifling increase of a little less than 1 per cent, there were substantial changes in the volume of sales of certain commodities. Exports of meat and livestock products fell off appreciably, ostensibly because of the recently-established policy of replacing live stock. Grain exports—chiefly of wheat and maize—and wool sales were bigger in volume than in the previous year.

The exchange reform had a far-reaching effect on the import régime. Goods were classified according to various schedules, with percentage surcharges ranging from 20 to 300 per cent of the c.i.f. value. In addition, a prior deposit of from 50 to 300 per cent of the same value was required. Merchandise not included on the schedules was subject to a surcharge of 300 per cent and a prior deposit of 500 per cent. In the course of 1959, various modifications were made in both the contents of the schedules and the percentage surcharges and prior deposits, until, in November, it was decided to abolish all prior deposits as exchange charges were sufficiently high to prevent demand from constituting too heavy a drain on Argentina's foreign exchange holdings. Moreover, the amount of the prior de-

[25] According to the *Revista del Banco Nacional de Cuba*, and Institute for Sugar Stabilization *(Instituto de Estabilización del Azúcar)*, sugar production, exports and inventories in Cuba during the last three years were as follow in thousands of tons:

		Exports			*Inventories*
	Production	*To United States*	*Others*	*Total*	*at year's end*
1959 . . .	5 964	2 937	2 015	4 952	1 222
1957 . . .	5 670	2 884	2 531	5 415	588
1958 . . .	5 779	3 197	2 435	5 632	542

[26] It had been previously necessary to pay for exports within a maximum of 30 days from the date of shipment or to provide documentary credit at the time of dispatch.

posits and the time limit for returning them (6 months) had seriously jeopardized the liquidity of import trade, already affected by heavy credit restrictions. The severity of the restrictions adopted led to a substantial cut in imports, which were 20 per cent less in 1959 than in 1958. Those most involved in the reduction were iron and steel products, and machinery and vehicles. Fuel imports also dropped in 1959, although in their case the determining factor was the noteworthy increment in domestic petroleum production which increased Argentina's self-sufficiency in fuels.

Owing to the substantial contraction in imports, Argentina's trade balance was able to show a surplus of 17 million dollars, as against a deficit of 239 million in 1958.

For the third year in succession, *Uruguay* was faced with a grave crisis in its export trade. In 1957 and 1958, the difficulties derived mainly from exchange policy, which, by keeping the Uruguayan peso heavily overvalued, provoked the opposition of exporters and, in some cases, stopped the flow of goods to foreign markets. Although higher exchange rates for staple exports were authorized in 1959, export activity failed to revive. But the basic problem at that time was the sharp decrease in exportable surpluses as a result of the floods which took place at the beginning of 1959 and caused heavy losses in cattle and sheep and in the wheat, maize and sunflower crops. In the case of commodities such as wheat and oilseed, the losses were so large that no exportable surpluses were left. Wool exports, however, were increased through the sale of the fairly sizable inventories accumulated in the previous season. Moreover, the favourable turn taken by wool prices on the external market during the major part of the year was helped—in the case of Uruguayan exporters—by the abolition of the compensatory duty which the United States levied on imports of tops from Uruguay. Similarly at the beginning of 1959, a tariff concession was negotiated with the United States Government, by virtue of which the duties levied by that country on imports of meat extract and preserved meat were lowered. In spite of this measure, total exports in 1959 were 29 per cent less than in 1958, for the reasons already indicated, and reached their lowest level of the last 15 years.

The contraction of export earnings made it necessary to tighten restrictions on purchases from abroad. Although no important change was made in the exchange system until the end of 1959, higher surcharges were levied on two out of the three categories into which imports are classified as early as the beginning of the year. Nevertheless, total imports in 1959 exceeded the 1958 figure by almost 6 per cent, since stocks of imported goods had dropped to critical levels owing to the severe restrictions imposed on external purchases in the latter year. The trade balance deficit rose from 13 million dollars in 1958 to 62 million in 1959.

By the end of 1959, Congress had already completely reformed the exchange system. Official parity between the Uruguayan peso and the dollar was changed from 1.52 to 6.50 pesos, the provisions authorizing the fixing of official exchange rates were repealed, the purchase and sale of foreign currencies being governed in future by the free play of supply and demand, and, lastly, the Government was empowered to fix withholding percentages on exports ranging from 5 to 50 per cent and surcharges not exceeding 300 per cent on imports of luxury goods or products that would compete with domestic industry. In addition, the Government was empowered to place a total or partial ban, renewable for six-monthly periods, on imports of non-essential and luxury goods and/or articles that would compete with local industry. Finally, a certain number of goods considered to be essential were temporarily exempted from payment of customs duties and other charges. Such goods included machinery, tools and other articles required for agriculture.

As a result of the improved international tin market *Bolivia's* total exports in 1959 exceeded the previous year's figures by 15 per cent. The gradual rise in prices during the year reflected, on the one hand, heavier demand in the United States and the main European countries and, on the other hand, the fact that the Soviet Union's exports were kept to the levels provided for in the informal agreement between that country and the International Tin Council arrived at early in 1959.[27] As for the volume of exports of the States members of the International Tin Agreement, including Bolivia, the total authorized quotas for 1959 were not very much higher than the previous year's figures,[28] although Bolivia's actual exports amounted to slightly over 24 000 tons in 1959 because of a barter agreement involving the exchange of 5 000 tons of tin for United States surplus agricultural commodities.[29] Exports of other non-ferrous metals (lead, zinc and silver) were lower in 1959 than in 1958 because of a drop in the volume of exports for which a decrease in production was responsible. Similarly, crude petroleum production, which had risen sharply between 1954 and 1957, creating a new source of exports, dropped in the past two years because of the State enterprise's inability to expand its activities for lack of funds.

Total imports also declined by 16 per cent in 1959, although this cannot be attributed to changes in the exchange system applicable to imports. The trade balance, which had shown a deficit of 33 million dollars in 1958, was once again adverse, the deficit this time being 12 million dollars.

Chile completed the simplification of its exchange system January 1959 by unifying the rate applied to commercial transactions (visible trade) and to invisible transfers (tourist industry, services, etc.). The new single rate, fluctuating in principle, remained stable during 1959. The improved foreign market for Chilean copper no doubt contributed to this, in addition to the measures adopted to curb excessive foreign exchange demand. The total value of exports was 33 per cent higher than in 1958, and this reflected both an improvement in external copper prices and an expansion in export volume. Moreover, sales of copper manufactures, paper and iron ore also rose.

Total imports increased by about 2 per cent, as a result of the gradual liberalization during the year of the system of severe import restrictions. The ten schedules into which imported goods were classified, and which were subject to prior deposits ranging from 5 to 5 000 per cent of the c.i.f. value, were reduced to seven, and the maximum prior deposit to 3 500 per cent. Furthermore, some goods on the schedule of prohibited imports were transferred to the schedule of authorized imports even though

[27] See *Economic Survey of Latin America 1958*, op. cit., p. 34.

[28] The total of quarterly quotas authorized for Bolivia amounted to 19 080 tons in 1958 and 19 543 tons in 1959. See International Tin Council, *Statistical Bulletin*.

[29] The 5 000 tons of tin acquired by the United States were for the country's strategic reserves and therefore did not affect the export quota fixed by the International Tin Council.

they were subject to the maximum prior deposit percentage rate.

Chile's trade in 1959 showed a favourable balance of 50 million dollars, as against an adverse balance of some 63 million in 1958.

Mexico slightly increased the total value of its exports en 1959, despite the fact that unfavourable conditions affected some of its products on the external market. In fact, while copper and zinc prices rose, the prices of cotton and coffee, the two leading export items, fell steeply. Moreover, while the effect of the drop in cotton prices could be counteracted by an increase in export volume, this could not be done in the case of coffee exports, which declined in volume as a result of smaller output in 1958/59. The greater volume of cotton exports (19 per cent above the 1958 figure) was made possible by the use of relatively substantial reserves accumulated by the end of 1958 and by the cut in taxes authorized by the Government for cotton exports between July 1959 and May 1960. As a result of larger sales, cotton inventories shrank from 203 000 tons at the end of 1958 to 67 000 tons at the end of 1959.

The non-ferrous metal position improved in 1959, although prices and export volumes followed different patterns in the case of each metal. The rise in copper prices was partly offset by a drop in export volume, whereas both lead prices and sales volumes decreased. On the other hand, zinc prices and exports were higher than in 1958.

The expansion in exports of meat and beef cattle, stimulated by growing demand in the United States, has been substantial in recent years. The value of these exports rose from around 8 million dollars in 1956 to 53.5 million in 1958. This expansion was interrupted in 1959—and the value of exports fell to 48 million dollars—following the application of export restrictions as a means of curbing the rise in domestic meat prices.

Total imports in 1959 were 11 per cent lower than in 1958, partly as a result of the policy adopted by the Government to reduce pressure on international reserves and to promote domestic production, and partly because of expanded production of some staple foodstuffs, such as maize, which had to be imported in substantial quantities during the previous year. One of the measures designed to promote domestic production and to encourage import substitution was the establishment of the Public Sector Imports Committee (*Comité de Importaciones del Sector Público*) to authorize the purchase of foreign products by public bodies only if no domestic substitutes are available. This measure led to a cut in imports by public and State enterprises, which amounted to only 127 million dollars in 1959 compared with 220 million in 1958. The smaller imports of maize (45 million dollars) and of petroleum derivatives (11 million dollars) contributed to this reduction. In additon, both the State petroleum company and the national railways cut down on their imports of equipment and capital goods. It should be pointed out, however, that the reduction in total imports was largely the result of smaller purchases by the public sector and did not imply any major change in exchange policy. Moreover, the monetary authorities had ample backing to cope with foreign exchange demand, having entered into a credit agreement with the International Monetary Fund and the Export-Import Bank for 190 million dollars, which were not used.[30]

Mexico's trade balance, adverse to the extent of 377 million dollars in 1958, was again unfavourable in 1959, this time by 254 million. However, as is well known, this unfavourable balance is not as important for Mexico as it is for other Latin American countries because the tourist industry and border trade with the United Statse usually produce a sizeable credit balance.

Paraguay's total exports in 1959 were 7 per cent higher than in 1958, largely because of increased sales of maté, quebracho extract, leather and hides and meat and oleaginous products. There was a reduction in exports of other commodities, such as timber and cotton. In order to encourage sales abroad the Government decided to lower the 15-per-cent tax on exports, introduced in mid-1957, to 10 per cent as from February 1959.

Imports fell off by 17 per cent in 1959, largely as a result of the effect of the more restrictive measures applied to imports during most of the year. The prior deposit percentages (from 10 to 400 per cent) imposed since 1958 were supplemented as of February 1959 by an additional 5-per-cent tax on the c.i.f. value of goods, except for imports from Argentina, Brazil and Uruguay. Further changes in import regulations were introduced around the middle of the year increasing the deposit percentages on some items. But, in September the deposit percentages previously applied to various categories of imports were again reduced and the maximum percentages were fixed at 300 per cent.

Paraguay's balance of trade, unfavourable to the extent of 12 million dollars in 1958, showed a deficit of slightly above 2 million in 1959.

Peru's total exports were 7 per cent higher than in 1958. While the prices of two major commodities—sugar and cotton—fell on the world market, the drop was partly offset by an increase in the volume of sales. As regards non-ferrous metal exports, the increased value of zinc, attributable both to higher prices and to larger exports, was significant. The start of iron ore mining at the Acarí deposits provided a further impetus to exports from the middle of 1959. Iron ore exports were thus considerably higher than in 1958. Copper exports did not expand in spite of substantially improved world market conditions. However, towards the end of the year the first shipments were made of ore from Toquepala, the output of which is expected to triple copper exports in the not too distant future. Lead mining continued to be depressed and the volume of lead exports declined in 1959.

An export activity that has expanded considerably in Peru over the past few years has been that of fisheries products. Exports amounted to 16 million dollars in 1956 and increased since to about 50 million in 1959. Coffee exports have also climbed steeply during the past three years, although the increase in sales volume was offset by the drop in prices abroad.

Total imports registered a drop of 15 per cent in relation to 1958. Among the factors contributing to this decline were the increase in the free-market exchange rate, the higher *ad valorem* duties and charges (10 to 25 per cent) imposed on a large number of products deemed to be non-essential, and the smaller imports of mining machinery and equipment following the completion of the Toquepala installations. On the other hand, Peru's economic activity during the first half of the year was charac-

[30] Of the 100 million dollar credit contracted with the Export-Import Bank of Washington, 10 million dollars had been used by the middle of the year, an amount which was paid up by the end of 1959.

terized by an atmosphere of depression caused by the unfavourable turn taken by the external prices of some staple exports. Around the middle of 1959 the Government adopted credit and monetary measures designed to stimulate economic activity, abolishing price controls previously applied to some activities and withdrawing the subsidies granted in respect of a few basic consumer items. In particular, the elimination of price controls on petroleum products improved prospects of the resumption of foreign investment in the petroleum industry which has been virtually stationary for several years.

The cut in imports substantially reduced Peru's adverse trade balance, which shrank from 96 million dollars in 1958 to 18 million in 1959.

Venezuela was faced with difficult conditions on the world market owing to the fall in the prices of crude petroleum and derivatives and to severe competition from other producer areas. Provisional estimates indicate that the total value of exports decreased by about 8 per cent, notwithstanding a 3-per-cent increment in the volume of crude petroleum sales over the preceding year's figures.[31] The drop in petroleum prices was accompanied by a considerable falling-off in coffee and cacao exports, which were also affected by lower prices. Although the system of compulsory quotas instituted by the United States since March 1959 on imports of petroleum and its derivates might well have brought about a substantial change in that country's purchases from Venezuela, United States imports of crude from Venezuela in 1959 were slightly higher than in 1958.[32] Total exports of refined petroleum products also increased, although to a lesser extent. A larger volume of exports of iron ore was registered in 1959.

Total imports fell off by 4 per cent, partly, it would seem, as the result of the institution of a licence system for a number of goods considered as non-essential or luxury items: alcoholic beverages, passenger cars, television sets, furniture, jewellery, perfume, cameras, films, etc. This system was replaced towards the end of 1959 by an increase in customs duties and charges on most of these items. While there has been no significant change in the system of imports, the measures adopted in 1959 reflected a change in official import policy calculated to discourage luxury spending. The shift in policy may also be attributed in part to the unusual pressure to which Venezuela's international reserves have been subjected in recent years, despite the fact that the decrease in these holdings which took place in 1958 and 1959 was caused largely by the honouring of private financial commitments with other countries.

Venezuela's normally favourable trade balance fell from 766 million dollars in 1958 to 647 million in 1959. But it should be borne in mind that this surplus was offset by a heavy deficit in the services account because of foreign investment earnings.

3. Trade policy

Before an examination is made of the services account and the other elements in the balance of payments, it is useful to outline certain trends in Latin American trade policy. Some of the measures adopted by the different countries in 1959 as regards imports and exports have already been described in fair amount of detail. The following paragraphs will be devoted to the more general fines of trade policy.

The introduction of far-reaching exchange reforms in Argentina at the beginning of 1959 and in Uruguay at the end of that year has brought out still more clearly the tendency for multiple and fixed exchange rates to be replaced by a single fluctuating rate. Due attention should be paid to this trend because it brings to light two important facts: firstly, the highly complex problems posed by the maintainance of a system of multiple fixed rates in countries beset by acute inflation, and, secondly, the flexibility of the policy adopted by the International Monetary Fund *vis-à-vis* the system of fluctuating rates, as an interim measure at least.

In table 4[33] the Latin American countries have been classified into six categories in accordance with their exchange system. Category 1 consists of countries with a single fixed rate, in which no change was made during the entire post-war period up to the recent application of exchange surcharges on what is still a small part of Cuban imports.[34] This tendency is apparent from the number of countries in categories 2 and 3 which, during the period in question, were transferred to categories 5 and 6. At the end of 1947, nine Latin American countries were using systems of multiple fixed rates (categories 2 and 3) but by the end of 1959 their number had been reduced to two. On the other hand, the system of fluctuating rates (categories 5 and 6) was not in force in any country in 1947, whereas by 1959 six countries were already applying it. Category 4 may be regarded as a transitional system to bridge the gap between multiple fixed rates and a single fluctuating rate; nearly all the countries that adopted the latter system in the last two years, had previously used a mixed system of fixed and fluctuating rates.

The Latin American countries which have recently switched from the system of multiple fixed rates to the single fluctuating exchange rate have thereby sought to eliminate the implicit subsidy favouring goods in the preferential imports groups. At the same time, the new system has simplified the problems of administering exchange controls by facilitating the total abolition or reduction to the lowest possible level of direct quantitative controls on imports. Nevertheless, the chronic inadequacy of exchange reserves has made it necessary to retain or set up some selective mechanisms for imports. For this purpose, certain definite percentages have been fixed for

[31] No official statistics on the value of Venezuela's exports are as yet available. The figures included in table 3 were taken from the *Balance of Payments Yearbook*, op. cit., but unofficial statistics from other sources suggest that the decrease in the value of exports in 1959 may be smaller.

[32] According to the American Petroleum Institute, *Statistical Bulletin*, 19 April, 1960, total United States crude petroleum imports and the volume imported from Venezuela were as follows, in millions of barrels:

	Total Imports	*Imports from Venezuela*
1957	373.3	193.8
1958	348.0	158.2
1959	352.5	165.9

[33] This table includes all the Latin American countries with the exception of Panama, which has been omitted because much of the currency in circulation there consists of United States dollars.

[34] As is usual, the classification is necessarily somewhat arbitrary. Otherwise as many categories as there are countries would have to be established. Since the fixed-rate system still applies to most of Cuba's trade transactions, that country obviously belongs to category 1.

Table 4

LATIN AMERICAN: EXCHANGE SYSTEMS IN FORCE AT THE END OF THE YEARS SPECIFIED

System	*1947*	*1952*	*1957*	*1959*
1. Single exchange rate	Cuba El Salvador Guatemala Haiti Honduras Mexico Dominican Republic	Cuba El Salvador Guatemala Haiti Honduras Mexico Dominican Republic	Cuba El Salvador Guatemala Haiti Honduras Mexico Dominican Republic	Cuba[a] El Salvador Guatemala Haiti Honduras Mexico Dominican Republic
2. Multiple fixed rates	Bolivia Brazil Colombia Uruguay Venezuela	Brazil Venezuela	Venezuela	Venezuela
3. Multiple fixed rates for trade transactions; fluctuating rate for financial transactions	Argentina Chile Costa Rica Nicaragua	Bolivia Nicaragua Paraguay Uruguay	Nicaragua Uruguay	Nicaragua
4. Mixed system of multiple fixed rates and a fluctuating rate for trade transactions: fluctuating rate for financial transactions	Ecuador Paraguay Peru	Argentina Chile Colombia Costa Rica Ecuador	Argentina Brazil Colombia Costa Rica Ecuador	Brazil Colombia Costa Rica Ecuador
5. Single fluctuating rate for trade transactions; fluctuating rate for financial transactions		Peru	Chile Peru	Peru
6. Single fluctuating rate			Bolivia Paraguay[b]	Argentina[b] Bolivia Chile Paraguay[b] Uruguay[b]

SOURCE: This table is an expansion, brought up date to the end of 1959, of the table prepared by F. H. Schott in "The Evolution of Latin American Exchange Rates Policies since World War II", in University of Princeton, *Essays in International Finance*, No. 32, January 1959.

[a] Exchange surcharges (ranging from 30 to 100 per cent) are levied on a list of imports representing approximately 15 per cent of total imports.

[b] Various exchange surcharge percentages are imposed on imports (in accordance with a classification by groups) and withholding percentages on certain exports.

prior deposits in relation to the value of the goods, classified according to their importance for the economy and the extent to which their importation should be discouraged. This system of prior deposits, which is applied by a large number of countries in Latin America (both those using a single fluctuating exchange rate and those with a system of multiple rates), as well as being a means of selecting imports, also helps to lessen the pressure of demand on foreign exchange holdings by freezing importers' financial resources for certain periods (generally of one to six months). In some cases, the system has also stimulated the inflow of floating foreign capital or the repatriation of national capital which was held in bank accounts abroad in order to circumvent the loss of purchasing power caused by inflation.

As indicated in the sub-section on foreign trade,[35] some of the countries which apply the prior deposit system have modified the percentages established. In the majority of cases, the percentages have been reduced, either because this requirement—at a time when bank credit was becoming tighter—tended to raise interest rates unduly and to hamper normal trade activities that were already limited by the monetary scarcity (as in Argentina), or because the increase in foreign exchange income allowed import restrictions to be relaxed a little (as in Chile).

Much of Latin America's trade policy in 1959 hinged on the possibility of expanding traditional markets and opening up new markets for their exports. Brazil and Colombia, in particular, made intensive efforts to expand the world coffee market, efforts which culminated in the conclusion of various trade agreements with countries in the group of centrally-planned economies. One of these agreements—between Brazil and the Soviet Union—provides for an increase in trade between these two countries in the next three years and, if forecasts on the volume of trade are fulfilled, may lead to the opening of a new and important market for coffee. Generally speaking, both on the part of the countries with centrally-planned economies and on that of the Latin American countries, a decided movement towards the expansion of reciprocal trade could be observed in 1959: Argentina, Brazil and Colombia signed or extended trade agreements with the former

[35] Sub-section 2 above.

group of countries, while other States, such as Chile, sent trade missions to explore trade possibilities.[36]

The signature of a new International Coffee Agreement, in which Latin American exporter countries and a few African countries participated, constituted one of the important achievements of Latin American trade policy in 1959. The new Agreement fixed exports quotas for each of the acceding countries, based on 90 per cent of the highest volume of exports attained in any calendar year of the period 1949-58. The relative stability of the coffee market in the second half of 1959 was largely attributable to the conclusion of that Agreement, in which some African producers agreed to participate for the first time, and also partly to the fact that the price level had already dropped appreciably and had therefore led to a substantial increment in consumption.

The founding of the Inter-American Cotton Federation (*Federación Interamericana del Algodón*) at the beginning of 1959, in which the leading producers of Latin America took part, constituted another common front in Latin American trade policy *vis-à-vis* external markets. Although the proposal for the conclusion of an international cotton agreement was not accepted by cotton-growers outside Latin America, the meeting sponsored by the Federation in the course of 1959 served to outline the bases for a common cotton market policy.

4. The services account

The two main elements in the services account of Latin America's balance of payments consist of tourist income and expenditure and remittances in respect of foreign investment earnings.[37] The net balance of the tourist account is favourable for Latin America as a whole, this being due chiefly to the high revenue from the tourist industry obtained by Mexico. While a favourable balance in the tourist account was also registered by Cuba, Panama and Uruguay[38] and to a very minor extent by some of the Central American countries, the balance was unfavourable for the rest of Latin America (see table 5). Although preliminary data for 1959 are still very incomplete, it would appear that the surplus in the tourist account increased for Mexico and Uruguay. The favourable balance for Cuba, on the other hand, became smaller during the past two years, no doubt because of the political tension which prevailed there during that period.

The second account mentioned—the return on foreign investment—generally shows a large deficit (see table 6). Venezuela is chiefly responsible for changes in the net balance of that account. It was precisely because of a sharp drop in net remittances under that head from Venezuela in 1957 and 1958 that the net remittances for the whole area fell by 30 per cent during those two years. Preliminary data for 1959 indicate that there was a further decrease in remittances from Venezuela under the head of the return on foreign investment, whereas those from Argentina, Brazil, Chile and Mexico increased.

[36] For information on recent developments in Latin American trade with the countries with centrally-planned economies, see the *Economic Survey of Latin America, 1958*, op. cit., pp. 61 *et seq.*

[37] "Freight and insurance", which is also part of the services account, is included in the goods account, as imports are presented on a c.i.f. basis in this *Survey*.

[38] However, Uruguay's tourist earnings are derived chiefly from neighbouring Latin American countries.

Table 5

LATIN AMERICA: NET BALANCES IN THE TOURIST INDUSTRY ACCOUNT

(Millions of dollars)

	1957	*1958*	*1959*[a]
Brazil	— 40.0	— 26.0	— 31.0
Cuba	25.9	19.4	10.0
Mexico	349.3	304.0	341.0
Panama	26.7	24.9	25.0
Uruguay	10.1	13.8	16.0
Venezuela	—137.5	— 99.1	— 90.0
Other countries	— 35.2	— 22.2	— 30.0
Total	199.3	214.8	241.0

SOURCE: International Monetary Fund, *Balance of Payments Yearbook*, Vols 11 and 12; *International Financial Statistics*.

[a] Provisional estimates.

Table 6

LATIN AMERICA: NET BALANCES IN THE FOREIGN YIELD ACCOUNT

(Millions of dollars)

	1957	*1958*	*1959*[a]
Argentina	— 15.8	— 31.0	— 40.3
Brazil	— 128.0	— 107.0	— 112.0
Chile	— 56.8	— 62.4	— 88.9
Colombia	— 25.9	— 62.1	— 65.0
Cuba	— 65.6	— 47.9	— 50.0
Ecuador	— 21.6	— 21.8	— 21.5
Mexico	— 134.4	— 144.3	— 154.6
Peru	— 33.1	— 32.3	— 50.0
Venezuela	—1 010.3	— 633.6	— 521.4
Other countries	— 52.3	— 52.1	— 50.0
Total	—1 543.8	—1 194.5	—1 153.7

SOURCE: International Monetary Fund, *Balance of Payments Yearbook*, Vol. 11 and 12; *International Financial Statistics*.

[a] Provisional estimates.

5. The current capacity to import[39]

In Latin America as a whole the current capacity to import in 1959 was practically at the level of the previous year (see table 7). The value of exports fell by 184 million dollars, but as there was also a reduction of the deficit on service account, the decrease in the current capacity to import was only 14 million dollars.

Viewed on a country basis, the current capacity to import improved substantially in Chile, thanks chiefly to the rise in the value of its exports. For the same reason, but to a lesser extent, there was an improvement in the capacity to import of Brazil, Bolivia, Colombia, Ecuador, Nicaragua, Paraguay and Peru, whereas the improvement in Argentina was attributable largely to a smaller deficit in its services account. Mexico's capacity to import expanded during the year as a result of the surplus in the services account. In Venezuela a decline in the value of exports was counterbalanced by an approximately equal reduction in the deficit in the services account. In Cuba, Haiti and

[39] The current capacity to import is equal to the value of exports plus (or minus) the net balance in the services account.

Table 7

LATIN AMERICA: CURRENT CAPACITY TO IMPORT

(Millions of dollars)

Exporters of	Exports of goods		Net Service balance		Current capacity to import	
	1958	1959[a]	1958	1959[a]	1958	1959[a]
Coffee						
Brazil	1 244.0	1 282.0	— 182.0	— 238.0	1 062.0	1 044.0
Colombia	539.1	548.6	— 63.8	— 60.0	475.3	488.6
Costa Rica	93.1	80.0	— 3.5	— 4.0	89.6	76.0
El Salvador	118.0	111.8	— 8.6	— 12.1	109.4	99.7
Guatemala	107.2	108.0	— 1.3	— 2.0	105.9	100.0
Haiti	42.1	23.9	4.6	7.1	46.7	31.0
Nicaragua	70.4	75.0	1.1	1.7	71.5	76.7
Sugar						
Cuba	763.2	638.0	— 13.8	— 15.0	749.4	623.0
Dominican Republic	134.7	130.1	1.4	1.0	136.1	131.1
Bananas						
Ecuador	137.6	143.4	— 30.4	— 31.1	107.2	112.3
Honduras	71.4	72.0	— 4.3	— 4.0	67.1	68.0
Panama	74.4	76.0	50.3	50.0	124.7	126.0
Wheat and crop and livestock products						
Argentina	993.9	1 000.6	— 25.0	— 0.8	968.9	999.8
Uruguay	138.6	97.8	— 9.0	10.0	147.6	107.8
Non-ferrous metals						
Bolivia	53.5	61.5	— 1.4	— 4.6	52.1	56.9
Chile	364.4	485.0	— 45.2	— 94.9	319.2	390.1
Miscellaneous exports						
Mexico	751.7	752.7	174.2	230.1	925.9	982.8
Paraguay	34.2	36.7	0.5	—	34.7	36.7
Peru	291.8	311.8	— 23.4	— 25.0	268.4	286.8
Total	6 023.3	6 034.9	— 161.6	— 191.6	5 861.7	5 843.3
Venezuela	2 510.3	2 314.5	— 846.8	— 646.1	1 663.5	1 668.4
Grand total	8 533.6	8 349.4	—1 008.4	— 837.7	7 525.2	7 511.7

SOURCE: International Monetary Fund, *Balance of Payments Yearbook*, Vols. 11 and 12; *International Financial Statistics.*

[a] Provisional figures.

Uruguay there was a decline in the capacity to import due to a sharp drop in the value of imports, and the same was true, although not to an equal extent, of Costa Rica, the Dominican Republic and El Salvador.

The relative stability of the price index of world imports of manufactured goods[40] between 1958 and 1959 suggests that the current capacity to pay was not affected by this factor.

6. Balance of trade and net balance of current transactions

Latin America's balance of trade in 1959 showed a surplus of some 230 million dollars, compared with a deficit of 290 million in 1958 (see table 8). Venezuela's position —with a large surplus in its balance of trade—had a major effect on the totals for the region as a whole. But even if Venezuela is excluded, it will be seen that the deficit in Latin America's balance of trade for 1959 was smaller than in 1858 because most countries of the region cut their imports in 1959.

[40] According to the United Nations *Monthly Bulletin of Statistics*, in 1958 and 1959 this index was 107 (base 1953 = 100).

The net balance in the services account, generally adverse for Latin America as a whole, was lower in 1959 than in 1958, because of the smaller outflow from Venezuela. The total net balance of current transactions (goods and services) fell to 610 millions dollars in 1959 from the figure of 1 299 million to which it had risen in 1958. The reduction in the deficit was mainly a reflection of the radical change in Latin America's balance of trade.

7. Movements in the capital account

The net inflow of foreign capital into Latin America seems to have diminished in 1959 as compared with 1958. While the available figures relate exclusively to capital movements from the United States and international finance agencies, it should be borne in mind that these sources provide the bulk of the private and official capital that enters Latin America.

The net inflow of private capital from the United States in the form of direct investment declined, partly reflecting the virtual termination of the large-scale investments made in the Venezuelan petroleum industry during the three previous years. As regards the movements of other private capital, it should be noted that the inflow of long-term

Table 8

LATIN AMERICA: NET BALANCE IN THE CURRENT TRANSACTIONS ACCOUNT

(Millions of dollars)

Exporters of	*Balance in goods account*		*Balance in services account*		*Net balance in current transactions account*	
	1958	*1959*[a]	*1958*	*1959*[a]	*1958*	*1959*[a]
Coffee						
Brazil	— 81.0	— 66.0	— 182.0	—238.0	— 263.0	—304.0
Colombia	108.6	103.6	— 63.8	— 60.0	44.8	43.6
Costa Rica	— 5.6	— 23.0	— 3.5	— 4.0	— 9.1	— 27.0
El Salvador	9.7	12.2	— 8.6	— 12.1	1.1	0.1
Guatemala	— 48.7	— 26.0	— 1.3	— 2.0	— 50.0	— 28.0
Haiti	— 2.1	— 7.5	4.6	7.1	2.5	— 0.4
Nicaragua	— 14.8	3.9	1.1	1.7	— 13.7	5.6
Sugar						
Cuba	— 124.8	— 98.0	— 13.8	— 15.0	— 138.6	—113.0
Dominican Republic	— 12.7	— 4.9	1.4	1.0	— 11.3	— 3.9
Bananas						
Ecuador	15.4	30.2	— 30.4	— 31.1	— 15.0	— 0.9
Honduras	— 5.1	1.0	— 4.3	— 4.0	— 9.4	— 3.0
Panama	— 63.4	— 64.0	50.3	50.0	— 13.1	— 14.0
Wheat and crop and livestock products						
Argentina	— 238.7	17.0	— 25.0	— 0.8	— 213.7	16.2
Uruguay	— 12.7	— 61.9	9.0	10.0	— 3.7	— 51.9
Non-ferrous metals						
Bolivia	— 33.6	— 11.9	— 1.4	— 4.6	— 35.0	— 16.5
Chile	— 62.7	50.0	— 45.2	— 94.9	— 107.9	— 44.9
Miscellaneous exports						
Mexico	— 376.9	—253.9	174.2	230.1	— 202.7	— 23.8
Paraguay	— 12.1	— 1.9	0.5	—	— 11.6	— 1.9
Peru	— 95.8	— 18.2	— 23.4	— 25.0	— 119.2	— 43.2
Total	—1 056.7	—419.3	— 161.6	—191.6	—1 218.3	—610.9
Venezuela	766.1	647.5	— 846.8	—646.1	— 80.7	1.4
Grand total	— 290.6	228.2	—1 008.4	—837.7	—1 299.0	—609.5

SOURCES: Tables 3 and 7.
[a] Provisional figures.

private capital was more substantial in 1959, unlike 1958 when the flow of short-term capital exceeded that of long-term capital (see table 9). The sharpest drop was registered in the official capital account and was caused chiefly by the reduced scale of loan operations carried on by the Export-Import Bank with Latin America in 1959. The aggregate net inflow of official and private capital from the United States shrank from 945 million dollars in 1958 to 644 million in 1959.[41]

With reference to the capital account, a distinction must be made between movements designed to finance specific development projects—generally long-term—and those intended to bolster temporarily a country's capacity to import or to increase its international financial resources during a specific period in order to enable the monetary authorities to cope with the demand for external means of payment. While the former type of movement is similar to direct foreign investment, the latter is of a compensatory nature and should be considered as reflecting the deficit in the balance of payments of the country con-

[41] These figures do not include unilateral transfers (mainly grants-in-aid) from the United States to Latin America, which amounted 172 million dollars in 1958 and 160 million in 1959. Transfers in the form of military aid are also excluded.

Table 9

UNITED STATES: BALANCE OF PAYMENTS WITH LATIN AMERICA. MOVEMENTS IN THE CAPITAL ACCOUNT[a]

(Millions of dollars)

	1958	*1959*
A. *Private capital*	*—474*	*—383*
(i) Direct investment	—325	—193
(ii) Other private capital:		
long term	— 47	—160
short-term	—112	— 40
(iii) Amortizations	10	10
B. *Official capital*	*—471*	*—261*
(i) Long-term	—595	—406
(ii) Short-term	— 27	— 36
(iii) Amortizations	151	181
C. *Total* (A + B)	*—945*	*—644*

SOURCE: United States Department of Commerce, *Survey of Current Business*, June 1959-March 1960.
[a] Since the figures here are taken from the United States balance of payments, the movement of funds towards Latin America constitutes an outflow of capital and is indicated by a minus sign. Conversely amortizations by Latin America represent a source of income for the United States.

cerned. Thus, loans from the International Monetary Fund, some from the Export-Import Bank and other short-term official and private foreign credit are compensatory in character. The net inflow of capital from the United States and international institutions is dealt with in greater detail below, due account being taken of the aforesaid distinction.

(a) *Loans from the Export-Import Bank*

The operations of this institution constitute the bulk of the inflow of official United States capital into Latin America. The Bank's total disbursements to Latin American countries amounted to 310 million dollars in 1959 as against 485 million in 1958. Of these amounts, compensatory loans represented 152 million in 1958 and 92 million in 1959. The break-down of these total disbursements among the Latin American countries in those two years is shown in table 10, from which it will be seen that the reduced outlay in 1959 as compared with 1958 is chiefly attributable to the smaller loans granted in the first place to Brazil and secondly to Mexico. But it should also be pointed out that the reduction was due in some measure not to a restriction of credit facilities[42] but to the fact that some of the loans granted to certain countries were not used. Another point that should be mentioned is that the Export-Import Bank's credit policy provides more liberal financing regulations for the United States exporter than for the Latin American importer, this being the result of a new measure adopted in September 1959. Until

[42] Two examples can be given in this connexion. Mexico was granted a 100 million dollars loan early in 1959 but used only 10 million which were repaid by the end of the year. Peru arranged for a 40 million loan but used only 16 million.

Table 10

EXPORT-IMPORT BANK OF WASHINGTON: CREDITS GRANTED TO LATIN AMERICA

(Millions of dollars)

Country	Disbursements	
	1958	*1959*
Argentina	61.0	69.1
Brazil	186.8	63.7
Chile	46.0	39.0
Colombia	2.9	3.0
Costa Rica	11.1	5.2
Cuba	32.9	34.1
Ecuador	1.2	0.4
Guatemala	0.3	0.1
Haiti	1.0	0.1
Honduras	1.2	1.0
Mexico	75.6	39.0
Nicaragua	0.4	1.2
Panama	1.2	1.1
Paraguay	1.7	1.7
Peru	47.8	49.5
Venezuela	3.2	1.2
Unclassified	11.0	—
Total	485.2	309.4
Amortizations	134.0	153.1
Net inflow	351.2	156.3

SOURCE: Export-Import Bank of Washington, *Statement on Loans and Authorized Credits*, Washington, 31 December 1958, 31 December 1959.

Table 11

UNITED STATES: CREDITS GRANTED TO LATIN AMERICA BY THE DEVELOPMENT LOAN FUND

(Millions of dollars)

Country	*1958*		*1959*	
	Authorizations	*Disbursements*	*Authorizations*	*Disbursements*
Argentina	—	—	24.8	13.7
Bolivia	2.3	—	1.7	2.2
Brazil	0.5	—	0.3	0.2
Chile	0.3	—	—	0.2
Costa Rica	—	—	0.2	—
Ecuador	4.7	—	5.3	0.03
Haiti	—	—	7.6	0.06
Honduras	5.0	—	—	0.44
Guatemala	—	—	5.4	0.08
Nicaragua	—	—	0.6	—
Paraguay	6.1	0.3	1.0	3.07
Peru	—	—	3.5	—
Uruguay	—	—	8.8	—
Total	18.9	0.3	59.2	19.9

SOURCES: *International Financial News Survey;* and information from official sources.

Table 12

INTERNATIONAL BANK FOR RECONSTRUCTION AND DEVELOPMENT: CREDITS GRANTED TO LATIN AMERICA

(Millions of dollars)

Country	*1957*	*1958*	*1959*
A. *New credits authorized*			
Brazil	...	86.40	11.60
Chile	—	2.80	16.60
Colombia	—	—	3.50
Costa Rica	21.80	—	32.50
Ecuador	20.10	13.00	—
El Salvador	—	—	8.00
Honduras	—	5.50	1.45
Mexico	—	45.00	—
Peru	5.00	21.57	—
Uruguay	—	—	7.00
Total	46.90	174.27	80.65
B. *Actual disbursements*			
Brazil	3.8	2.3	20.6
Chile	16.4	7.7	6.8
Colombia	1.8	1.2	2.2
Costa Rica	7.7	8.9	6.8
Ecuador	4.3	1.9	0.5
El Salvador	2.8	3.9	8.8
Guatemala	5.9	4.0	1.0
Haiti	0.1	0.2	1.1
Honduras	1.8	1.6	1.3
Mexico	11.4	19.8	6.5
Nicaragua	6.0	3.8	1.6
Panama	1.7	2.3	—
Paraguay	1.1	0.1	—
Peru	9.6	6.6	3.7
Uruguay	7.5	7.7	7.7
Total	81.9	72.0	68.6
Amortizations	21.2	32.3	35.5
Net inflow	60.7	39.7	33.1

SOURCES: International Bank, *Statement on Loans;* International Monetary Fund, *International Financial Statistics.*

then, the Bank financed 60 per cent of purchases of goods manufactured in the United States, the remaining 40 per cent being divided equally between the United States exporter and the Latin American importer. As from September the Bank agreed to finance up to 68 per cent of the total transaction, reducing the United States exporter's share of the financing to 12 per cent while maintaining the Latin American importer's share at 20 per cent. The purpose of the measure was obviously to provide further facilities for exports from the United States in the form of official loans to exporters, a system similar to that which has benefited exporters in several European countries.

(b) *Loans from the Development Loan Fund*

The Fund, like the Export-Import Bank, is an official United States agency.[43] In 1959, its second full year of operation, it authorized loans to eleven Latin American countries amounting to a total of 59 million dollars of which 24.8 were earmarked for Argentina. Actual disbursements in 1959 came to about 20 million (see table 11). The Fund's loans are granted for the financing of specific development projects.

(c) *Loans from the International Bank for Reconstruction and Development*

Further loans authorized by the International Bank in 1959 for Latin America amounted to 80.7 million dollars, less than the credit authorized in 1958 (see table 12). As in previous years, most of the loans were intended for the development of sources of energy. Loans for this purpose were granted to Brazil, Chile, Colombia, El Salvador and Honduras, representing in total 81 per cent of all the loans granted by the Bank to Latin America as a whole. Actual disbursements in 1959 amounted to 68.6 million dollars as against 72 million in 1958. The net inflow of capital from the International Bank totalled 33.1 million dollars in 1959 and 39.7 million in 1958.

(d) *Investments by the International Finance Corporation*

The operations of this Corporation, which does not grant loans but invests in private enterprises requiring capital for expansion, were more intensive in Latin America during 1959. The amount of authorized investments rose to 11.5 million dollars, as compared with 5.5 million in 1958 (see table 13). Its total investment in 1959 covered 13 projects in eight countries and involved a wide variety of activities: manufacture of foodstuffs, construction materials, fertilizers, pulp, cement, textiles and copper refining. While the Corporation's investments are not large, it should be borne in mind that its purpose is not to finance projects involving the development of basic resources but to supplement private investment in association with domestic or foreign private capital.

(e) *Loans from the International Monetary Fund*

The International Monetary Fund's loans are mainly compensatory. During 1959, nine Latin American countries—Argentina, Chile, Colombia, the Dominican Republic, El Salvador, Honduras, Mexico, Paraguay and Peru—signed stand-by agreements with the Fund in respect of various amounts, but only two of them—Argentina and El Salvador—used part of the authorized loans; the other merely amortized credit received in the previous year (see table 14 for a break-down by countries, of the International Monetary Fund's loans and other compensatory credit). The transactions of Latin America as a whole with the International Monetary Fund in 1959 represented a net outflow of 44 million dollars as against a net inflow of 67 million in 1958.

[43] For details on the operations of the Development Loan Fund, see *Economic Survey of Latin America 1958*, op. cit., p. 45.

Table 13

INTERNATIONAL FINANCE CORPORATION: AUTHORIZED INVESTMENT IN LATIN AMERICA

(Millions of dollars)

Country	*1957*	*1958*	*1959*
Brazil	1.00	5.06	3.00
Chile	—	—	1.50
Colombia	2.20	—	3.40
El Salvador	—	—	0.14
Guatemala	—	0.20	—
Mexico	1.12	0.20	—
Peru	—	—	2.23
Venezuela	—	—	1.25
Total	4.32	5.46	11.52

SOURCES: International Finance Corporation, *Third Annual Report*, 1958-1959, and *International Financial News Survey*.

(f) *Other official and private short-term capital*

The information available on the flow of other official and private short-term capital is confined to capital from the United States and is also included in table 14. Most of this flow of short-term capital may be considered to be of the compensatory type and, in so far as it has been possible to identify it, has been included in the table on compensatory accounts. Of course, the movements of short-term capital with countries other than the United States, on the one hand, and part of the commercial loans contracted directly with foreign sources, on the other, have not been included. These movements are included to a large extent under "errors and omissions", which is part of every country's balance of payments.

(g) *Summary of the balance of payments*

Table 15 contains a summary of Latin America's balance of payments. While the figures are provisional, they indicate that both in 1958 and 1959 there was a relatively substantial outflow of Latin American capital.

(h) *New international financial institutions*

The founding of the Inter-American Development Bank, embracing virtually every Latin American country and the United States, was legally approved by the end of 1959. The Bank's operations, confined to Latin America, will consist of the granting of direct loans out of its own capital or with funds acquired on the private capital market, and of guaranteeing, either in whole or in part, loans made by private investors. The loans granted or guaranteed by this new institution will be used to finance

Table 14

LATIN AMERICA: BALANCE-OF-PAYMENTS SITUATION AND COMPENSATORY FINANCING

(Millions of dollars)

Country	Balance-of-payments situation		Compensatory financing							
			Gold and foreign exchange reserves		Credits from the Monetary Fund		Compensatory credits from the Eximbank		Other compensatory credits	
	1958	1959[a]	1958	1959[a]	1958	1959[a]	1958	1959[a]	1958	1959[a]
Argentina	— 211.9	+ 22.0	—154.1	+217.0	0.0	—40.0	0.0	—25.0	— 57.8	—130.0
Bolivia	— 5.3	+ 6.8	+ 0.6	+ 6.0	— 2.0	+ 0.8	0.0	0.0	— 3.9	0.0
Brazil	— 207.0	—177.0	— 11.0	— 17.0	—38.0	+20.0	—100.0	0.0	— 58.0	—180.0
Chile	— 29.0	+ 34.0	+ 15.0	+ 52.0	— 5.0	+21.0	— 39.0	—39.0	0.0	0.0
Colombia	+ 7.7	— 6.2	+ 7.7	— 6.2	0.0	0.0	0.0	0.0	0.0	0.0
Costa Rica	— 68.0	—116.0	— 68.0	—116.0	0.0	0.0	0.0	0.0	0.0	0.0
Cuba	— 31.3	+ 51.8	+ 13.3	+ 71.6	—10.6	+ 6.2	— 13.0	— 4.0	— 21.0	— 22.0
Ecuador	— 3.8	+ 5.9	— 3.8	+ 4.6	0.0	+ 1.3	0.0	0.0	0.0	0.0
El Salvador	— 4.0	— 4.5	— 2.0	+ 0.1	0.0	— 4.6	0.0	0.0	— 2.0	0.0
Guatemala	— 26.0	— 4.9	— 26.0	— 7.5	0.0	+ 2.6	0.0	0.0	0.0	0.0
Haiti	— 5.2	— 2.0	— 2.7	— 1.0	— 2.5	— 1.0	0.0	0.0	0.0	0.0
Honduras	— 4.4	+ 4.4	— 8.0	+ 4.4	+ 3.6	0.0	0.0	0.0	0.0	0.0
Mexico	— 81.0	+ 64.0	— 81.0	+ 41.0	0.0	+23.0	0.0	0.0	0.0	0.0
Nicaragua	— 1.8	+ 2.5	— 3.7	+ 1.5	+ 1.9	+ 1.0	0.0	0.0	0.0	0.0
Panama	+ 18.8	— 7.8	+ 18.8	— 7.8	0.0	...	0.0	...	0.0	...
Paraguay	— 2.2	— 2.6	+ 1.3	— 4.4	— 0.8	+ 1.8	0.0	0.0	— 2.7	0.0
Peru	— 12.4	+ 15.9	— 2.4	+ 21.2	—10.0	+10.7	0.0	—16.0	0.0	0.0
Dominican Republic	— 0.7	— 5.7	— 0.7	— 7.0	0.0	+ 1.3	0.0	0.0	0.0	0.0
Uruguay	— 29.0	— 48.0	— 24.0	— 18.0	0.0	0.0	0.0	0.0	— 5.0	— 30.0
Venezuela	— 396.0	—345.0	—396.0	—345.0	0.0	0.0	0.0	0.0	0.0	0.0
Total[b]	—1 106.9	—512.4	—737.5	—110.5	—67.0	+44.1	—152.0	—84.0	—150.4	—362.0

SOURCES: Prepared from basic data on net variations in international reserves, the net position *vis-à-vis* the International Monetary Fund and compensatory credits from other sources, according to figures published in *International Financial Statistics,* annual balance-sheets of the Eximbank and other direct sources.

[a] Provisional figures.

[b] The difference between these balances and those current transactions given in table 8 reflects the net movement of autonomous (non-compensatory) capital, and errors and omissions.

Table 15

LATIN AMERICA: BALANCE OF PAYMENTS, 1958-59[a]

(Millions of dollars)

	1958	1959
A. *Good and services*		
Exports, *fob*	8 534	8 349
Imports, *cif*	—8 824	—8 121
Trade balance	— 290	228
Net services	—1 008	— 838
Total: goods and services	—1 298	— 610
B. *Capital and gold*		
From the United States:		
(i) Direct investment	325	193
(ii) Other private and public capital	620	451
From the International Bank	36	32
From the International Finance Corporation	5	11
From the International Monetary Fund	67	— 44
Other short-term credits	150	362
Net shift in international reserves (Increase —)	738	107
Total: capital and gold	1 941	1 112
C. *Other movements of capital, and errors and omissions*	— 643	— 502

SOURCE: Prepared from the basic data included in the previous tables.

[a] Provisional figures.

specific projects, including those which are part of a national or regional development programme. Out of its authorized capital of 1 000 million dollars, 80 million will be paid out during the first year of operations and 160 million in each of the two following years.

The proposal to establish the International Development Association, a new institution affiliated with the International Bank, is now being considered by the States members of the Bank. The chief purpose of the new institution, apart from channelling additional funds for the economic development of backward areas, is to cover a field of activity in which the International Bank cannot act, such as the granting of loans without Government security. In accordance with its proposed statutes, the Association will grant loans on more flexible terms which will not have as marked an effect on the balance of payments of under-developed countries. An unusual feature of this new institution is that member countries will be divided into two groups; the industrialized countries, which will make their contribution in gold or freely-convertible currency, and the under-developed countries which will make 10 per cent of their contribution in gold and free currency and the remaining 90 per cent in their own currency. The agreement creating this institution will remain open for the signature of member countries until December 1960.

8. Balance of payments and compensatory financing

Latin America's balance of payments in 1959 showed a deficit of 509 million dollars, an improvement over the figure of 1 107 million in 1958[44] (see again table 14). This reduced deficit basically reflects the change in the Latin American trade balance, which showed a surplus of some 228 million dollars in 1959 compared with a deficit of some 290 million in 1958. Not counting Venezuela, whose trade surplus was offset by the large deficit in its services account, it will be seen that the balance-of-trade deficit of the remaining countries dropped from 1 057 million dollars in 1958 to 419 million in 1959. In other words, whether Venezuela is excluded or not, the smaller deficit in the total balance of payments was a result of the restrictive policy applied by most of the countries to imports in order to bring their trade into better balance.

Table 14 also includes a break-down, by countries, of the estimated trade balance and the movement of the various compensatory accounts. It will be noted, in particular, that the movements in the "gold and foreign exchange" account underwent a radical change which is particularly marked if Venezuela is excluded from the total for Latin America.

The drain on international reserves during 1958 was severe in some countries—Argentina, Cuba, Mexico and Venezuela. Only two of them—Argentina and Mexico—were able to stem the tide in 1959 and, in fact, only Mexico succeeded in doing so without resorting to foreign compensatory loans. The restoration of Argentina's international reserves necessitated a firm policy of import restrictions, on the one hand, and the use of foreign loans on a larger scale than in 1958. In Cuba and Venezuela, on the other hand, financing of an adverse balance of payments meant a further substantial reduction in international reserves in spite of the fact that in both countries the traditional policy of free imports was replaced, at least in part, by the introduction of restrictions on purchases abroad of non-essential or luxury items.

Moreover, neither Cuba nor Venezuela resorted to foreign loans as a means of relieving the pressure of demand on their international reserves. In fact, the use of foreign compensatory loans in 1959 was confined to fewer countries than in 1958 (particularly in the case of loans contracted with the International Monetary Fund), although this smaller group of countries used compensatory loans from sources other than the Fund on a larger scale than in 1958.[45]

[44] By definition, the balance of payments is equal to the net change in international reserves plus compensatory foreign credit.

[45] This does not necessarily reflect more difficult access to the resources of the International Monetary Fund in 1959. Some countries—Chile, Colombia, Mexico and Peru—did not use in 1959 the loans authorized by the Fund. In another case—Brazil—loan negotiations were broken off because of failure to agree on specific monetary and fiscal policy measures.

CENTRAL AMERICA'S POST-WAR EXPORTS TO THE UNITED STATES

INTRODUCTION

At the present stage of Central America's economic development, it is very important that the region maintain access to an expanding volume of international resources. Given its high rate of population growth on the one hand, and as yet inadequate levels of income and production on the other, this region relies heavily upon imports to supplement and complement its own domestic supplies of many consumer goods and industrial raw materials and, in particular, to enlarge its existing capital stock.

In generating its aggregate capacity to import, Central America depends fundamentally upon the trade account of its balance of payments rather than upon services or capital transactions. And, in turn, the region has long sought its major source of external demand within the large and nearby United States market. Because of its traditional importance, therefore, the following sections give primary emphasis to post-war developments in Central America's export trade to that market. Brief coverage, however, will also be given to some of the main trends shown by Central American exports to the world as a whole since the end of the Second World War.

Two overriding characteristics stand out from an examination of Central America's exports to the United States during the period 1946-58: the declining trend that has recently been taking place in such trade; and the extremely narrow range of commodities involved. In both respects the region is in a comparable situation with many other primary producing areas which also depend upon a few export crops and which have been so adversely affected by the current weaknesses prevailing in international commodity markets generally. For Central America, in any event, these problems are becoming increasingly acute and since its internal economic development is so closely affected by movements in the external sector, it has been considered particularly timely to examine some of the developments taking place in its post-war export trade, especially so far as the large United States market is concerned. Today, probably more than at any other period since the end of the Second World War, Central America must concern itself with the problems that face its export trade, namely, a deterioration in the growth potential and a further narrowing of the range of commodities.

I. THE SIGNIFICANCE OF FOREIGN TRADE FOR CENTRAL AMERICA'S ECONOMIC DEVELOPMENT

ECLA has long devoted considerable attention to the role that a dynamic foreign trade sector can play in furthering Latin America's economic development, attention that is particularly pertinent in the case of the Central American republics, considered individually or as a whole. Indeed, this region offers a very clear-cut illustration of how closely the external and internal sectors are linked in some countries characterized by low *per capita* income levels, and which are just beginning to embark upon the initial phases of creating a small industrial nucleus.[1]

1. The ratio of externally-derived to aggregate national income

It is a general characteristic of lesser developed countries that their ratios of externally-derived income to total domestic income are higher than in the more mature economies. In 1957, for example, the proportion of exports to national income ranged between 7 and 18 per cent for the United States, France, Italy and Japan; 19 and 20 per cent for Mexico and Chile; and 25 and 32 per cent for the various Central American republics.[2] Hence where incomes generated by exports are so large in relation to those originating from almost all other productive sectors, it follows that variations in export returns—directly and through their multiplier action—have magnified repercussions upon the levels of income, employment and demand throughout the rest of the monetary economy. As just one illustration of how close this income interaction can be in essentially agricultural economies, it has been estimated that a 25 per cent fall in the export values of a single commodity—coffee—could induce a 10 per cent decline in the national income of Guatemala.[3] Thus, the growth or decline in domestic purchasing power and hence the level of internal consumption and investment outlays are substantially influenced by trends in export earnings. For Central America, this functional relationship has, if anything, become even more pronounced since the end of the Second World War.[4]

2. Import and export taxes as a proportion of total public tax revenues

As shown in table 1, one of the outstanding characteristics of Central America's fiscal régime is the unusually large proportion of governmental revenue derived from

[1] See, for example, *El desarrollo económico de El Salvador* (E/CN.12/495/Rev.1), Vol. VII of the series "Analyses and projections of economic development" (United Nations publication, Sales No. 60.II.G.2). Part One, chapter I.

[2] As tabulated from the *Yearbook of National Account Statistics*, 1958 (United Nations publication, Sales No. 59.XVII.3). For virtually all countries mentioned above, the data comprise national income at factory cost, on the one hand, and exports of goods and services on the other, both measured in terms of current prices.

[3] As quoted in FAO, *Commodity Series, Coffee*, Bulletin 31, August 1959, from the Pan American Union study "The economic impact of fluctuating coffee prices on the economies of the American Republics", 1955.

[4] In the case of El Salvador, the proportion of domestic income originating from the external sector almost doubled between 1945 and 1957 (see *El Desarrollo Económico de El Salvador*, op. cit., page 14).

activities connected with foreign trade, mainly from import and export taxes, but also from royalties, production and income taxes levied upon industries that are primarily directed towards the export trade. Many historical circumstances have contributed to this situation: for example such taxes tend to be relatively reliable; they are not too administratively complex; and furthermore Central America's inadequate industrial diversification limits the extent to which alternative tax sources can be tapped.[5] The final effect has been to link the region's public revenue potential very closely with movements in imports and exports. In turn, the ability of the fiscal authorities to forecast their current budgetary resources and to programme long-term investment has, in the last analysis, rested essentially upon trends in the value of only a few export commodities. So long as this situation continues, international price and demand fluctuations for these few products will greatly influence the degree of budgetary stability and effectiveness in Central America.

3. The Cardinal importance of exports of goods in generating the capacity to import

A third and very important indication of the link between Central America's export sector and its internal economic development is the fact that the creation of import substitution industries has long been limited because the various national markets operate on a small scale and in watertight compartments. Historically, therefore, since so many key raw materials and intermediate products and virtually all capital goods have been either only partially obtainable or non-obtainable from domestically-produced supplies, there has been no alternative to securing such goods except through imports. This point assumes special importance in the case of Central America, where merchandise exports play such a predominant part in generating the region's total capacity to import. For instance, table 2 shows that service account transactions in Central America's post-war net balance of payments have consistently been negative, and capital account transactions have been small during most of the post-war period and at times negative as well. Such circumstances in turn emphasize the role that merchandise exports play in shaping the region's total import capacity, and hence its ability to finance the purchase of so many items critical for its over-all growth.

4. The instability of Central America's export sector

As is well known, Central America's export trade is characterized by a very narrow range of primary agricultural commodities, by a heavy dependence upon a few large overseas markets, and by a marginal position among world suppliers for many of the items that it produces for export. Given this precarious lack of diversification, relatively small shifts in international demand, supply and price schedules for one or two products, or within one or two key markets, can induce disproportionately large swings in Central America's aggregate export returns. Furthermore, since service and capital account transactions have typically not been able to compensate for such swings, it follows that the region has had to rely fundamentally upon volume and price increases for coffee, bananas and cotton to facilitate its internal income and budgetary growth and to expand its import capacity.

It should, however, be added that throughout most of the post-war period, Central America benefited to an extraordinary extent from precisely such a narrow commodity base. On the one hand, although by different degrees, substantial increases took place for approximately a decade in the export quantum of most the commodities concerned, and simultaneously Central America derived unusually favourable gains from movements in their terms of trade over the same period. During the brief period 1948-54, for instance, the terms of trade improved very markedly for all the republics (see table 3). More recently, however, quite the reverse situation has been developing. As stated in chapter II, section 2 (*b*) the quantity of bananas shipped only a few years ago has not subsequently been exceeded. Of even more importance, the prices of cotton and especially of coffee have declined so substantially in the recent past that by 1959 the terms of trade of each country had returned to the much lower

[5] See *La Política Tributaria y el desarrollo Económico en Centroamérica* (E/CN.12/486), United Nations publication, Sales No. 1957.II.9, and *Economic Survey of Latin America, 1955*, United Nations publication Sales No. 1956.II.G.1, Part Two.

Table 1

CENTRAL AMERICA: RELATIVE CONTRIBUTIONS OF PRINCIPAL SOURCES OF FISCAL REVENUE

Country	*Percentage of total governmental revenues provided by*		*Percentage of total governmental tax receipts provided by*	
	Taxes	*Other revenues*[a]	*Import plus export taxes*[b]	*All other direct and indirect taxes*
Costa Rica: 1958	88.9	11.1	67.5	32.5
El Salvador: 1958	92.1	7.9	63.6	36.4
Guatemala: 1957-58	92.6	8.4	49.2	50.8
Honduras: 1957	97.3	2.7	49.9	50.1
Nicaragua: 1957-58	87.9	12.1	68.0	32.0

Sources: United Nations, Statistical Yearbook 1959; and *Boletín de Estadística 1958* of Nicaragua. The data for El Salvador and Honduras are provisional.

[a] Primarily receipts from government loans.

[b] Export taxes accounted for 4 to 6 per cent of the figures for Costa Rica and Honduras, and 14 to 20 per cent of those for the remaining countries.

Table 2

CENTRAL AMERICA: MAIN COMPONENTS OF POST-WAR BALANCE OF PAYMENTS WITH THE WORLD

(*Millions of dollars*)

Average for period	Merchandise transactions			Services and donations	Capital transactions		Errors and omissions
	Exports[a]	Imports[a]	Trade balance	Net total[b]	Net total	Long[c] term	Net total
1947-50	256	—196	60	—64	3	2	1
1951-54	378	—300	78	—71	—1	7	—6
1955-58	449	—431	18	—51	34	28	—1

SOURCE: International Monetary Fund, *Balance of Payments Yearbooks*, selected issues. The 1958 data include some preliminary estimates.

[a] Exports and imports f.o.b.

[b] Private and public donations were both minor until 1954. During 1955-58, conversely, they averaged about 25 million dollars annually, almost exclusively from official United States donations to Guatemala for Mutual Security Aid and for the Inter-American Highway.

[c] Including both private and official transactions. The balance comprises short-term capital and net movements of monetary gold.

levels of almost a full decade ago. Taken together, these various quantum and price developments led to a very rapid rate of growth in Central America's export returns during the initial post-war decade, followed after 1954 by a much slower growth trend, which finally culminated in 1958, when for the first time since the end of the war the export values did not exceed their level of the preceding year.

Table 3

CENTRAL AMERICA: POST-WAR TERMS OF TRADE

(*1953 = 100*)

País	1948	1950	1954	1958	1959[a]
Costa Rica	65	98	115	86	88
El Salvador	55	...	128	86	66
Guatemala	63	94	120	84	67
Honduras	81	99	108	90	88
Nicaragua	64	87	128	82	73

SOURCE: International Monetary Fund, *International Financial Statistics*, selected issues.

[a] Preliminary estimates, based on six months' data for Costa Rica, Guatemala and Nicaragua, and nine months' data for El Salvador and Honduras.

From what has already been said concerning the important role of exports as a leading sector in the Central American economies it is clear that a continuation of these recent and unfavourable tendencies could create serious problems for the region. It is also clear that, given the predominant position occupied by the United States among Central America's customers, future demand and price developments within this single market can uniquely affect the level of Central America's total export earnings. Hence, one of the main purposes of this article is to examine the pattern of Central America's merchandise exports to the United States since the end of the Second World War. From such a study of the past it is hoped that lessons will be obtained that will help in restoring the forward momentum of Central America's export sector in the future, thereby strengthening the internal growth prospects for Central America's next phase of economic development.

In order to place Central America's export trade in some over-all perspective and before considering the United States market, a brief review will now be made of the main developments shown by Central American exports to the world as a whole during the post-war period.

II. CENTRAL AMERICA'S EXPORT TRADE IN ITS INTERNATIONAL SETTING: FOUR MAIN POST-WAR DEVELOPMENTS

1. THE SUBSTANTIAL GROWTH IN CENTRAL AMERICA'S EXPORTS TO THE WORLD AS A WHOLE

During the post-war period, Central American export values increased at an exceptionally favourable pace: from about 173 million dollars in 1947, they rose steadily in each subsequent year to 464 million dollars in 1957 by far the highest level ever recorded in the history of the five republics. In 1958, for the first time since the end of the Second World War, such exports ceased their hitherto uninterrupted expansion, declining to 451 million dollars. None the less, between 1947 and 1958, Central American exports had increased by more than 160 per cent. As a point of comparison it may be noted that this was well in excess of the growth recorded for world exports as a whole, which approximately doubled during this period of slightly more than a decade.

Since world exports are so heavily weighted by manufactured goods originating in industrial countries,[6] it would be more practical to compare Central America's post-war trade expansion with that of countries whose export composition is also based on the sale of commodities in primary form. This is done in table 4, by taking the

[6] Exports from industrial countries have accounted for approximately two thirds of total world exports in recent years (see GATT, *Trends in International Trade*, 1958, table 2, p. 20).

twenty Latin American republics and deducting Central America from this total. As will be seen, exports from the fifteen remaining countries rose from about 5 700 million dollars in 1947 to 7 800 million in 1958, i.e. at a compound rate of 2.7 per cent per annum. This stands out in sharp contrast with the rate of 9.1 per cent compounded annually that was recorded for exports from Central America during the same interval.

This comparison becomes even more interesting when presented on a *per capita* basis (see table 4). Thus, from 1947 to 1958, Central America's exports per person have come very close to doubling, whereas for the rest of Latin America a virtually stagnant trend was recorded between the years selected. It is indeed a striking fact to note that a decade ago each person in Central America was exporting only about 55 per cent as much as his counterpart in the other fifteen republics: today, conversely, Central America exports slightly more on a *per capita* basis than these other countries.

Table 4

POST-WAR TRENDS IN POPULATION, EXPORTS AND *PER CAPITA* EXPORTS:[a] CENTRAL AMERICA COMPARED WITH THE REMAINING LATIN AMERICAN COUNTRIES

	1947	*1958*	*Percentage increase 1947-58*
Central America			
Population	7.4	10.2	37.8
Exports	173	451	160.7
Per capita exports	23.4	44.2	88.8
Rest of Latin America			
Population	136.7	178.1	30.2
Exports	5 745	7 766	35.0
Per capita exports	42.0	43.6	3.8

SOURCE: United Nations, *Monthly Bulletin of Statistics*, October 1959; and International Monetary Fund, *International Financial Statistics*, selected issues.

[a] Population in millions of persons; exports f.o.b. in millions of current dollars; *per capita* exports in dollars per person per year.

2. Shifts in Central America's post-war commodity composition

Another salient characteristic of Central America's export trade is its exceptionally narrow range of commodity diversification. Although available statistical data make it difficult to measure the region's annual trade on a strictly comparable basis,[7] it is nonetheless well known that only two primary agricultural crops—coffee and bananas—stand far ahead of all other Central American exports. For example, even after making allowance for statistical shortcomings, it can be estimated that during most of the post-war period coffee and bananas have tended to provide about 80 per cent of the region's aggregate exports. In recent years their combined share has declined somewhat, but it was still in excess of 70 per cent by 1958 (see

Among the remaining products, the proportion represented by cacao has remained virtually stagnant at between 1 and 2 per cent. Cotton, on the other hand, which was of negligible importance up to 1948, has subsequently followed an extremely dynamic growth trend and today accounts for about 10 per cent of the total. All the remaining exports—encompassing a wide variety of lower-valued items, mainly of agricultural origin, but including some metals and a few light manufactures—have tended to provide between 15 and 20 per cent.

At first glance, table 5 would appear to indicate that Central America has made healthy strides in broadening the range of its exports during the post-war period. Two decades ago, for instance, items other than coffee and bananas accounted for only 14 per cent of Central America's total exports whereas in 1958 they had risen to 28 per cent, i.e. doubling in relative importance. Despite this encouraging trend, however, four cautionary points should be kept in mind. First of all, whereas the ratio of coffee to total exports in the late 1930's was approximately 40 per cent, the proportion steadily increased to the stage where it has recently been within the range of 55 to 60 per cent. The danger of relying upon a single primary commodity for more than half of the region's export trade is self-evident, especially for a product whose price instability has been so clearly demonstrated since 1945 and whose international market prospects are now so seriously threatened by a major problem of global oversupply. Secondly, although the share of bananas has fallen from 46 per cent at the end of the inter-war period to 17 to 26 per cent in recent years, it is still the region's second largest export item, and it must be remembered that exchange earnings generated by this fruit do not necessarily represent identical increases

[7] See the note on banana valuation adjustments in the statistical annex, tables II and V.

Table 5

CENTRAL AMERICA: BROAD BREAK-DOWN OF EXPORTS BY COMMODITIES

(*Percentage of total values*)

Period	*Coffee*	*Bananas*	*All others*		
			Total	*Cotton*	*Balance*
1937-38 average	40	46	14	—	14
1948	39	40	21	1	20
1953	55	26	19	4	15
1957-59 average	57	17	26	9	17

SOURCE: United Nations, *Yearbook of International Trade Statistics* and *Direction of International Trade*, selected issues.

in Central America's access to overseas resources.[8] Thirdly, among all the exports, other than coffee and bananas, another single commodity—cotton—occupies an outstanding position. As stated earlier, cotton has followed an especially dynamic growth trend over the past decade. But it is uncertain whether this can be expected to continue at a comparably favourable pace over the foreseeable future, given both the softening of world cotton prices that has taken place over the past few years in the face of large-scale exports from other traditional producers, and the continued inroads being made by competing synthetics. Finally, the increased degree of commodity diversification mentioned for the region as a whole masks the commodity trends that have been taking place on a country-by-country basis. It might be pointed out that in several countries of the region the historically rigid commodity pattern has changed only to an insignificant extent during the past two decades.

Given all these circumstances, the fact remains that coffee and bananas continue to constitute a disproportionate share within Central America's export trade, and hence the region's over-all balance of payments moves fundamentally in response to international price and volume developments affecting only these two commodities. In short, despite the post-war improvement in its product range, Central America to all intents and purposes still retains the characteristics of an export economy essentially based on two commodities.

3. Changes in the rates of export growth before and after 1954

The third important characteristic is the disparate growth phases that have taken place since the war in the trade under discussion. Reference has already been made to the very substantial expansion that took place in Central America's exports during the post-war period considered as a whole. What is significant, however, is the fact that this over-all growth trend was not uniformly sustained. On the contrary, whereas Central American export values showed an average annual rate of increase that was close to 13 per cent between 1947 and 1954, the corresponding rise was only 2.7 per cent from 1955 to 1958.

These sharply divergent rates of growth are in turn directly attributable to the exceptionally narrow commodity range. Since coffee and bananas comprise such a large proportion of Central America's foreign trade, this trade by definition reflects many of the price and volume changes taking place in international markets for these two products.

In the case of coffee, for example, it has clearly been the volatility of world prices rather than of volume that has had the major impact on Central American export returns. In fact, for Central America, as for the world as a whole, coffee exports in terms of volume have increased at a faster annual rate since 1954 than in the earlier post-war years. Prices, conversely, have followed a contrary and far more unstable course. During the first ten post-war years, for instance, there was such a heavy pressure of world demand upon supplies that, despite the access to existing coffee stocks, world prices[9] spiralled rapidly, though sporadically, from 12 cents per pound in 1945 to almost 80 cents in 1954—by far the highest level ever recorded in the history of the world coffee trade. Subsequently a complete reversal took place in this pattern of erratic but persistent price increases. As world exportable production approached, equalled and then expanded far in excess of exports,[10] prices moved in a compensatory manner. By 1955, they had ceased their previously uninterrupted climb and remained more or less stable for a few years. In the face of the heaviest stock accumulations since the 1930's, prices broke sharply in 1957 and by 1959 they had fallen to as low as 36 cents per pound. In less than eighteen months coffee exporters had witnessed a price decline of over 40 per cent, and the cycle had swung around to the point where international coffee prices were back to the level of almost a full decade earlier.

Thus the year 1954 marked a dividing line between the initial post-war decade of exceptionally rapid growth in world coffee prices and the second phase when they levelled off and then declined abruptly. Such developments inevitably affected the value of Central America's relatively small coffee export trade. When the latter rose from 2.2 million bags in 1946 to 2.8 million in 1954, for instance, this expansion was transformed into a much more substantial growth in value because of the spiralling price movements just described. Conversely, although Central America's exports rose subsequently at an even faster pace to 4.1 million bags by 1958, this volume increase was offset to a considerable degree by the lower price level characteristic of recent years.

In the case of bananas, and in direct contrast to coffee, volume rather than price has been the key variable determining changes in world export values since the end of the war. Indeed, if price movements in the world's largest banana consuming market—the United States—are indicative of those in the other main importing regions, a relatively steady price pattern has characterized much of the post-war period. The quantity of banana exports has not, however, moved in an identical manner. On the contrary, and beginning from the very depressed level to which international banana trade had fallen as a result of disrupted wartime shipping facilities, it rose rapidly for approximately a decade: from 70 million stems in 1946 to 135.4 million by 1954. During the next few years world banana exports moved only sluggishly, recuperating again in 1957, and especially in 1958, to 160 million by the latter year. It should, of course, be added that Central American banana exports have not always paralleled the volume changes recorded for the world as a whole. For one thing, the latter were considerably influen-

[8] As has been pointed out in various studies, the value of banana exports ultimately accruing as foreign exchange to individual Central American countries depends upon the offsetting outflows needed to service the foreign investments that control Central America's banana industry. See United States Department of Commerce, *Investment in Central America*, December 1956, p. 117.

[9] Spot quotations for Santos 4 in New York are used here as being indicative of price trends in the main world coffee markets.

[10] Between the crop years 1954/55 and 1959/60, world exportable production rose from 34 million to approximately 58 million bags, From the calendar year 1955 up to and including 1959, world trade rose from 34 million to an estimated 38 million bags. As a result of these different growth rates, world stocks have climbed from 14 million bags in the marketing year 1954/55 to almost 40 million at present. Coffee inventories at the end of the Second World War amounted to less than 20 million bags.

ced by the rapid emergence of some new producing areas shortly after the war. Again, various supply problems mainly resulting from disease, storm damage, and at times from labour disputes as well) have caused Central American banana exports to fluctuate quite substantially during certain years. None the less the fact remains that no net growth in volume has been recorded in banana exports from Central America during the past half decade: as late as 1958 Central America had still not been able to exceed its 1953 export level of 43 million stems.

Thus, a second factor explaining the pause in the rate of Central America's total export growth after 1954 lies in the recent stagnation in the volume of banana exports. This circumstance, together with the more dramatic instability of post-war coffee prices, indicates how developments in these two commodities can affect Central America's ability to achieve a higher level of foreign exchange earnings. The point that merits repeated attention—especially at this critical stage of the post-war period for primary exporting countries generally—is that such a high degree of external sensitivity must be reduced during the years to come. Otherwise, given the serious oversupply disequilibrium currently depressing world coffee prices and the modest increases in volume anticipated for world banana exports, a third post-war phase might well begin in which Central America's export values would follow a growth trend even slower than the 2.7 per cent recorded between 1955 and 1958. Indeed, judging from what has already taken place from 1957 to 1958, the possibility of a declining trend cannot now be dismissed.

4. Changes in the relative positions of Central America's principal export markets

The final important point regarding Central America's post-war trade in its international setting relates to recent shifts in the area destination of its exports.

The United States and Western Europe have historically been the predominant foreign outlets for Central America's produce, absorbing almost all of its total exports during the past half century. Two developments that have taken place since the Second World War may, however, be noted from table 6. The first is the fact that these two markets have declined somewhat in relative importance over the past twenty years. In 1937-38, for instance, their combined share of Central America's foreign trade was 93 per cent, whereas by 1957-58 it had shrunk to 84 per cent. This favourable, although admittedly small, trend towards a wider degree of geographic diversification has in turn resulted from an expansion in the Central American countries' trade with each other and with Japan. Japan was of negligible importance as a customer in 1937-38, whereas its share in trade had increased to almost 5 per cent by 1957-58, mainly as a result of the dynamic post-war developments in Central American exports of raw cotton. Intra-Central American trade has also followed an upward trend over the past two decades —from about 1 per cent in 1937-38 to 5 per cent at present—owing to growing traffic in many items, including livestock and meat, grains, oils and fats, lumber and sugar, and some simple manufactures. Conversely, Central American exports to other regions of the world (mainly other Latin American countries and Canada) accounted for approximately 6 per cent of the total in 1937-38 and 1957-58.

The second development involves the shift over time in relative positions of the United States and Western Europe. Two decades ago, the United States was taking 63 per cent of all Central American exports and Western Europe around 30 per cent. During the Second World War, however, the Atlantic blockade and the accessibility of the United States served to increase trade within the western hemisphere to a marked extent. By the end of the war the United States had gained in importance and Europe had virtually disappeared as a customer of Central America; even as late as 1948, for instance, the respective shares for the United States and Western Europe were 81 and 6 per cent. During the subsequent decade, however, a reverse movement has been steadily coming into prominence. By 1957-58 the respective proportions were 52 and 32 per cent. Within Western Europe, the United Kingdom and members of the European Economic Community (especially the Federal Republic of Germany and the Netherlands) have been Central America's principal customers, cotton, bananas and especially coffee[11] being the main items shipped.

Thus Central America has to a modest degree broadened the range of its export commodities and of areas of destination during the post-war period. Whether this dual

[11] The Federal Republic of Germany has been taking 15-20 per cent of Central America's total coffee exports in recent years, and the Netherlands as much as 10 per cent (see Katherine Wylie, "Central America as a market and competitor for United States agriculture", United States Department of Agriculture, *Foreign Agriculture Report*, December 1959).

Table 6

CENTRAL AMERICA: PRINCIPAL EXPORT MARKETS

(*Percentage of total values*)

Period	*United States*	*Western Europe*	*Japan*	*Intra-Central American trade*	*All others*
1937-38 average	63	30	—	1	6
1948	81	6	—	5	8
1953	71	16	1	3	9
1957-58 average	52	32	5	5	6

SOURCE: United Nations, *Direction of International Trade;* and International Monetary Fund, *International Financial Statistics,* selected issues.

and desirable trend will continue into the future would be a most worthwhile topic for study in itself. For example, can Central America maintain access to the Japanese market when faced with growing competition from other traditional cotton producers and from synthetic fibres:[12] what effect will the preferential treatment offered by members of the European Common Market to their associated overseas territories have on Central American tropical exports to Western Europe;[13] and—a question of especial importance—how great will be the future stimuli provided by the Central American Economic Integration Programme for the expansion of intra-regional trade?[14] At all events, the fact remains that the United States has long been the largest single outlet for Central American goods and, despite its recently declining share, it still provides the market for over half of the region's entire trade. This being the case, the United States market is discussed in the following section, primarily in connexion with post-war trends in the quantities, prices and relative shares of Central American coffee, banana and residual exports to that market.

[12] See "Recent developments and prospects in trade between Latin America and Japan", in *Economic Bulletin for Latin America.* Vol. II, No. 1 (Santiago, Chile, February 1957) pp. 68 *et seq.*

[13] See "Latin America's trade with the Common Market countries of Europe", in *Economic Bulletin for Latin America.* Vol. III, No. 1 (Santiago, Chile, March 1958) pp. 9 *et seq.*

[14] See *Central American Economic Integration: development and prospects* (E/CN.12/422) United Nations publication, Sales No. 56.II.G.4, *passim.*

III. SOME DEVELOPMENTS IN CENTRAL AMERICAN EXPORTS TO THE UNITED STATES: 1946-1958

1. Trends in the aggregate series

(a) *Values*

Like its sales to the world as a whole, Central America's exports to the United States have grown very substantially since the end of the Second World War. From 1946 to 1958, for example, the value of United States imports from that region followed a growth trend that was almost exactly the same as that recorded for United States imports as a whole, even though manufactures have been the most dynamic components of total United States imports and Central America is almost solely a supplier of unprocessed foodstuffs.[15] Moreover, in comparison with other regions in whose commodity composition primary commodities are also predominante, it is worth mentioning that United States imports from Central America grew by about 8.1 per cent, compounded annually between 1946 and 1958, whereas from the rest of Latin America and from Africa the annual rates were 5.8 and 5.2 per cent respectively (see figure I).

When examining growth trends over selected periods, one important difference will be noted in the respective movements of Central American exports to the world and to the United States. As will be remembered, the former rose without interruption from the end of the war to 1957. Conversely, in the case of the United States market, Central America's peak level of exports was reached several year earlier —in 1953—after which an irregular downward trend prevailed. Thus, starting from 102 million dollars in 1946, United States imports from Central America rose rapidly until by 1953 they had reached 275 million dollars, their highest total in the post-war period. On the other hand, during the succeeding years they fell back to a lower level between approximately 240 million and 260 million dollars. By 1958 they amounted to 259 million dollars, a level which had been surpassed as far back as 1951.

(b) *Quantum, unit values and the capacity to import*

Central America's volume and unit value indices are shown in table 7 and figure II. Both of these indices were noticeably ascendant until about 1954, the price movements being far more intense than those of the quantities shipped; thus, from 1946 to 1953 the quantum rose by less than one third, whereas unit values increased two and a half times between 1946 and 1954. Thanks to the combined effect of a rising volume and an extremely buoyant price trend, Central American export values experienced a very pronounced rise that lasted almost a full decade. Since then, however, quite a different sequence of events has been taking place. Because of a fall both in volume and in unit values, export earnings have entered upon a second post-war phase in which they have not been able to regain the momentum that was their major characteristic during the preceding decade.

Moreover, Central American import prices from the United States have been climbing steadily since the end of the Second World War (see again table 7 and figure III). This situation, together with the decline in export prices since 1954, has caused the region's terms of trade with the United States to deteriorate considerably in recent years. In turn, since Central America's capacity to import is primarily generated by its quantum of exports times the terms of trade, it will be seen that this capacity followed three clearly defined post-war stages: rising rapidly from 1946 to 1950, remaining at a high and stable level between 1950 and 1954, and declining steadily from 1954 to 1958. Thus, the key point that emerges from an examination of figures II and III is simply this: given the divergent movements recorded in Central America's volume and unit values, no net growth has taken place in the value of its exports to, or in its capacity to import from, the United States for a large part of the post-war period. And, what is of even greater importance, both of the latter series have been falling during the past half decade.

2. Commodity trends

It is readily apparent that the aggregate trends in the quantum and prices have resulted primarily from developments in United States imports of Central American coffee and bananas. Coffee has grown so steadily in importance

[15] From 1946 to 1958, total United States imports by broad economic categories showed the following value percentage increases: raw materials (61), unprocessed foodstuffs (137), semi-manufactures (186), manufactured foodstuffs and beverages (201), and finished manufactures (362).

FIGURE I

VALUE OF UNITED STATES IMPORTS FROM SELECTED AREAS

(Index: 1946 = 100)

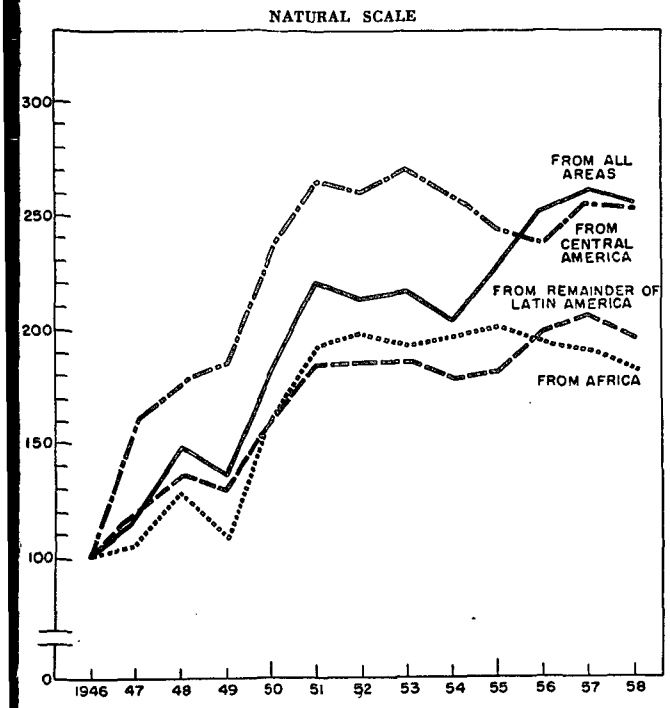


FIGURE II

QUANTUM, VALUE AND UNIT VALUE INDICES OF CENTRAL AMERICAN EXPORTS TO THE UNITED STATES

(Index: 1954 = 100)

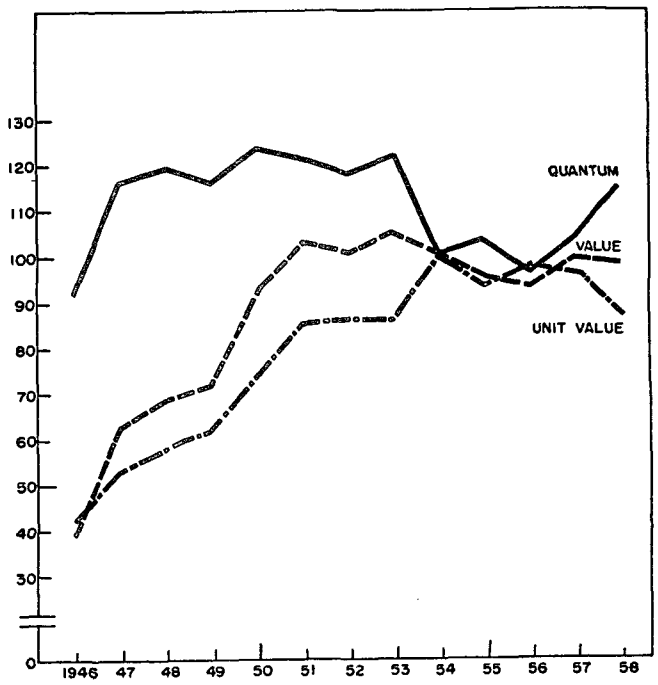


Table 7

CENTRAL AMERICA: DETERMINANTS OF THE CAPACITY TO IMPORT FROM THE UNITED STATES

(Index: 1954 = 100)

Year	*Exports to United States*			*Unit Values of imports from United States*	*Terms of trade with United States*	*Capacity to import from United States*
	Value	*Quantum*	*Unit values*			
	(A)	*(B)*	*(C)*	*(D)*	*C/D (E)*	*B/E (F)*
1946	39	92	42	79	53	49
1947	62	116	53	93	57	66
1948	69	119	58	99	59	70
1949	72	116	62	92	67	78
1950	91	123	74	90	82	101
1951	103	121	85	101	84	102
1952	101	118	86	101	85	100
1953	105	122	86	102	84	102
1954	100	100	100	100	100	100
1955	95	103	93	101	92	95
1956	93	96	97	106	92	88
1957	99	103	96	110	87	90
1958	98	114	86	111	77	88

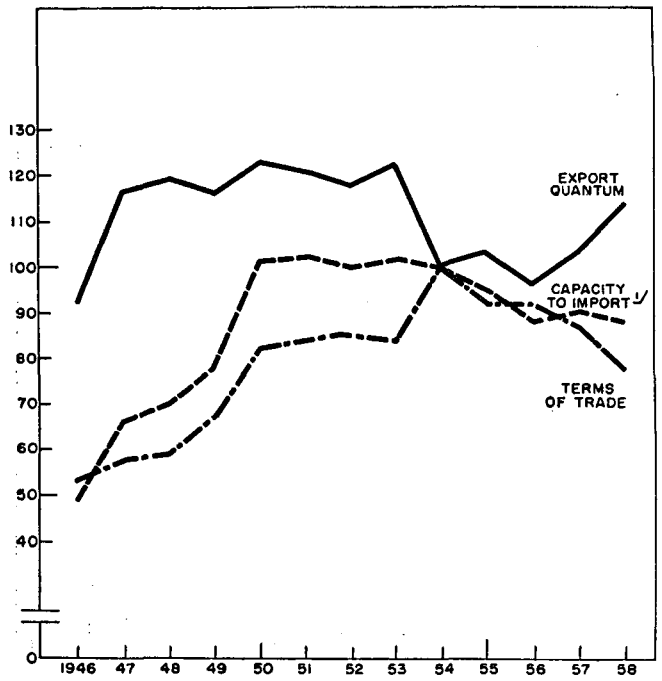
SOURCES: Columns (A), (B), and (C): Calculated by ECLA on the basis of data provided by the United States Department of Commerce. Column (D): Taken from the unit value index of United States exports to Latin America, as published in the United States Department of Commerce, *World Trade Information Service*, "Statistical Reports", selected issues.

FIGURE III

DETERMINANTS OF CENTRAL AMERICA'S CAPACITY TO IMPORT FROM THE UNITED STATES

(Index: 1954 = 100)

NATURAL SCALE



[1] As measured by multiplying the quantum of Central American exports to the United States by its terms of trade with that country.

that it alone accounted for 55 per cent of total United States imports from Central America during the post-war period (see table 8). Bananas, while declining in relative terms over this period, average almost 34 per cent. Taken together, therefore, these two main export crops have consistently comprised the great bulk of all Central American produce moving to the United States. As for other exports, their combined share has averaged only about 11 per cent of the total. In addition to being small, these residual products have fallen in relative importance: from 16 per cent of the total in 1946 to 13 per cent in 1958. Thus, whereas it was shown in section II, sub-section 2, that some modest improvement took place in the post-war commodity diversification of Central America's exports to the world as a whole, the contrary has been true so far as its exports to the United States were concerned. In short, the primacy of coffee and bananas and the structural problems of a very narrow commodity base have been much more sharply evident in the flow of Central American goods to the United States than to the rest of the world since 1946.

(a) *Coffee*

The high and growing proportion of coffee in United States imports from Central America has been perhaps the most important single post-war commodity development in the trade under examination. Firstly, unlike any other commercial crop, coffee is shipped to the United States from every republic in Central America. Secondly, coffee's share in this trade has risen from only 40 per cent in 1946 to as high as 65 per cent in certain years until, as just mentioned, it alone accounted for more than half of the total for the entire post-war period. In this context it is interesting to note that, based upon the volume of United States coffee imported from Central America in 1958, each decline of 1 cent per pound would represent a three million dollar decline in dollar earnings. Expressed in another way, if the average price received by Central American coffee exporters in 1954 had prevailed in 1958, their sales to the United States would have exceeded the 1958 level by 50 million dollars. As a point of comparison, the latter sum is almost exactly equal to all the loan disbursements made by the International Bank for Reconstruction and Development in Central America during the entire period 1954-58.

Given its predominance, coffee is thus the most influential single commodity in the aggregate value, quantum, and price indices of United States imports from Central America. From figure IV it will be noted that the coffee quantum moved upwards with minor interruptions from the end of the war until 1953, subsequently returning irregularly to a lower level. From a 279 million pound average during 1946-49, United States imports of Central American coffee rose to 314 million pounds in 1950-54, and then fell back again to the original 279 million level between 1955 and 1958 (see table 9). This recent decline has been partly due to a shift by Central America to European markets. In part, too, it reflects the fall in total United States coffee imports after the initial post-war period when higher prices and various coffee-extender practices caused United States *per capita* consumption to decline from 18.2 pounds in 1947-49 to 15.7 pounds in

Table 8

BROAD BREAK-DOWN OF UNITED STATES IMPORTS FROM CENTRAL AMERICA, BY COMMODITIES

(Values in million of dollars)

Average for period	*Total*		*Coffee*		*Bananas*		*Residual items*	
	Value	*(%)*	*Value*	*(%)*	*Value*	*(%)*	*Value*	*(%)*
1946-49	158.8	(100)	68.7	(43)	69.4	(44)	20.7	(13)
1950-54	262.5	(100)	153.5	(58)	83.8	(32)	25.4	(10)
1955-58	252.9	(100)	146.7	(58)	75.9	(30)	30.1	(12)
1946-58	227.7	(100)	125.3	(55)	77.0	(34)	25.4	(11)

SOURCE: Annex, table II.

1956-58.[16] And, closely linked to the preceding point, it also reflects the growing competition from Africa, whose coffee exports to the United States rose almost sevenfold between 1946-49 and 1955-58, while those from Central America remained stationary and those from the rest of Latin America declined both absolutely and relatively.

The impact of comparative prices upon United States imports of mild as compared with the harsher tasting *Robusta* coffees might be illustrated at this point by referring to post-war trends in Central American and African shipments to the United States. As the traditional price differential widens between these two coffee qualities, the United States coffee manufacturers continue using the milder (*suave*) grades to satisfy the United States preference for a sweet-tasting ground coffee, but resort on a steadily increasing scale to the cheaper *Robustas* so that the final retail price for regular vacuum and bag-packed coffee can be kept from exceeding some predetermined level. Simultaneously, as this differential increases, the manufacture of solubles is correspondingly boosted, a process in which the stronger-tasting coffees are used far more than the milds. The impact of such developments was especially evident between the periods 1950-54 and 1955-58, when the gap between United States import prices for Central American and African coffees increased substantially.[17] During these two periods, the volume of United States imports from Central America fell, whereas the volume from Africa expanded substantially (see table 10).

Two main points stand out from an examination of the quatum and unit values recorded for Central America's post-war coffee shipments to the United States. Firstly, Central America's relative position within that market remained virtually unchanged during the post-war period as a whole, i.e. it provided 10 per cent of the total United States import volume in 1946-49 and 10 per cent of almost exactly the same volume in 1955-58. Thus, while African competition took place mainly at the expense of other Latin American countries, it also contributed to the failure of Central America's quantum to growth between these same two periods. Secondly, price movements have typically been the main cause of changes in the value of Central America's coffee sales, and coffee in turn has by itself accounted for a very substantial and growing share of Central America's aggregate exports to the United States. This point is of particular importance to Central America in that its total earnings of United States dollars depend so fundamentally upon supply, demand and price

[16] United States Department of Agriculture, *National Food Situation*, NFS-90, 5 November 1959, table 3. Expressed in terms of green bean equivalent.

[17] In 1950-54, United States import unit values for Central American and African coffees averaged 49.3 cents per pound respectively. In 1955-58 the respective averages were 53.1 and 39.1 cents per pound.

FIGURE IV

INDICES OF CENTRAL AMERICAN EXPORTS TO THE UNITED STATES

(Index: 1954 = 100)

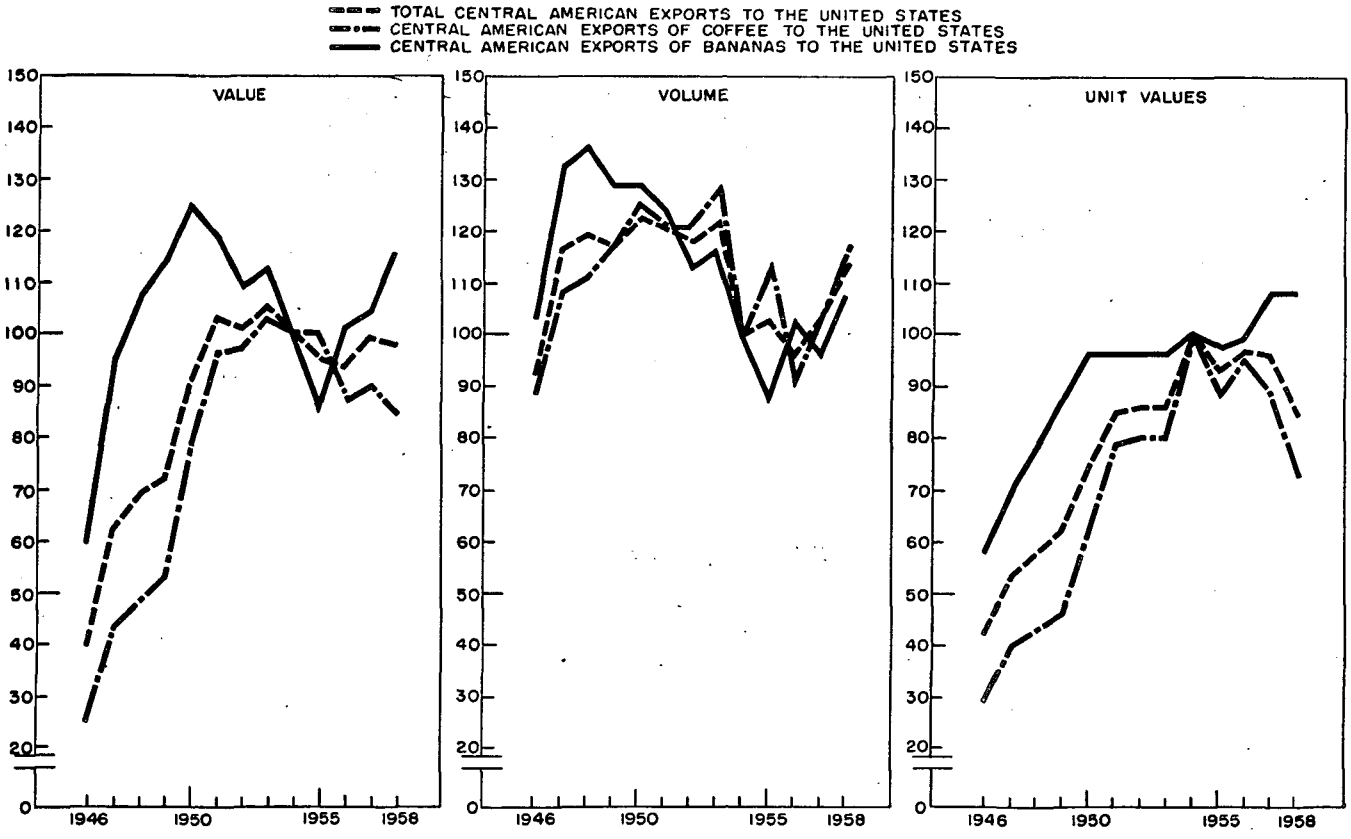


Table 9

UNITED STATES: IMPORTS OF GREEN COFFEE FROM CENTRAL AMERICA

Average for period	Value (millions of dollars)	Volume (millions of pounds)	Unit value (cents per pound)	Indices: 1954 = 100		
				Value	Volume	Unit value
1946-49	69	279	24.4	42	106	40
1950-54	154	314	49.3	95	119	80
1955-58	147	279	53.1	91	106	87

SOURCE: Annex, table III.

developments in world coffee markets; developments which Central America's marginal producers, taken singly or as a group, have relatively little power to influence. Unless therefore Central America's commodity composition changes in the future from what it has been since the end of the Second World War, the value of its exports to the United States must continue to be exceptionally vulnerable to international fluctuations in the price of this beverage.

(b) *Bananas*

Post-war trends in United States imports of Central American bananas have differed from those of coffee in two main respects. First of all, whereas the coffee volume remained stagnant between 1946-49 and 1955-58, the banana volume fell by approximately 20 per cent over these same intervals (see table II). Indeed, after an initial post-war increase that lasted only two years, the banana quantum fell so steadily and substantially that by 1955 it was almost one third below the level of 1948 (see again figure IV). Moreover despite the partial recovery that has been under way in Central American banana exports to the United States in recent years, the 1958 volume was almost exactly the same as it had been at the end of the Second World War.

This declining quantum trend has not been limited solely to Central America (see table 12). On the contrary, it has also been generally characteristic of the rest of Latin America excluding Ecuador. In one respect, this phenomenon has been a result of the post-war shift on the part of United States consumers away from fresh fruits towards tinned and especially frozen fruits and juices. For example, between 1947-49 and 1956-58, United States *per capita* consumption of bananas fell by 10 per cent and that of all other fresh fruits fell by 30 per cent, whereas consumption of processed fruits and juices rose by 15 per cent on a *per capita* basis.[18] What is of concern to Central America is the fact that its volume has declined so substantially in the face of a moderate increase in the total United States import volume, i.e. whereas it provided 61 per cent of the total volume in 1946-49 its share was only 42 per cent in 1955-58.[19]

As was mentioned in section II, this decline in Central America's relative importance is attributable to a change in the destination of its produce away from the United States, and also to various domestic supply problems. At the same time, the exceptionally rapid growth of Ecuadorean sales to the United States has also seriously affected Central American exports. One problem confronting all banana producers is the fact that the post-war growth in total United States imports has been stunted because of a decline in *per capita* consumption. For Central America there is the added problem that it has not even been able to maintain a stable share of the available market, as it had at least been able to do in the case of coffee.

The second difference between bananas and coffee relates to movements in their respective prices. Not only have coffee prices been far more volatile over short periods, but in addition they have moved through a clearly defined post-war cycle (rising until 1954 and falling thereafter), whereas the banana trend has been almost consistently upwards. Between 1946 and 1950, for instance, banana import prices rose from approximately 3 to 5 cents per pound. Between 1950 and 1954, they remained virtually unchanged, and after 1954, when coffee prices entered on their abrupt decline, banana prices continued showing

[18] United States Department of Agriculture, Agricultural Marketing Service, *National Fruit Situation*, August 1959, p. 23.

[19] As pointed out in "The international banana market—its evolution and prospects", *Economic Bulletin for Latin America*, Vol. III No. 2 (Santiago, Chile, October 1958), p. 31, this decline would be moderated if Panama's banana exports were included in the Central American totals.

Table 10

UNITED STATES: IMPORTS OF GREEN COFFEE FROM SELECTED AREAS

(*Volumes in millions of pounds*)

Average for period	From all areas		From Central America		From rest of Latin America		From Africa	
	Volume	(%)	Volume	(%)	Volume	(%)	Volume	(%)
1946-49	2 730	(100)	279	(10)	2 392	(87)	53	(2)
1950-54	2 572	(100)	314	(12)	2 089	(81)	159	(6)
1955-58	2 711	(100)	279	(10)	2 055	(76)	359	(13)

SOURCE: Annex, table IV.

Table 11

UNITED STATES: IMPORTS OF BANANAS FROM CENTRAL AMERICA

Average for period	Value (millions of dollars)	Volume (millions of pounds)	Unit value (cents per pound)	Indices: 1954 = 100		
				Value	Volume	Unit value
1946-49	69	1 792	3.8	93	125	74
1950-54	84	1 666	5.0	113	116	97
1955-58	76	1 407	5.4	102	98	104

SOURCE: Annex, table V.

a modest climb. As has been given detailed attention in other studies,[20] this post-war rise in Central American banana prices appears to have reflected a conscious pricing policy, feasible when a few large producer-exporter companies maintain close corporate ties with those predominating in the importing and distribution sectors. Regardless of this institutional influence, however, the pattern of continuously rising prices has served to offset the post-war decline in the quantum, i.e., although the latter fell by 20 per cent from 1946-49 to 1955-58, the value nonetheless rose by 10 per cent. To this extent, therefore, the role played by banana prices has differed from that of coffee, whose price movements have typically served to accentuate the cyclical stages of growth and decline in coffee export values.

To review only a few of the points covered, it has been shown that coffee and bananas together provided the overwhelming share of total United States imports from Central America during the post-war period. It has also been shown that prices—primarily of coffee—have been more important than quantum in determining the value of such imports. And finally, although rising prices enabled Central American export values to increase very substantially during much of the period under review, a situation has recently developed in which coffee prices have deteriorated sharply and in which the coffee and banana quantums have been losing ground in the United States market, both absolutely and relative to other competing suppliers. These findings are of considerable importance for Central America's future if the following assumptions can be made: (*a*) that the United States will remain one of Central America's principal markets; (*b*) that exports will continue acting as a leading sector in setting the pace of general economic activity in Central America; and (*c*) that recent developments adversely affecting the quantum, unit value and competitive status of Central America's coffee and banana shipments of the United States not yet run their full course. Given a continuation of these three circumstances, it is clear that Central America's external and hence its internal growth prospects will reach a critical post-war juncture.

Unfortunately, the third assumption seems to have considerable validity at this time. According to recent ECLA studies regarding the short-term prospects facing United States banana imports, for example, it was concluded that their volume will not increase by much more than the rate of population growth and that prices will move in a more or less identical manner.[21] Central America's ability to maintain even this modest degree of growth will depen upon the future incidence of Panama and Sigatoka diseases, climatic conditions, and the continued competition from Ecuador. As for coffee, the situation seems even bleaker. On the one hand, there is little reason to anticipate more than a 2-4 per cent increase in the volume of total United States coffee imports in the near future: indeed, the upper limit may well be unduly optimistic.[22]

[20] *Ibid.*, pp. 14, 26 and 27.

[21] *Ibid.*, pp. 27-28, and *The Economic Development of Panama* (E/CN.12/494), pp. 239-242.

[22] See the projections published in *El Desarrollo Económico de El Salvador* (E/CN.12/495/Rev.1), op. cit., pp. 79-80; FAO, *Coffee*, Commodity Bulletin No. 31, August 1959, pp. 65-67; and United States Department of Agriculture, Agricultural Economics Research, *Coffee Consumption in the United States*, July 1958. It should be noted, moreover, that none of these projections makes allowance for the possibility, however remote, of natural coffee being displaced in part or in whole by synthetic flavour compounds (see *Possible Nonmilitary Scientific Development and their poten-*

Table 12

UNITED STATES: IMPORTS OF BANANAS FROM SELECTED AREAS

(*Volumes in millions of pounds*)

Average for period	From all areas		From Central America		From rest of Latin America			
					Ecuador		Balance	
	Volume	(%)	Volume	(%)	Volume	(%)	Volume	(%)
1946-49	2 921	(100)	1 792	(61)	133	(5)	966	(34)
1950-54	3 341	(100)	1 665	(50)	683	(20)	993	(30)
1955-58	3 318	(100)	1 407	(42)	1 052	(32)	859	(26)

SOURCE: Annex, table VI.

On the other hand, confronted by the highest level of world coffee stocks since the late 1930's, and with an excess of world exportable production over exports that amounted to some 20 million bags in the past crop year alone and which still shows no signs of abating, it is difficult to expect that coffee prices will rally very much from their present depressed level for some time to come. And, as must be remembered, world coffee prices by late 1959 had returned to their level of a full decade ago. Added to these circumstances, there is the further problem for Central America constituted by the strong and persistent pressure of competition from Africa. In short, whereas coffee and bananas as a group were by far the principal contributors to the rapid growth in the value of Central American sales to the United States for so many post-war years, a phase now seems under way in which they could well be the source of a stagnant or a declining export trend. The next section will therefore deal with the remaining United States imports from Central America, with a view to investigating what promise they might hold of offsetting the weaknesses expected in these two traditional export commodities.

(c) *"Residual" commodities*

United States "residual" imports (i.e. excluding coffee and bananas) from Central America comprise a variety of items of which the majority are of agricultural origin (see table 13). Their individual levels have been typically very small in any given year, a circumstance that in turn enables relatively minor shifts in supply or demand to produce very sharp percentage changes in their totals. Given the variability in their volume and values, it is difficult to envisage what their combined totals might be in the future. Generally speaking, however, it would appear that these items as a group open up a prospect of modest but not significant growth during the next few years.

In 1946, Central America's "residual" exports to the United States amounted to 16.6 million dollars. During the ensuing years they averaged approximately 25 million dollars annually, reaching their peak post-war levels of 35-36 million dollars in 1957-58. None the less, their growth has been insufficient to broaden the composition of Central America's exports to the United States. On the contrary, as mentioned previously, these items in the aggregate provided a smaller proportion of such trade in 1958 (13.4 per cent) than they had in 1946 (16.2 per cent). As a further indication of this lack of commodity diversification, it will be noted that, while total United States imports from Central America rose by two and a half times from 1946 to 1958, only four "residual" items, taken separately, accounted for 1 per cent or more of this total at both the beginning and end of the post-war period.[23] In the following sections, some post-war developments in Central American sales of these items to the United States will be examined. For purposes of convenience, they have been arbitrarily divided into two broad categories. The first comprises soluble coffee, shrimps, beef and timber, all of which have characteristics which place them in a special position. The second covers all other commodities.

tial impact on foreign Policy Problems of the United States, Study No. 2, prepared at the request of the United States Senate, Committee on Foreign Relations, by the Stanford Research Institute, September 1959).

[23] In 1946, silver, abaca, chicle, and citronella oil each represented 1 per cent or more of total United States imports from Central America. In 1958, only silver, abaca, cacao beans and soluble coffee represented over 1 per cent of total trade.

Table 13

UNITED STATES: IMPORTS OF RESIDUAL ITEMS FROM CENTRAL AMERICA IN SELECTED POST-WAR YEARS

(Millions of dollars)

Product	*1946*	*1950*	*1954*	*1958*
Total	16.6	20.5	26.2	34.6
Silver	2.8	3.6	4.5	3.1
Cacao beans	0.9	1.4	6.5	3.8
Abaca fibre	1.5	4.0	2.6	2.9
Sesame seed	0.4	0.9	2.5	2.3
Sugar	—	0.6	1.0	2.0
Soluble coffee	—	—	—	6.3
Seafood	0.4	1.4	0.1	1.8
Lead ore	—	0.7	0.7	1.6
Zinc ore	—	—	0.2	1.1
Lumber	0.9	1.2	1.5	1.8
Chicle	3.0	0.8	0.9	1.3
Lemon grass oil	0.2	0.3	0.4	0.6
Citronella oil	1.5	1.0	0.1	0.4
Miscellaneous	5.0	4.6	5.2	5.6

SOURCE: United States Department of Commerce, *FT Reports 110 and 120*. Silver imports in ore and base bullion obtained from Department of Commerce, *FT Report 2402*.

IV. THE UNITED STATES AS A MARKET FOR CENTRAL AMERICAN COMMODITIES

1. SOLUBLE COFFEE

Wide scale consumption of soluble coffee in the major coffee-drinking regions of the world is a fairly recent phenomena. Small quantities had been produced and sold prior to the Second World War, but only during the past decade has the use of solubles, and other powders, essences or equivalent instant substitutes risen to levels of considerable magnitude. Consumption increases have been particularly notable in the United States, Canada and some European countries,[24] and in the following sections attention is limited solely to developments within the large and important United States market.

Three basic developments may be singled out for special mention in describing the demand characteristics of the United States instant coffee sector during the recent past.

(*a*) The first such development relates to the phenomenal growth in the consumption of solubles that has taken place since 1950. This in turn can be illustrated in two ways. On the one hand, household purchases of soluble coffee, in representative volume units, have increased almost fivefold in less than a decade (see table 14). Thus, since householders currently account for about three fourths of all United States coffee consumption, and since more than 90 per cent of all United States instant coffee

[24] In 1959, one third of Canada's coffee consumption was estimated to have been in soluble form. For Europe as a whole, the proportion was probably close to 5 per cent, although in the specific cases of the United Kingdom and Switzerland the ratios have been placed at 62 and 15 per cent respectively (see Pan American Coffee Bureau, *Annual Coffee Statistics 1959*, No. 23, p. 14).

Table 14

UNITED STATES: NUMBER OF TWO-OUNCE EQUIVALENT UNITS[a] OF SOLUBLE COFFEE PURCHASED ANNUALLY BY HOUSEHOLDS, 1951-59

(Millions of equivalent units)

	1951	*1952*	*1953*	*1954*	*1955*	*1956*	*1957*	*1958*	*1959*
Number	212	267	358	519	608	720	869	924	976
Percentage increase over preceding year .	——	26	34	45	17	18	21	6	6

SOURCE: Market Research Corporation of America, as published in Pan American Coffee Bureau, *Anual Coffee Statistics 1959*, No. 23, p. 13.

[a] The two-ounce equivalent unit has been used since it was formerly the most common unit of sale.

is consumed in the home, this dynamic trend can be considered as indicative of demand developments in the United States soluble coffee sector generally. Similarly, table 15 gives comparative growth rates in aggregate supplies available from domestic roastings of green coffee, for solubles and for all other forms, since 1954 (the first year in which such data have been tabulated). From that table it will be observed that from 1954 to 1959 soluble roastings have increased at the rate of 12.8 per cent, compounded annually, or more than four times faster than the 2.9 per cent rate recorded for regular coffee. As a result, solubles now account for over 17 per cent of all United States domestic production of roasted coffees, whereas approximately a decade ago the share of solubles was only 11.6 per cent.

(*b*) The second major development relates to the slowdown over the last two or three years in the growth rate of United States consumption of solubles. Household use of instants, measured in terms of sales volume, rose by between 17 and 45 per cent in each successive year from 1951 to 1957, after which the increases have been closer to 6 per cent *per annum* (see again table 14). This same general characteristic is also apparent from data on roastings (see again table 15).

A variety of reasons exist to explain this pattern of a sharp initial expansion in consumption that has been declining in momentum more recently. According to special surveys on the subject, the earlier and very rapid growth was heavily influenced by the factor of "convenience", i.e. ease of storage, elimination of waste, and especially speed and simplicity of preparation.[25] The Director of Research of the Pan American Coffee Bureau has further amplified this point as follows: ". . . the expanding use of the product was part of the general development of foods that could be quickly prepared, that offered convenience and minimized kitchen work. . . It was also explained by the newness of the item, the strong promotional support it received, and the resulting willingness of people to give it a try".[26] At the same time, it should be added that lower priced and stronger flavoured coffee are extensively used in the manufacture of instant blends. Thus, during those post-war years when coffee prices were rising to historical peak levels, householders could obtain some price advantage by buying instant brands in which the harsher tasting but cheaper green coffees comprised a substantial proportion of the total roastings.[27]

[25] See "A Survey of Instant Coffee Consumption", *Tea and Coffee Journal*, July 1959.

[26] Dr. J. E. Wood, "Growth Trends in Soluble Coffee", *ibid.*, July 1959, pp. 22 and 24.

[27] Table 14 shows that the most phenomenal increase in soluble coffee purchases took place prior to 1955, i.e. precisely during

Table 15

UNITED STATES: COMPARATIVE DATA ON COFFEE ROASTINGS, 1954-59

(Millions of 60-kg bags)

Year	*Total bags of green coffee roasted* (A)	*Number used for regular coffee* (B)	*Number used for soluble coffee* (C)	*Column (C) as percentage of column (A)* (D)
1954	17.60	15.55	2.05	11.6
1955	18.81	16.50	2.32	12.3
1956	20.26	17.12	3.14	15.5
1957	20.32	16.99	3.34	16.4
1958	20.94	17.44	3.49	16.7
1959	21.70	17.96	3.74	17.2
Annual compound rate of growth:				
1954 to 1959	4.3	2.9	12.8	

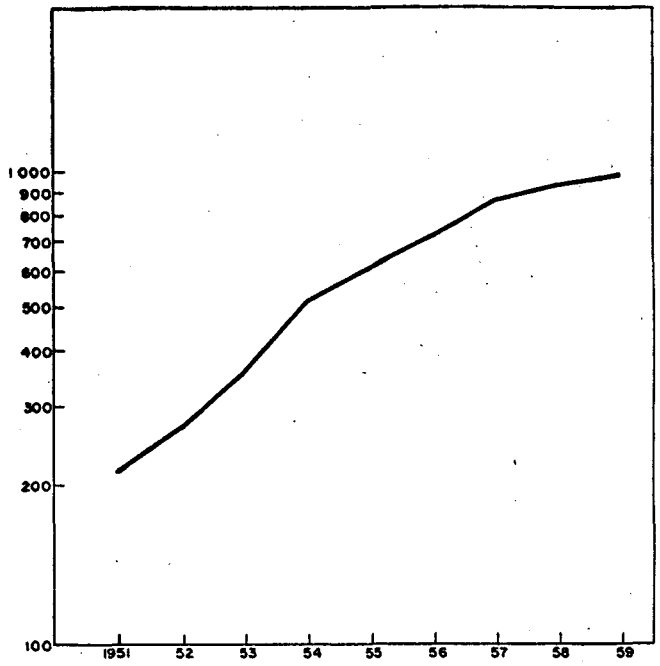
SOURCE: United States Bureau of the Census, *Green Coffee Inventories and Roastings*, selected releases.

FIGURE V

UNITED STATES: TWO-OUNCE EQUIVALENT UNITS OF SOLUBLE COFFEE PURCHASED FOR HOUSEHOLD USE

(Millons of units)

SEMI-LOGARITHMIC SCALE



More recently, however, the above two circumstances have become less significant in influencing the patterns of United States household demand. For one thing, after the novelty had worn off, and when large numbers of householders giving high priority to convenience of preparation had already been absorbed into the soluble coffee sector, the number of new customers with identical priorities was correspondingly reduced. Moreover, since the price differential favouring *Robusta* over the milder *Arabica* coffee varieties has been narrowing in the recent past, the superior flavour of the latter, taken in conjunction with their relative price improvements, have tended to inhabit the earlier shift in sales from instant to regular blends.[28] At present, therefore, "...while the number of first-year users is still substantial, the pace of converting new users to instant coffee has slowed down".[29]

(*c*) A third basic development relating to the United States soluble coffee sector concerns the pattern of its import trade. The United States has long been a net exporter of soluble coffee,[30] but imports have risen from negligible levels prior to 1956 to close to 10 million dollars during 1958 and 1959. Thus, despite the steady increase in domestic roastings of soluble coffees, national requirements have tended to exceed domestic roastings by small but growing amounts over the past few years.[31]

Latin America provides by far the bulk of all United States soluble coffee imports (see table 16). El Salvador is the most important single supplier, with its output originating from two plants completed since 1955. From 1956 to 1959, United States imports from El Salvador rose by more than 60 per cent in volume. Since the completion of a new factory in 1957, Guatemala's sales have also risen very rapidly (more than fourfold between 1958 and 1959). These two countries together currently account for more than 70 per cent of total United States soluble imports, measured on the basis of weight. Virtually all the balance comes from Mexico.

Given the serious glut in international coffee markets at present and the importance of the United States within such markets, considerable interest attaches to the course that will be followed by United States coffee demand in the medium-term future. Several analyses and projections have been published during the past few years, pertaining to trends in world coffee trade generally and to the United States market specifically.[32] Yet, although the growing impact of instant coffee has been taken into account in most such publications, their final conclusions have usually been presented in terms of green bean equivalent totals, without separate break-downs of the respective shares of regular and instant coffee.

those years when green coffee prices were also increasing at an exceptionally rapid rate. According to Dr. J. E. Wood "...this suggests that the large annual rates of increase in purchases of soluble coffee in those years were closely associated with householders trying to economize, which was one expression of consumer resentment toward the rapid rise in coffee prices and toward the relatively high levels they temporarily attained". *(ibid.*, p. 24).

[28] In the "Survey of Instant Coffee Consumption", op. cit., pp. 20 and 29, two interesting points relating to price and flavour might be noted. Firstly, whereas more than 32 per cent of instant coffee users felt that solubles cost less than regular coffee in 1954, by 1958 this ratio had fallen to 24 per cent. Secondly, when asked "What qualities in regular coffee do you consider lacking in instant coffee?", two thirds of all respondents currently refer to shortcomings in taste, flavour or aroma.

[29] Tea and Coffee Journal, op. cit., p. 20.

[30] Canada is the principal market for United States soluble coffee exports, having imported 67 per cent of the total in 1957 and almost 84 per cent in 1958 (see *Annual Coffee Statistics 1959*, op. cit., p. 14).

[31] In 1958, imports represented 2.8 per cent of all soluble coffee produced in the United States, as determined by Bureau of the Census data on roastings. In 1959, the proportion had risen to approximately 3.5 per cent.

[32] See A. Szarf and F. Pignalosa, "Factors influencing United States coffee consumption", in FAO, *Monthly Bulletin of Agricultural Economics and Statistics*, Vol. III, No. 10; R. F. Daly, "Coffee Consumption and Prices", *Agricultural Economics Research*, July 1958; "The World Coffee Economy", in FAO, *Commodity Bulletin 31*, November 1959; *The future of Latin American exports to the United States, 1965 and 1970*, NPA, 1959; and *El Desarrollo Económico de El Salvador* (E/CN.12/495/Rev.1), op. cit., Part Two, Chapter II. In addition a comprehensive study is being prepared by the International Coffee Agreement authorities for publication during late 1960.

Table 16

UNITED STATES: IMPORTS OF SOLUBLE COFFEE, 1958-59

Country	*Volume (Thousands of 60-kg bags equivalent of green coffee)*		*Value (Millions of dollars)*	
	1958	*1959*	*1958*	*1959*
El Salvador . . .	54.3	57.4	5.7	4.8
Guatemala	7.7	32.6	0.6	2.5
Mexico	36.9	35.4	3.1	1.6
All others	0.1	0.2	0.1	0.1
Total	99.0	125.6	9.4	8.9

SOURCE: Pan American Coffee Bureau, *Annual Coffee Statistics*, Numbers 22 and 23.

In one of the recent papers, however,[33] an attempt has been made to project total United States coffee consumption for selected years up to and including 1980 and to subdivide this total as between the two previously mentioned types of coffee. Based upon a variety of different demand assumptions, this study concludes that United States consumption of coffee in all its forms could total between 26.7 million and 31.3 million bags by 1965, a range that might be compared with the 23.3 million bag import level recorded during 1959. Regardless of the likelihood of achieving the lower as against the higher of these two limits, it is interesting to note that the study presents only a single figure for soluble coffee consumption in 1965, namely, a level of some 6 million bags. In view of the comprehensive statistical and analytical coverage presented in the paper referred to, its findings can be considered as offering a meaningful order of magnitude for United States soluble coffee demand by the middle of the coming decade. On the basis of currently available information (covering United States roastings, exports and imports of solubles), it may be tentatively calculated that United States consumption of solubles in 1959 was approximately 3.7 million bags. Thus the projected level would indicate a growth rate of United States instant coffee consumption of about 8.5 per cent, compounded annually, during the next five years.

This rate, it will be noted, is somewhat in excess of that recently recorded for household purchases, a fact that may be considered somewhat surprising in view of the slowdown in the momentum of soluble coffee consumption discussed above, but it is explained, in the projection study cited, by the hypotheses used for future United States population growth by coffee-drinking age groups, by promotional steps designed to increase the number of cups consumed per person per day by these different age groups, and finally by other possible developments that could reduce the cup-yield rate for soluble coffee.[34]

The aforementioned study does not indicate what proportion of the 6 million bag total might be obtained from soluble imports as against domestic roastings of imported green beans. This subdivision is difficult to forecast since it will be determined by the future price and quality characteristics of the two different forms of coffee supplies. According to tentative information, however, domestic roastings might be placed at some 5.5 million bags by 1965 as compared with 3.7 million at present, leaving imports in soluble form at approximately 500 000 bags as compared with 126 000 in 1959.

Central America's share of imports in 1965 is equally difficult to assess quantitatively, but given the highly competitive prices and qualities currently characterizing the output of the new plants, it seems reasonable to assume that it should provide about the same share in 1965 as in the past two years, i.e. about two thirds. If so, Central America could ship approximately 333 000 bags to the United States in 1965, compared to some 90 000 at present, i.e. slightly less than a fourfold expansion. Such an increase, it should be noted, conforms closely to the findings of a recent United Nations study measuring United States imports of soluble coffee from El Salvador up to 1966.[35]

If, however, prices do not change appreciably from their 1959 levels, the value of Central American soluble coffee sales to the United States could rise from 7.3 million dollars in 1959 to as much as 27 million dollars by 1965.[36]

2. Shrimps

World shrimp production has increased rapidly since the end of the Second World War; between 1948 and 1959, for example, the global total more than doubled in volume (see table 17). This substantial growth has in turn been a result of a number of circumstances. On the supply side, several basic improvements in production technology have taken place, such as more and better trawling nets and craft, new methods of detecting and exploiting richer supply beds, and the introduction of superior processing and freezing plants. These have followed upon a very dynamic post-war pattern of demand. The growing use of deep-freeze facilities at the ports and for inland distribution and home refrigeration has been especially important in promoting higher levels of consumption in the principal industrial markets and especially in the United States.

Shrimps have become so commercially important in the United States that they are now its most valuable fishing resource. During 1958 the value of the United States domestic shrimp catch amounted to almost 75 million dollars and was thus far in excess of the next two most important seafoods—salmon and tuna—whose catches were valued at 46 million and 43 million dollars respectively.

United States domestic shrimp landings[37] are currently far higher than in the 1930's or early post-war years. But it should be noted that the peak levels of 155-160 million pounds in 1953-54 have never been regained let alone exceeded. On the contrary, over the past five years the

[33] Pan American Coffee Bureau, *Prospects for United States Coffee Consumption in the next 20 years*, Special Report, August 1959.

[34] The number of cups obtained per ounce of soluble coffee is expected to decline from almost 14 at present to 12.5 by 1965.

[35] On the assumption that El Salvador can maintain its currently competitive prices and qualities, it is estimated that its export volume of soluble coffee to the United States, will increase three to four times by 1966 (see *El Desarrollo Económico de El Salvador*, (E/CN.12/495/Rev.1), op. cit., p. 90).

[36] The product of 333 000 bags at 80.55 dollars per bag (i.e. the 1959 average unit value of United States soluble imports from Central America, in dollars per bag of green coffee weight equivalent).

[37] The terms "landing" or "catch" refer to the quantity of shrimp brought to port by United States craft. In these notes, all references to volumes refer to headless shrimp, the unit most commonly used in official United States publications (see, for instance, United States Department of the Interior, *Fresh, Frozen and Processed Shrimp*, April 1960, p. 1).

Table 17

WORLD SHRIMP PRODUCTION, BY PRINCIPAL COUNTRIES

(Millions of pounds[a])

Country or area	*1948*	*1953*	*1958*
United States	99	155	127
Mainland China	...	...	120
Indian	49	119	114
Japan	44	54	74
Mexico	45	46	69
Total countries listed	...	...	504
World (excluding China)	354	583	632
World (including China)	...	...	752

SOURCE: United States Department of the Interior, *Fresh, Frozen and Processed Shrimp*, April 1960, Table I.

[a] In this, and all subsequent tables, volume data refer to heads-off weight.

volume of domestic production has fallen back to a new and lower level averaging approximately 133 million pounds *per annum*. The fact that this has taken place despite a greater input of labour and equipment is mainly attributable to two developments. Firstly, domestic resources have not been increasing; indeed, an irregular but somewhat downward trend in domestic catches has characterized the recent past.[38] Secondly and simultaneously, operating costs have been rising, as more men and craft have been assigned to a fairly constant domestic resource.[39] Given these two circumstances, the average gross return per United States shrimp craft had, by 1959, dropped to its lowest level of the past ten years.[40]

While United States domestic shrimp production has been following a more or less stagnant trend however, consumption has increased very rapidly. As mentioned earlier, this has been influenced primarily by the growing use of deep-freeze processes enabling the product to become a standard item inland as well as on the coast, in the home as well as in hotels and restaurants, and in a progressively wider variety of forms.[41]

As a result of its increasing popularity and use, the total new supply of shrimp available for domestic United States consumption has been increasing at the rate of about 50 million pounds every five years, amounting to 149 million in 1950, 190 million in 1955, and an all-time record of 239 million pounds estimated for 1959 (see Table 18). Apparent consumption[42] *per capita* has in turn grown steadily from only 0.48 pounds in 1939 to 0.78 in 1950 and 1.12 in 1959.

The United States demand for shrimps has, in short, mounted under the dual impact of increasing population and a steadily higher intake per person. Since this has not been followed by an equivalent growth in the domestic catch, the result has been to estimulate an exceptionally rapid growth of imports. Thus, whereas imports totalled only 4 million pounds in 1939, they rose tenfold to 40 million in 1950, and still further to a peak of 107 million during 1959 (see table 19). Indeed, the persistent upsurge of imports has lead to a current situation in which United States stocks are at peak levels (averaging 36 million pounds during 1959 compared with 25 million in 1958, and 18 million in both 1955 and 1950), and prices have returned to 1955 levels.[43]

In the face of the heavy and sustained import volume, a basic structural change has therefore characterized the supply side of the United States industry during the post-war period: by 1959 imports were accounting for 45 per cent of total new supplies available for annual consumption, as compared with only 4 per cent at the beginning of the Second World War and 27 per cent in 1950.

During 1950, although 18 countries were exporting shrimps to the United States, Mexico alone accounted for almost all the total. By 1955 the number of countries had risen to 27, and by 1959 to more than 50. Mexico still predominated, with 64 per cent of the 1959 total, but several other countries had notably increased their participation. The Eastern Hemisphere supplied 14 per cent in 1959 compared with only 3 per cent five years earlier. Similarly, the share provided by Latin America exclusive of Mexico, reached 21 per cent in 1959 com-

[38] Resource availability series have recently been calculated for the main United States supply areas in the Gulf of Mexico. According to these estimates, access to catches in this area declined by about 5 per cent from 1956 to 1958 (see *Fresh, Frozen and Processed Shrimp*, op. cit., pp. 46-47).

[39] The total tonnage of the United States shrimp fleet doubled between 1950 and 1959, and the number of fishermen employed in the fleet increased more or less proportionately (see United States Tariff Commission, *Shrimps*, May 1960, p. 11; and *Fresh, Frozen and Processed Shrimp*, op. cit., table 9, p. 48.

[40] *Fresh, Frozen and Processed Shrimps*, op. cit., p. 46.

[41] Whereas fresh and canned shrimps predominated during the inter-war period, today the frozen products have become by far the most important. Other forms include dried, spiced, smoked and breaded shrimps and shrimp soups, pastes and sauces. Certain by-products are also being used for animal feed.

[42] Total new supplies, minus estimated stocks, divided by population.

[43] The average ex-vessel prices, for landings of domestic shrimp craft between 1955 and 1959, were 42.5, 53.1, 60.3, 61.6 and 41.0 cents per pound respectively (see *Shrimps*, op. cit., p. 54).

Table 18

UNITED STATES: NEW SHRIMP SUPPLIES AVAILABLE FOR CONSUMPTION

(Volumes in millions of pounds)

Year	*Domestic landings*	*Imports*	*Exports*	*Total new supplies for domestic consumption*[a]	*Ratios of imports to*	
					landings	*Total new supplies*
1939	89	4	1	94	5	4
1950	114	40	5	149	35	27
1951	134	42	7	169	31	25
1952	135	39	7	167	28	23
1953	155	43	6	192	28	22
1954	159	42	8	194	26	21
1955	145	54	9	190	37	28
1956	133	69	7	195	51	35
1957	121	70	7	184	57	38
1958	125	85	7	204	68	42
1959[b]	142	107	9	239	75	45

SOURCE: United States Tariff Commission, *Shrimps*, May 1960, page 96.

[a] Excluding carry-overs.

[b] Provisional figures.

Table 19

UNITED STATES: IMPORTS OF SHRIMPS FROM SELECTED AREAS

(Volumes in millions of pounds)

Area	1939		1950		1955		1959[a]	
	Volume	(%)	Volume	(%)	Volume	(%)	Volume	(%)
Mexico	3.8	96	39.7	99	45.4	84	68.7	64
Panama	—	—	0.1	—	4.2	8	8.8	8
Japan	0.1	2	0.1	—	0.9	2	7.2	7
India	—	—	—	—	0.1	—	2.9	3
Central America	—	—	—	—	0.2	—	3.7	4
All others[b]	0.1	2	0.3	1	3.0	6	15.3	14
Total	4.0	100	40.2	100	53.8	100	106.6	100

SOURCE: United States Department of the Interior, *Fresh, Frozen and Processed Shrimps*, April, 1960, p. 65.

[a] Preliminary.

[b] In 1959, other principal suppliers included Ecuador (4.7), Colombia (1.9), Egypt (1.3) and Argentina (1.0). The other Latin American countries were Venezuela (0.4), Cuba (0.2) and Peru (0.2).

pared with 13 per cent in 1955. Panama was the largest contributor in the latter group, more than doubling its export volume from 4.2 million to 8.8 million pounds between 1955 and 1959. As for the five countries which are now members of the Central American Economic Integration Programme, their exports were negligible until the late 1950's. More recently their combined shipments have risen at a very striking pace from only 0.3 million pounds in 1957 to 3.0 million and 3.7 million in 1958 and 1959 respectively (see table 20). At present they provide close to 4 per cent of the United States import demand.

El Salvador is the largest producer in Central America; its exports to the United States amounted to 1.8 million pounds in 1959. Costa Rica was next in importance with 1.2 million, followed at some distance by Honduras, Guatemala and Nicaragua whose shipments were about 0.2-0.3 million pounds each in 1959. In every case, the higher export levels have been evident only since 1958, aided by public and private efforts to increase the number and efficiency of vessels, crews and processing facilities.[44] The recent price structure in the United States has also fostered growing interest in this activity in Central America.[45]

Thus, the most important post-war characteristics of the United States shrimp industry include a relatively stable volume of domestic catch, a steadily rising level of *per capita* and hence of aggregate consumption; a corollary pressure on imports to bridge the resultant gap; a growth in imports from sources other than Mexico, the traditional supplies, namely from Central America's formerly marginal supplies which have recently expanded in a

[44] During 1959, for example, the Salvadorian Government raised its former limitation on the number of shrimp vessels from 17 to 50 units. At present, more than 30 trawlers are in operation, of modern design and all diesel powered. El Salvador is also unique in having three domestic plants to freeze shrimps for the export trade (see, *Fresh, Frozen and Processed Shrimp*, op. cit., pp. 86-87).

[45] Fish and Wildlife Service, *Survey of Shrimp fisheries of Central and South America*, Special Scientific Report No. 235, 1957.

Table 20

UNITED STATES: SHRIMP IMPORTS FROM CENTRAL AMERICA

(Thousands of pounds)

Year	El Salvador	Costa Rica	Honduras	Guatemala	Nicaragua	Total Central America	Total United States imports
1939	—	—	—	—	—	—	3 984
1950	—	—	—	—	—	—	40 198
1954	—	43	—	—	—	43	41 519
1955	—	151	—	8	—	159	53 772
1956	—	421	—	—	—	421	68 618
1957	66	227	—	—	—	293	69 676
1958	1 130	717	836	39	278	3 000	85 394
1959[a]	1 838	1 156	271	182	213	3 660	106 555

SOURCE: United States Department of the Interior, *Fresh, Frozen and Processed Shrimps*, April, 1960, p. 65.

[a] Provisional figures.

most dynamic fashion; and, currently at least, substantial stocks and a lower price level.

Looking ahead to the mid-1960's, it is likely that the first three characteristics mentioned above will continue. Thus, in a recent and authoritative survey of the United States shrimp industry that included projections as far as 1975, it was felt that "the prospects of a sizable expansion of domestic production do not appear very bright".[46] For the purposes of this article, therefore, the 1965 domestic catch is not expected to exceed its peak (1954) historical level of 160 million pounds, which was some 20 million higher than that obtained in 1959. The same survey estimated that, if prices remain at a reasonable level, *per capita* consumption should continue growing to as much as 2.4 pounds per person by 1975.[47] A 1965 level of 1.5 pounds might therefore be selected as a reasonable figure, representing as it does only some 6 ounces more than that recorded in 1959. Given these variables, and a 1965 population of slightly over 200 million,[48] aggregate consumption minus domestic catch would give a figure of about 140 million pounds for import requirements in 1965,[49] 31 per cent in excess of imports in 1959. Although this implies a continued and substantial growth rate during the next six years, it is well below the increase recorded over the past six years.

Admittedly various circumstances could invalidate the above projection. One important but unpredictable development, for example, relates to the fact that, whereas shrimps currently enter the United States free of duty and of quotas, the impact of imports upon the United States industry has already resulted in discussions concerning possible future restrictions.[50] But no action has yet been taken on such restrictions and even where potential quota limits have been studied, the allocations thus far estimated have been quite close to the 140 million pound projection mentioned above.[51]

Central America's ability to benefit from a growing United States import demand seems promising on various grounds, namely, geographic proximity, the recent modernization of Central America's shrimp industries, and the price and quality of their product. Hence there are reasons for anticipating that Central America's share could rise to 6 per cent as compared with 1 per cent at present. In turn, this would permit Central America's exports to the United States to reach 8.4 million pounds by 1965 as against 3.7 million in 1959.[52] Similarly, if prices do not vary noticeably for their 1959 levels, the values of these exports would total approximately 5.0 million dollars in 1965, compared with 2.2 million dollars in 1959.

[46] United States Department of the Interior, Special Scientific Report No. 308, June 1959, p. 111.

[47] *Ibid.*, table VIII-28, p. 113.

[48] Representing a compound growth rate of 1.7 per cent *per annum* over the 1959 population.

[49] Based upon the concept of new supplies available for consumption, i.e. that stocks do not differ noticeably from their current levels.

[50] A resolution, adopted on 6 February 1960 by the House Committee on Ways and Means, requests the United States Tariff Commission to investigate whether shrimps "...are being imported into the States in such increased quantities, either actual or relative to domestic production, as to cause or threaten serious injury to the domestic industry..." (see *Shrimps, ibid.*, pp. 1 and 2).

[51] See, for example, the table estimating possible United States import quotas for 1960-64, as proposed in HR 8779 and HR 8899, published by the United States Tariff Commission in December 1959. In that table, the 1964 quota estimate was slightly under 139 million pounds.

[52] In the estimates prepared for HR 8779 and HR 8899, referred to in the preceding footnote, the Central American quota was 7.3 million pounds for the latest year shown (1964). According to the *Survey of shrimp fisheries of Central and South America*, op. cit., potential shrimp production in the five Central American republics has been estimated at between a minimum of 8 million and a maximum of 16 million pounds in the foreseeable future.

Table 21

UNITED STATES: CATTLE INVENTORIES AND BEEF AND VEAL PRODUCTION

Year	*Cattle inventories (thousands of head)*	*Index*	*Beef and veal production (millions of pounds)*	*Index*
1939	66 029	100.0	8 002	100.0
1950	77 963	118.1	10 764	134.5
1951	82 083	124.3	9 896	123.7
1952	88 072	133.4	10 819	135.2
1953	94 241	142.7	13 953	174.4
1954	95 629	144.9	14 610	182,6
1955	96 592	146.3	15 147	189.3
1956	96 804	146.6	16 094	201.1
1957	94 502	143.1	15 739	196.7
1958	93 350	141.4	14 531	181.6
1959	96 851	146.7	14 624	182.8
1960	101 520	153.7	15 800	197.4

SOURCE: United States Department of Agriculture, *The Livestock and Meat Situation*, L.M.S.-102, Agricultural Marketing Service, Washington, D.C., 12 May 1959.

3. BEEF AND VEAL

United States cattle inventories are increasing intensively,[53] and at the present time exceed 100 million head. Considerable changes are also registered in beef production figures, which, as analysis of the statistical series shows, are 97.4 per cent higher for 1960 than for 1939 (see table 21). Every year, between 4 and 5 million head are added to existing cattle stocks. The doubling of the output of beef since the beginning of the Second World War, and the improvements in the average weight of cattle on the

[53] Current inventories show an increment of 53.7 per cent in relation to pre-war levels.

Table 22

ANNUAL *PER CAPITA* CONSUMPTION OF BEEF IN TEN COUNTRIES, 1957

Country	*Weight in pounds*
Argentina	210
Uruguay	130
Australia	129
New Zealand	113
United States	93
Canada	84
France	64
United Kingdom	55
Denmark	54
Federal Republic of Germany	39

SOURCE: United States Department of Agriculture, *Trends in World Meat Consumption*, Foreign Agriculture Circular FLM 11-58, 84, Washington, D.C., 31 October 1958.

Table 23

UNITED STATES: *PER CAPITA* MEAT CONSUMPTION

(Pounds)

Year	Red and white meat	Red meat				White meat
		Total	Beef and veal	Pork	Mutton and lamb	
Average 1957-59 . . .	190.6	157.2	89.3	63.5	4.4	33.4
1957	190.4	159.0	93.4	61.5	4.1	31.4
1958	186.5	152.4	87.2	60.7	4.5	34.1
1959	194.9	160.1	87.3	68.3	4.5	34.8

SOURCE: United States Department of Agriculture, *Livestock and Meat Situation*, Agricultural Marketing Service, L.M.S., 109, Washington, D.C., 11 May 1960.

hoof,[54] are indicative of the success achieved in research on feeding and selection systems and all the varied aspects involved in the rational management of stock farms.

The United States is one of the biggest consumers of beef in the world. An annual *per capita* level which in 1957 amounted to 93 pounds places it fifth among the countries with the highest consumption coefficients, and is far above those recorded for the same year in Canada and Western Europe, larger volumes being shown only by Argentina, Uruguay, Australia and New Zealand (see table 22). Total consumption of beef in the United States amounted to 14 232 million pounds, with an aggregate value estimated at about 10 million dollars, or approximately half that of all the red meat consumed by the population of the United States.

During the three-year period 1957-59, annual *per capita* meat consumption averaged 190.6 pounds (see table 23), of which 157.2 were red meat (beef, pork and mutton) and 33.4 white (turkey and fowls). Beef was preponderant, since it accounted for 89.3 pounds, or 46.9 per cent of the total.

The exceptional volume of beef production was not enough to cover domestic demand for this commodity. A large proportion of the imports effected, besides consisting of types of beef that have undergone some degree of processing, is of a markedly seasonal character, since purchases abroad are basically concentrated at the end of the winter and in early spring, the time of year when the supply of domestically-produced meat decreases on account of seasonal conditions.[55]

Owing to an annual falling-off, of more than 1 000 million pounds in domestic production during the last two years, imports of beef have substantially increased. Analysis of the data available for the past decade indicates that beef imports are subject to abrupt short-term fluctuations. Suffice it to mention that between 1950 and 1952 a high level of imports was registered, whereas the subsequent phase, covering the years 1953 to 1956, was characterized by a pronounced decline in purchases abroad. Lastly, between 1957 and 1959 another remarkable expansion of imports raised them to unprecedented levels (see table 24).

[54] The weight per head of cattle on the hoof increased by 29 per cent between 1939 and 1959, according to the data given by the United States Department of Agriculture in *The Livestock and Meat Situation*, L.M.S. 102 (Washington, D.C., 12 May 1959).

[55] United States Department of Agriculture, Foreign Agricultural Service, *Foreign Agriculture*, (Washington, D.C., August 1958), p. 6.

The foregoing changes in the volume of imports can be more clearly grasped if the averages for the periods concerned are compared. In 1950-52, imports reached an annual average of 272.8 million pounds, which dropped to only 129.0 million in 1953-56, i.e. by 47.3 per cent. In 1958-59, on the other hand, annual imports rose to 670.7 million pounds, which represented a 245.8 per cent increase over the 1950-52 figures and an increment of 519.9 per cent in relation to 1953-56.

The leading suppliers of beef are Argentina, Uruguay, Canada and Mexico in the American continent, and Australia, Ireland and New Zealand in the rest of the world. The expansion of United States imports during recent years has benefited all these countries, but especially Argentina, Australia and New Zealand, whose status as the world's biggest producers and exporters places them in a better position to react quickly to favourable changes in external demand. Nevertheless, the volume of this demand influenced the export trade of other countries which had been virtually crowded out of the United States market during the period when imports were declining, cases in point being Cuba, the Dominican Republic and the United Kingdom.[56]

[56] Imports from the Dominican Republic dropped from 8 733.4 million pounds in 1950 to 600.2 million in 1956, but rose again to 5 305.6 million in 1959. Cuba's exports to the United States increased from 73.7 million pounds in 1956 to 2 244.5 million in 1959 (see United States Department of Commerce, *United States Imports of Merchandise for Consumption*, 1950, 1955, 1957 and 1959).

Table 24

UNITED STATES: BEEF AND VEAL IMPORTS

(Millions of pounds)

Country of origin	1950	1955	1957	1958	1959
Total	*210.1*	*118.5*	*230.6*	*619.7*	*722.3*
Argentina	90.4	86.5	86.3	216.7	128.6
Mexico	—	10.4	12.9	75.0	48.9
Canada	73.4	8.0	47.4	53.6	22.6
Uruguay	22.8	1.3	9.6	9.6	—
Ireland	0.4	0.8	6.5	23.8	42.0
Australia	0.1	2.2	5.5	17.7	224.0
New Zealand . . .	—	2.6	50.0	183.7	161.6
Other countries . .	23.0	6.7	12.4	39.2	94.6

SOURCES: United States Department of Agriculture, *Livestock and Meat Statistics 1957*, Agricultural Marketing Service, Washington, D.C.; and *Livestock and Meat Situation*, L.M.S., 109, Washington, D.C., 11 May 1960.

The Central American countries are just gaining foothold in the United States meat market. While it is true that Honduras and Nicaragua are traditional exporters of cattle on the hoof and that Costa Rica also emerged as an exporter some years ago, the area's meat sales to the United States market were formerly very modest. Only the increase recently registered in the United States' total imports has enabled Central America to make substantial sales on the market in question.

In 1956, imports of beef from Central America did not amount to more than 83 000 pounds, almost the whole of which corresponded to Costa Rica. A year later they had climbed to 742 500 pounds, while in 1959 the volume of United States purchases from Central America was more than 17 million pounds, and their value over 5.5 million dollars (see table 25), the exporters being Honduras and Nicaragua, in addition to Costa Rica—i.e., the three countries in the area whose stock farming is most highly developed. It is difficult to predict the trend of imports from Central America in the immediate future, but unquestionably, if the United States market were to be stabilized or expanded, the Central American countries would be in a position to increase their exports considerably.

From the standpoint of the Central American supply, it should be recalled that in recent years significant changes have taken place in livestock production in the countries of the area. Firstly, the value of cattle for export, mainly to Colombia, Curaçao and Peru, increased by 40.2 per cent between 1955 and 1958, and this upward trend is sure to continue in the near future because of the importance which is being attached to technological improvements in stock farming. Secondly, the Central American countries have devoted special attention to the establishment of slaughterhouses and cold storage plants for the processing of cattle for export, their installations being in line with the standards of hygiene established by the United States Government.

To judge from the evolution of beef production in the United States, its expansion is likely to continue in the immediate future, since in practice stock farming is generally carried on in the grain-growing area, where feed is not a heavy item in production costs. Again, the rearing of beef cattle requires only a small percentage of manpower, which ranks high on the list of costs. Lastly, technological innovations in stock farming will also contribute to the expansion in question.

As regards consumption, it is forecast that by 1965 *per capita* consumption of beef (excluding veal) will be about 95 pounds,[57] or approximately 6 per cent more than in 1957-59. The addition of veal would probably raise *per capita* consumption to 104 pounds.

If these two future possibilities—the probable expansion of production and the improvement of consumption levels in the future—are taken into consideration, it seems unlikely that there will be any significant increase in the volume of beef imports, and even doubtful whether they will remain as large as in the last two years. Nevertheless, seasonal fluctuations will help to maintain import margins that will leave room for some countries to sell part of their output on the United States markets. Furthermore, relatively low-priced types of meat, not considered of prime quality, will continue to be imported.

The Central American countries' prospects of maintaining or even increasing their exports of beef to the United States will of course be partly determined, on the one hand, by the development of the latter's domestic supply situation, and by the contributions of the various supplier countries, on the other. In this last context, it should be borne in mind that the meat imported from South America, especially Argentina, is of a type against which the Central American countries can put up no competition. In contrast, imports from Australia, Canada, the Dominican Republic, Ireland, Mexico and New Zealand are mainly composed of carcass and boned meat for industrial purposes, of a type similar to that exported by Central America. Attention has already been drawn to the greater demand for imports of such meat, but this does not mean that no seasonal fluctuations are experienced. It may also be noted that some of the regular suppliers, like Australia and New Zealand, are countries whose production capacity enables them to withstand these vicissitudes in external demand, since no other interpretation can be placed on the fact that between 1957 and 1959, Australia increased its exports from 5.5 million pounds to 224.0 million (according to United States import statistics), while those of New Zealand rose from 50 million to 161.6 million (see again table 24).

To conclule this brief analysis, therefore, it may be pointed out that one of the few advantages which may help the Central American countries to maintain their footing in the United States meat market seems to lie in their proximity, and in the consequent reduction of refrigerated transport costs.

Table 25

UNITED STATES: IMPORTS OF BEEF AND VEAL[a] FROM CENTRAL AMERICA

Country of origin	*1957*	*1959*	
		Volume (thousands of pounds)	*Value (thousands of dollars)*
Costa Rica	742.5	9 748.8	3 185.1
Nicaragua	—	5 764.7	1 833.2
Honduras	—	1 509.9	482.2
Total from Central America	742.5	17 023.4	5 500.5
Total from rest of world		722 000.0	—

SOURCE: United States Department of Commerce, Report No. FT-110, *United States Imports of Merchandise for Consumption*, Bureau of Census, 1950, 1955, 1957 and 1959.

[a] The reference is to fresh, chilled or frozen beef and veal.

4. WOOD AND WOOD PRODUCTS

The United States has provided a very substantial and growing post-war market for imported forestry products in primary and final forms. Thus, since the end of the Second World War, one out of every eight dollars worth of United States imports has been wood or paper, and by 1956-58, imports of these two commodities were averaging close to 1 500 million dollars per annum. Paper (including manufactures and base stocks) has typically accounted for the great bulk (70-80 per cent) of the combined wood

[57] United States Department of Agriculture, Agricultural Marketing Service, *The Livestock and Meat Situation*, L.M.S. 102 (Washington, D.C., 12 May 1959).

and paper total (see table 26). Since Central American exports of paper are negligible, however, the following notes relate solely to United States imports of the remaining category, namely, wood and wood products.

Within this category, table 26 shows three clearly defined but different growth patterns. Firstly, United States imports of wood manufactures have been rising at an exceptionally rapid pace, almost quadrupling since the early post-war years. Secondly, imports of unmanufactured woods have followed a stagnant trend and represent only a minor part of the trade under discussion. Thirdly, imported lumber rose rapidly during the first post-war decade. Although the rate of growth has slowed down in recent years, lumber is still the largest single component of the total, currently representing approximately three fifths of all United States imports of wood and wood products.

Post-war trend in United States imports of Central American wood and wood products have basically reflected those described in the preceding paragraph (see table 27). Thus shipments of wood in unmanufactured forms[58] have stagnated, falling from 0.7 million dollars in 1949 to only 0.5 million dollars in 1959. Wood manufactures,[59] conversely, have risen from negligible amounts a decade ago to 0.5 million dollars in 1959. Lumber,[60] more than quadrupled from 0.7 million dollars in 1949 to a post-war peak of 2.9 million dollars in 1959. By the latter year, Central American exports of all wood and wood products to the United States totalled 3.8 million dollars, and lumber alone accounted for 75 per cent of this total.

Nicaragua and Honduras are the major Central American suppliers, exporting 1.9 million and 1.2 million dollars worth respectively to the United states during 1959. Guatemala ranked third in importance that year with 0.6 million dollars, followed by Costa Rica with less than 0.2 million dollars.[61] It will be noted from the composition of each country's trade that exports of unmanufactured woods have been declining in almost every case. Such woods had virtually disappeared from the export trade of Honduras and Costa Rica by 1959. The recent growth in wood manufactures is restricted to only two countries—Guatemala and Costa Rica. Similarly, two countries—Nicaragua and Honduras—which together provided almost all of Central American such shipments by 1959, account almost exclusively for the sharp increase in lumber exports.

From 1947-50 to 1956-58, the volume of total United States lumber imports rose by 59 per cent. This was mainly due to the substantial growth in softwood lumber, whose volume rose by 63 per cent. Conversely, hardwoods increased by less than 20 per cent during that period. Central America was not able to record proportional increases in its trade (see table 28). Thus, Central America's total lumber exports to the United States rose by only 12 per cent; its softwood exports to that market expanded by less than 40 per cent; and its hardwood lumber shipments actually declined.

It was pointed out with reference to table 27 that Nicaragua and Honduras are by far the two largest Central American exporters of wood in all forms. The same table also shows that the predominance of these two countries was attributable almost exclusively to a rapid growth trend in shipments of lumber (i.e. as opposed to wood in unmanufactured or manufactured forms). These same two countries have achieved their higher level of lumber exports by progressively shifting away from hard to soft-

[58] Central American exports of unmanufactured woods to the United States in 1959 were mainly logs (of mahogany, Spanish cedar, *lignum vitae* and other hardwoods), and small quantities of round hewn timber.

[59] In 1959, Central American exports of such manufactures comprised plywoods, veneers and minor amounts of furniture.

[60] Sawmill products, predominantly pine and mahogany lumber.

[61] El Salvador's shipments to the United States have amounted to less than 100 000 dollars in all but three post-war years.

Table 26

UNITED STATES: TOTAL IMPORTS OF WOOD, PAPER AND THEIR PRODUCTS

(Millions of dollars)

Product	*Averages*		
	1946-50	*1951-55*	*1956-58*
Total: wood and wood products	*203*	*372*	*443*
Wood, unprocessed[a]	23	29	25
Lumber[b]	142	252	270
Wood manufactures[c]	38	91	148
Total: paper and products[d]	*662*	*966*	*1 050*
Total: wood and paper products	*865*	*1 338*	*1 493*
Percentage of total United States imports	(13.2)	(12.5)	(11.7)

SOURCE: United States, Department of Commerce. *Statistical Abstract of the United States, 1959*. p. 888.

[a] Mainly logs and round or hewn timber. Also includes ties, bamboo, evergreen Christmas trees, etc.

[b] Sawmill products.

[c] Mainly plywood and veneers. Also includes furniture, baskets, barrels, etc.

[d] In 1956-58, paper base stocks accounted for 70 per cent of this total, and paper plus manufactures for virtually all the remainder. A minor proportion of the total is represented by work and manufactures.

Table 27

UNITED STATES: IMPORTS OF WOOD FROM CENTRAL AMERICA

(Thousands of dollars)

Country and products	*1949*	*1956*	*1959*
Nicaragua: Total	*686.1*	*1 203.3*	*1 914.2*
Wood, unmanufactured	350.8	235.1	275.3
Lumber	335.3	968.2	1 638.9
Wood manufactures	—	—	—
Guatemala: Total	*132.5*	*411.9*	*618.5*
Wood, unmanufactured	82.0	332.2	163.3
Lumber	47.0	47.7	81.3
Wood manufactures	3.5	32.0	373.9
Honduras: Total	*409.4*	*656.7*	*1 153.6*
Wood, unmanufactured	197.0	80.9	8.1
Lumber	210.0	552.4	1 140.3
Wood manufactures	2.4	23.4	5.2
Costa Rica: Total	*230.0*	*417.2*	*153.9*
Wood, unmanufactured	108.2	4.4	4.4
Lumber	121.8	412.8	29.9
Wood manufactures	—	—	119.6
Central America: Total	*1 458.0*	*2 689.1*	*3 840.2*
Wood, unmanufactured	738.0	652.6	451.1
Lumber	713.0	1 981.1	2 890.4
Wood manufactures	7.0	55.4	498.7

SOURCE: United States Department of Commerce, *FT 120*, selected issues.

Table 28

UNITED STATES: IMPORTS OF LUMBER

(Thousands of board feet)

Country	1947-50 average			1956-58 average		
	Hard woods	*Soft woods*	*Total*	*Hard woods*	*Soft woods*	*Total*
Costa Rica	2.7	—	2.7	1.9	—	1.9
Guatemala	0.7	0.1	0.8	0.3	0.1	0.4
Honduras	1.3	1.7	3.0	0.9	3.2	4.1
Nicaragua	1.9	3.5	5.4	2.9	4.0	6.9
Total from Central America	6.6	5.3	11.9	6.0	7.3	13.3
Total imports	208.6	1 839.3	2 047.9	247.5	3 004.5	3 252.0

SOURCES: United States Department of Commerce, Forest Products Division, *United States Lumber Imports 1947-59.*

wood varieties (see table 28). Thus, between 1947-50 and 1956-58, their combined exports of hardwood lumber rose from 3.2 to 3.8 million board feet (or by less than 20 per cent), whereas their combined shipments of softwood lumbers to the United States rose from 5.2 to 7.2 million board feet (by 40 per cent).

To sum up, the following four main points relating to United States imports are of particular importance:

(*a*) In the face of a rapidly growing United States import demand for wood and wood products, Central American sales to that market have also increased substantially during the past decade.

(*b*) United States imports of wood in various forms from Central America have reflected, although in differing degrees, the changing commodity composition to total United States wood imports, wood manufactures rising most rapidly, unmanufacteurd woods following a stagnant trend, and lumber imports increasing substantially and representing the largest single item in the trade under review.

(*c*) Within the important category of lumber, United States imports of soft-woods have risen far more rapidly than those of hardwoods. This trend was also apparent in Central American exports, although again not to the same extent.

(*d*) Two countries (Nicaragua and Honduras) together provide approximately 75 per cent of Central Americas total exports of wood to the United States. Both have been able to increase their export trade by shifting away from unmanufactured wood to lumber and by producing more of the latter from soft as against hardwood varieties.

Central American exports of unmanufactured wood consist primarily of mahogany logs from Nicaragua and *lignum vitae* logs from Guatemala (see table 29). Small amounts of Spanish cedar logs and some rough timber are also shipped from these two countries and from Honduras and Costa Rica as well. Over the past decade, Central American shipments of such logs and timber have fluctuated irregularly but on a declining scale: from 738 000 dollars in 1949 to only 451 000 dollars in 1959, one of the lowest levels recorded since the Second World War. This stagnant pattern is a result of the shift in United States demand from logs and towards imports directly utilizable in the form of lumber. Thus, as new and larger sawmills have been constructed in Central America since the war, the decline in the exports of logs has constituted the counterpart of its higehr level of exports in the form of sawmill products.

Since the current level of Central American log exports is so small, minor shifts in United States demand could induce much larger changes in the small Central American trade involved. Excluding the possibility of sharp annual fluctuations, however, such exports are not expected to vary noticeably from present levels. A range of 0.3-0.8 dollars is considered reasonable for 1965.

In 1959, the United States imported 499 000 dollars worth of wood manufactures from Central America. Approximately three quarters of this total consisted of plywoods produced in Guatemala, and almost all the balance was accounted for by Costa Rican wood veneers. Small amounts of furniture (chairs, rattan items, etc.) were also included.

For two reasons it is difficult to make a projection of Central America's future exports of wood manufactures in new or existing forms. One was earlier: the current level of exports is so small that even a few orders from United States retailers or distributors would mean very large increases for the Central American products. The other is the fact that United States demand for plywoods, veneers, and competitively priced furniture items has contributed substantially to the dynamic post-war growth in aggregate United States imports of wood manufactures. Depending upon future Central American production and transport facilities therefore, very significant increases could be anticipated from Central America. In the absence of bases for estimating the growth in such investments or the extent to which Central American prices and qualities can be competitive in the United States market, however, only a very tentative projection is possible. According to some specialists, the range would be 2.5-5 million dollars in 1965. The upper limit, it will be noted, assumes that Central America can increase its sales over the next five years by the same extent as it has since 1956, i.e. approximately ten-fold.

Central American exports of sawmill products to the United States currently consist of two main varieties: pitch pine and dressed mahogany lumber from Honduras and Nicaragua. By 1959, these two varieties represented over 95 per cent of the regional total, the balance being made up of cedar, balsa and *lignum vitae* sawed woods. Guatemala and Costa Rica provided only about 4 per cent of the total trade during 1959.

As mentioned earlier, Central American lumber sales to the United States have risen substantially during the post-war period, and currently account for three fourths of all

Table 29

UNITED STATES: IMPORTS OF WOOD AND WOOD PRODUCTS FROM CENTRAL AMERICA, 1959

(Thousands of dollars)

Product	*Nicaragua*	*Guatemala*	*Honduras*	*Costa Rica*	*Total*
		A. *Wood, unmanufactured*			
Logs, mahogany	240.9	16.0	—	—	256.9
Logs, cedar	18.9	—	—	—	18.9
Logs, *Lignum vitae*	3.2	130.1	8.1	—	141.4
Other logs and timber	12.3	17.2	—	—	33.9
Total	275.3	163.3	8.1	4.4	451.1
		B. *Wood manufactures*			
Plywood	—	370.7	2.9	—	373.6
Veneers	—	—	2.3	118.0	120.3
Chairs and other furniture	—	3.2	—	1.6	4.8
Total	—	373.9	5.2	119.6	498.7
		C. *Lumber (sawmill products)*			
Lumber, northern pine	17.5	—	3.7	—	21.2
Lumber, other pine	546.6	—	772.9	—	1 319.5
Lumber, cedar	16.5	—	2.9	—	19.4
Lumber, balsa	0.9	—	—	—	0.9
Lumber, Mahogany	973.0	46.7	358.7	12.5	1 390.9
Lumber, *lignum vitae*	2.7	15.2	—	—	17.9
Other lumber	81.7	19.4	2.1	17.4	120.6
Total	1 638.9	81.3	1 140.3	29.9	2 890.4
Grand total	1 914.2	618.5	1 153.6	153.9	3 840.2

SOURCE: United States Department of Commerce, *FT 110, 1959.*

the region's exports of wood and wood products. This expansion is attributable to three interrelated developments. Firstly the volume of hardwood lumber shipped from Central America has remained fairly stable. Secondly, the volume of its softwood lumber exports has increased noticeably since the end of the war. And thirdly, United States lumber prices have risen at an exceptionally rapid pace over the same period.[62]

During the next five years, Central American exports of hardwood lumber will probably not vary appreciably from their recent levels. The end uses to which Central American hardwoods are put in the United States cover primarily high-quality and high-priced items such as superior types of furniture; yachts and other small craft; millwork trim and stair railings; instrument casings; and a variety of other specialized products. Given the nature of these items, the demand for them tends to be relatively inelastic as regards price, usually responding to trends in real disposable income levels and to changes in the expenditure patterns of higher income brackets within the United States. On the assumption that such groups continue their recent spending patterns, therefore, the demand for Central America's superior hardwoods should be maintained at a relatively stable level in the near future. As for softwood lumbers, United States demand has risen sharply over the past decade—mainly because of the steadily growing volume of urban residential construction—with almost all the imported supplies coming from Canada.[63] However, the marginal quantities purchased from Central America have been sufficiently competitive to enable that region to record a sustained growth trend in its small export totals over the past decade. To the extent therefore that Central America can match the price and quality standards set by the important Canadian supplier, the quantities moving from that region to the United States market could increase considerably over the next five years.

It might be assumed that taken together, Central American soft and hardwood lumber exports to the United States will rise from their 1959 level of 2.9 million dollars to a 1965 range of between 5 million and 10 million dollars. Whether the higher or lower limit will prevail depends, of course, primarily on the extent to which supply elasticities, and production and quality standards in Central America,[64] enable Central America to maintain its recent position as a marginal but growing supplier of the large United States import market.

On balance, therefore, United States imports of all wood and wood products from Central America might be tentatively projected within the limits of 7.8 million and 15.8

[62] In 1946, the wholesale price index for United States lumber was 59.3 (1947-49 = 100). By 1950 it had increased to 114.5 and by March 1959 to 125.4 (see *Statistical Abstract of the United States,* selected issues). Separate break-downs are not given for different types of lumber.

[63] From 1957 to 1959, approximately 98 per cent of all United States softwood lumber imports came from Canada.

[64] It has been estimated that the construction of a large modern sawmill in the Olancho region of northern Honduras could alone increase Central American exports of pitch pine lumber by more than 5 million dollars during the coming decade (see FAO preliminary report FAO/CAIS/59/1,TAA, 1959).

million dollars in 1965, as compared with 3.8 million dollars in 1955. These estimates, involving a twofold to fourfold increase over the next five years, presuppose a faster rate of growth than was recorded during the decade 1949-59, when such exports rose less than threefold.[65]

5. Other commodities

United States imports of Central American *cacao* beans rose sharply after the war, stimulated by existing supply shortages and especially by the fivefold price increase that took place between the removal of wartime price controls and 1954. By the latter year, Central American sales to the United States amounted to 6.5 million dollars, compared with less than 1 million dollars in 1946. Since 1954, however, United States prices have fallen considerably, and at the same time there has been a steadily growing use of natural and synthetic substitutes for cacao butter in the United States confectionery industry, and a simultaneous shift in the composition of confectionery sales away from items containing relatively large amounts of cacao.[66] *Per capita* consumption has consistently remained below initial post-war level and total United States imports have remained stagnant in terms of volume for the past decade. By 1958, therefore, these price and volume developments had served to lower United States imports from Central America to only 3.8 million dollars.

Silver, in the form of ore and base bullion, was shipped to the United States well before the Second World War. Unlike the merchandise items under review, this metal is unique in that it is not confronted with consumer-based variations in demand and price, and hence its export totals change exclusively in response to changes in supply. Although silver is produced in different parts of the region, one large foreign-owned company has usually provided the bulk of the output. In 1946, Central American silver sales to the United States totalled 2.8 million dollars, a level which subsequently rose steadily until, by 1951-53, the annual average was over 6 million dollars. Since then rising production costs, on the one hand, and the depletion of some previously sizable ore deposits, on the other, have led to a falling production trend, and from 1955-58 imports averaged closer to 2.5 million dollars. Some new claims have recently been worked, but as recently as 1958 United States imports were only slightly larger than those existing at the beginning of the post-war period.

Central America first exported hard fibres to the United States during the Second World War, when the United States was unable to obtain *abaca* from its traditional sources of supply in the Philippines. To ensure access to this important cordage fibre, so valuable for military ropes and hawsers, the United States Government helped to finance extensive plantings in Central America for direct shipment to the United States under a guaranteed sales arrangement. This arrangement, plus the subsequent demand resulting from the outbreak of hostilities in Korea, led to an expansion in the volume and value of Central American sales until, by 1954, they amounted to 4 million dollars. In more recent years, however, Philippine abaca has once again become available in plentiful supply and at competitive prices. At the same time, various technological developments have reduced the peacetime cordage demand for abaca.[67] By 1958, therefore, United States imports from Central America amounted to only 2.9 million dollars and further cuts are expected.[68]

The United States does not produce *sesame* seed in commercial quantities, and Central America traditionally provides four fifths or more of its total imports. Its imports rose progressively during the first post-war decade, mainly because of the growing use of sesame seed for bakery products and as a derivative oil for confectionary and various other kitchen purposes. As a result United States imports from Central America increased more than fivefold from 1946 to 1954, reaching 2.5 million dollars by the latter year. Imports fell temporarily in 1955, and have been characterized subsequently by progressive volume increases and a steady price level. Despite the recent recovery, however, Central American sales in 1958 amounted to only 2.3 million dollars.

By far the bulk of the United States *sugar* quota comes from Cuba, the Dominican Republic, Mexico and Peru.[69] While Central America's allotment is very small, its growth in response to the gradual rise in United States sugar consumption has initiated a modest but rising trend in exports. Admittedly, the volume has fluctuated in certain post-war years, when the differential between international and United States quota prices caused Central America to redirect its marginal output towards markets other than the United States. None the less, from insignificant amounts in 1946, Central American exports to the United States had risen to 2 million dollars in 1958, the highest level ever recorded by the region.

To sum up, exports of the first four items (cacao beans, silver, abaca and sesame) to the United States rose steadily from 1946 to 1954, reaching a post-war peak of 16 million dollars in that year. During the subsequent five years, on the other hand, owing to lower prices, the resurgence of traditional supply areas, various technological and consumer taste developments, and Central American supply inelasticities, their combined values have not been able to maintain a steady level let alone increase. On the contrary, they declined to only 12 million dollars in 1958. These four items thus stand in contrast to soluble coffee and sugar, both of which were of negligible importance until 1954 but subsequently rose to a post-war peak of 8 million dollars in 1958.

Lead and *zinc* ore exports from Central America were of minor importance during the first post-war decade, amounting together to less than 1 million dollars up to 1954. In the next few years, however, both rose rapidly, as a result, on the one hand, of the general strengthening of lead and zinc prices during this period, and, on the

[65] It should be noted that no forecasts have been included here regarding Central America as a potential exporter of paper or paper-base stocks. If, for example, the pulping mill discussed in the FAO report mentioned in footnote 64, is inaugurated, the estimates given above could be significantly higher.

[66] See "Recent trends in the exports and prices of some products", *Economic Bulletin for Latin America*, Vol. I, No.1 (Santiago, Chile, January 1956), pp. 69 *et. seq.*

[67] Man-made fibres are being increasingly used for marine ropes because of their greater tensile strength, water resistance and light weight. Similarly, the growing use of cartons, and gummed or sealing paper, has reduced industrial consumption of hard-fibre twines.

[68] The United States has already begun to terminate its contractual arrangements for abaca production in Central America.

[69] When Cuba's sugar export quota was cut, the quotas of Nicaragua and Costa Rica increased by 23 265 tons, and annual quotas of 6 000 tons were allotted to El Salvador and Guatemala. Thus the total sugar quota for export from Central America to the United States amounts to 54 173 tons.

other, of a United States government purchase agreement signed with a Central American mining company after the Korean hostilities providing for preferential prices and guaranteed sales terms. Under the combined stimuli of these developments, United States imports from Central America rose to almost 6 million dollars by 1957. Beginning in 1958, however, when sinking lead and zinc prices were limiting production in marginal Central American mines, and as delivery commitments under the government contract were nearing completion, Central American sales to the United States fell back sharply, amounting to only 2.7 million dollars in that year.[70]

United States imports of *citronella* and *Lemon grass* oils have always been small. During the entire post-war period, total United States imports of these two so-called essential oils averaged only about 4 million dollars per year. Their main uses are as scenting or flavouring agents in the manufacture of soaps, bath salts, insect repellents, and for certain foods and drugs. In 1946, when supplies from Asia were not yet fully available, Central American exports of the two items were valued at 1.7 million dollars. Subsequently, Central American shipments fluctuated irregularly but usually close to or below their combined 1946 level because of the inroads made by other natural and synthetic substitutes and of the strong competition from other suppliers such as China (Formosa) and India. By 1958, United States imports from Central America of the two oils amounted to only 1 million dollars.

Chicle, jelutong and *leche caspi* are the principal base ingredients used in the manufacture of chewing gum. None are produced commercially in the United States. The three ingredients are interchangeable and hence their respective import trends depend upon supplies and relative prices. During the Second World War when jelutong was not obtainable from Asia, imports of leche caspi and especially of chicle rose sharply in both volume and unit values. Although Mexico is the main chicle supplier, Central America also benefited from this situation, selling record amounts worth 3.0 to 3.5 million dollars to the United States in 1946 and 1947 respectively. During the next few years, the reverse situation prevailed, when the high price of chicle as compared with the other two ingredients and the growing post-war supplies of the latter brought about a declining trend in United States imports from Central America. More recently chicle prices have remained quite steady, and the volume has moved irregularly, but as recently as 1958 imports were still less than half of their 1946 level.

In addition to the various commodities mentioned, Central America's residual export to the United States include a final miscellaneous category comprising several minor and specialized items such as exotic fruits, herbs and spices, oils, waxes, gums and resins, hides and skins, curios, and various light manufactured products. Some of these items have not been able to maintain their foothold in the United States market, whereas other new products have emerged to take their place. In general, however, the main characteristic of this miscellaneous category is that its total has remained very close to 5 million dollars per year throughout the entire post-war period.

In summary, therefore, United States residual imports from Central America have, for a variety of reasons, followed widely different patterns of growth, stability and decline since 1946. Roughly speaking, they might be considered to fall within the following three groups. Firstly, soluble coffee, seafood, lumber and sugar have all followed quite favourable patterns during the post-war period, and as regards the prospects currently facing them in the United States, their growth possibilities in the near future look promising. Secondly, the prospects for abaca, lead and zinc are gloomy owing, among other reasons, to the pending termination of various governmental contracts that had been largely instrumental in stimulating their development. Thirdly, cacao beans, sesame seeds, essential oils, chicle, silver and miscellaneous items have all followed erratic post-war courses, but in virtually all cases their recent value and volume levels were well below those existing during the first ten post-war years. While the fate of each product in this third group will depend upon a number of circumstances that cannot now be ascertained, there are grounds for expecting that some future growth could take place over their combined 1958 level.

The use of these three broad categories to indicate possible future developments should not be construed in any way as forecasts. For Central America, whose residual exports are so small and varied, and where short-term circumstances affecting supply and demand can lead to very sharp and erratic fluctuations in export levels from one year to another, quantitative projections would require detailed market surveys for each of the many products concerned, a task beyond the scope of this study. Nevertheless, there are grounds for assuming that growth prospects are very good for items comprising about a third of all the "residual" commodities in 1958, that they are poor for items constituting about one sixth of these commodities, and that the remaining half occupy a middle position in which some expansion in their combined total is possible. On balance, however, and taking all these items together, they do not appear to offer much more than modest possibilities of growth as regards the near future. This situation, together with their small magnitudes, indicates that Central America's residual exports to the United States could at best only partially offset the pesssimistic short-term outlook facing the region's two traditional commodity exports.

[70] United States import quotas for lead and zinc were imposed during October 1958. Between the third quarter of that year and the first quarter of 1959, United States imports of lead and zinc fell by 10 and 30 per cent respectively in volume.

V. TRENDS IN COMMODITY DIVERSIFICATION BY COUNTRIES

In section III, 2 above, Central American exports of coffee, bananas and residual items to the United States were presented from the viewpoint of the region as a whole. In the following section, a brief examination will be made of some individual country totals, primarily in order to ascertain the extent to which the traditional emphasis placed on coffee and bananas by each republic increased or decreased from the beginning to the end of the post-war period.

Table 30 was prepared to show the relative importance of each country within the total of Central American exports to the United States. For the years 1946-58 taken as

Table 30

UNITED STATES: IMPORTS FROM CENTRAL AMERICA, BY COUNTRIES

(Values in millions of dollars)

Average for period	Total value	Costa Rica		El Salvador		Guatemala		Honduras		Nicaragua	
		Value	(%)	Value	(%)	Value	(%)	Value	(%)	Value	(%)
1946-49	158.8	30.6	(19)	28.7	(18)	52.5	(33)	38.3	(24)	8.8	(6)
1950-54	262.5	51.2	(20)	60.8	(23)	70.2	(27)	56.7	(22)	23.7	(9)
1955-58	252.9	42.3	(17)	53.8	(21)	80.8	(32)	53.4	(21)	22.6	(9)
1946-58	227.7	42.1	(19)	48.8	(21)	68.0	(30)	50.0	(22)	18.8	(8)

SOURCE: Annex, table VII.

a whole, it will be seen that Guatemala has accounted for the largest proportion (30 per cent) and Nicaragua the smallest (8 per cent). Honduras, El Salvador and Costa Rica have occupied intermediate positions (22, 21 and 19 per cent respectively) between these upper and lower extremes. Although variations have taken place in the proportions recorded for each country from one year to another, this broad threefold order of rank has not changed since the end of the Second World War.

Virtually the entire increase in *Guatemala's* exports to the United States was due to its rapidly expanding coffee trade (see table 31). Bananas have shown no net post-war growth, and despite the increasing number of residual exports, the latter category also revealed a virtually stagnant post-war trend. Coffee has therefore grown so substantially in importance that its share of the total jumped from 42 per cent in 1946 to 70 per cent in 1958. Conversely, the share represented by bananas fell from 41 to 20 per cent, and that of residual exports from 17 to only 10 per cent during these same years. It is thus very clear that Guatemala's commodity composition has become increasingly more rigid so far as its post-war exports to the United States are concerned i.e. it has not been able to reduce its historic emphasis upon bananas and coffee as a group through the development of new export items, and furthermore it is now far more dependent upon a single crop —coffee—than was the case at the beginning of the post-war period.

In one respect, *Honduras* has differed from Guatemala in that coffee has never ousted bananas (see table 32). In two other respects, however, post-war trends in the commodity composition of Honduran and Guatemalan exports to the United States show a considerable similarity. Firstly, coffee and bananas together have increased in importance in both countries to the point of accounting for 90 per cent or more of their respective totals. Thus, even though a progressively larger number of items has entered the Honduran category of residual exports, this category has not grown in value terms since 1946 and hence its share fell from 24 per cent in the latter year to only 10 per cent in 1958.

Secondly, while Honduran banana exports have fluctuated widely in recent years, especially owing to production problems since 1953, this fruit by itself has usually provided between 60 and 80 per cent of Honduran sales to the United States, a range virtually identical with that recorded for coffee in the case of Guatemala.

Costa Rica's commodity trends *vis-à-vis* the United States have differed somewhat from those of Guatemala and Honduras in that the combined share of bananas and

Table 31

UNITED STATES: IMPORTS FROM GUATEMALA IN SELECTED POST-WAR YEARS

(Values in millions of dollars)

Item	1946		1950		1954		1958	
	Value	(%)	Value	(%)	Value	(%)	Value	(%)
Bananas and coffee: Total	*32.5*	*(83)*	*61.0*	*(92)*	*68.6*	*(93)*	*68.3*	*(90)*
Bananas	16.1	(41)	17.8	(27)	13.5	(18)	15.0	(20)
Coffee	16.4	(42)	43.2	(65)	55.1	(75)	53.3	(70)
Other items: Total	*6.4*	*(17)*	*5.7*	*(8)*	*5.0*	*(7)*	*7.4*	*(10)*
Chicle	3.0		0.8		0.9		1.3	
Abaca	0.4		1.9		1.0		0.8	
Citronella oil	1.1		1.0		0.1		0.4	
Lemon grass oil	0.2		0.3		0.4		0.6	
Lumber	0.2		0.1		0.1		0.1	
Cacao beans	—		0.2		0.2		0.3	
Lead ore	—		0.4		0.4		0.6	
Zinc ore	—		—		0.1		0.7	
Miscellaneous	1.5		1.0		1.8		2.6	
All items: Total	*38.9*	*(100)*	*66.7*	*(100)*	*73.6*	*(100)*	*75.7*	*(100)*

SOURCE: United States Department of Commerce, *FT Report 120*, with adjustments for banana undervaluations.

Table 32

UNITED STATES: IMPORTS FROM HONDURAS IN SELECTED POST-WAR YEARS

(Values in millions of dollars)

Item	1946		1950		1954		1958	
	Value	(%)	Value	(%)	Value	(%)	Value	(%)
Bananas and coffee: Total	*19.5*	*(76)*	*47.7*	*(90)*	*43.0*	*(88)*	*55.4*	*(90)*
Bananas	18.7	(73)	42.7	(81)	29.4	(60)	46.6	(76)
Coffee	0.8	(3)	5.0	(9)	13.6	(28)	8.8	(14)
Other items: Total	*6.1*	*(24)*	*5.5*	*(10)*	*6.1*	*(12)*	*6.2*	*(10)*
Abaca	0.4		0.5		0.4		0.7	
Lumber	0.2		0.1		0.4		0.5	
Lead ore	—		0.1		0.4		1.0	
Zinc ore	—		—		0.2		0.3	
Silver	2.8		3.1		3.8		2.4	
Miscellaneous	2.7		1.7		0.9		1.3	
All items: Total	*25.6*	*(100)*	*53.2*	*(100)*	*49.1*	*(100)*	*61.6*	*(100)*

SOURCE: *FT Report 120*, with adjustments for banana undervaluations, and including silver ore and base bullion.

coffee has not increased in Costa Rican post-war exports to the United States. In fact, a modest movement in the opposite direction has taken place (see table 33). But, while Costa Rica's residual exports have been growing in both absolute and relative terms, this has been due almost exclusively to two items—cacao beans and abaca. The future of the latter at least is doubtful.

El Salvador is unique among the Central American countries in that bananas have never figured in its export trade, and also because coffee has long accounted for all but 1 to 2 per cent of its exports to the United States (see table 34). During the first ten post-war years, the sharp rise in coffee prices redounded substantially to El Salvador's benefit and its sales to the United States rose far more rapidly than did those of Central America as a whole. Since 1955, conversely, declining prices have reacted very adversely upon El Salvador's coffee sales, a development that has been partially offset in the last few years by the increase in residual export values. But, as in the case of Costa Rica, it should be noted that only a very few residual items are involved, one in particular (soluble coffee) being of outstanding importance.

Nicaraguan exports of bananas are minor, and coffee has traditionally accounted for the bulk of its sales to the United States market (see table 35). However, while the absolute magnitudes of Nicaragua's residual exports are small, they have grown in relative importance to the point where their combined share (typically 20 to 30 per cent of the total) has been well in excess of that recorded for any of the other four countries mentioned. In this respect at least, Nicaragua might be said to have achieved the widest degree of commodity diversification so far as Central America's post-war trade with the United States is concerned.

On reviewing tables 31 to 35 it will be seen that the emphasis upon coffee and bananas as a group has increased for Guatemala and Honduras since 1946 and also that both of these countries must now depend very heavily

Table 33

UNITED STATES: IMPORTS FROM COSTA RICA, IN SELECTED POST-WAR YEARS

(Values in millions of dollars)

Item	1946		1950		1954		1958	
	Value	(%)	Value	(%)	Value	(%)	Value	(%)
Bananas and coffee: Total	*14.3*	*(89)*	*42.1*	*(91)*	*43.6*	*(84)*	*44.0*	*(86)*
Bananas	9.5	(59)	30.7	(66)	30.4	(59)	24.7	(49)
Coffee	4.8	(30)	11.4	(25)	13.2	(25)	19.3	(37)
Other items: Total	*1.8*	*(11)*	*4.4*	*(9)*	*8.1*	*(16)*	*6.9*	*(14)*
Cacao beans	—		1.1		6.2		3.6	
Abaca	—		1.4		0.3		1.3	
Lumber	0.4		0.1		0.1		0.1	
Seafood	0.3		1.4		0.2		0.1	
Sugar	—		—		0.1		0.5	
Miscellaneous	1.1		0.4		1.2		1.3	
All items: Total	*16.1*	*(100)*	*46.5*	*(100)*	*51.7*	*(100)*	*50.9*	*(100)*

SOURCE: *FT Report 120*, with adjustments for banana undervaluations.

Table 34

UNITED STATES: IMPORTS FROM EL SALVADOR, IN SELECTED POST-WAR YEARS

(Values in millions of dollars)

Item	1946		1950		1954		1958	
	Value	(%)	Value	(%)	Value	(%)	Value	(%)
Green coffee: Total . . .	*14.9*	*(98)*	*50.3*	*(98)*	*60.2*	*(98)*	*40.7*	*(83)*
Other items: Total . . .	*0.3*	*(2)*	*1.2*	*(2)*	*1.2*	*(2)*	*8.1*	*(17)*
Soluble coffee	—		—		—		5.7	
Sesame seed	—		0.1		0.4		0.6	
Seafood	—		—		—		0.7	
Miscellaneous	0.3		1.1		0.8		1.1	
All items: Total	*15.2*	*(100)*	*51.5*	*(100)*	*61.4*	*(100)*	*48.8*	*(100)*

SOURCE: *FT Report 120.*

upon only one of these two traditional crops. Costa Rica, El Salvador and Nicaragua have all succeeded in reducing their reliance upon coffee and bananas, but the degree to which they have developed an expanding category of residual exports has usually been modest. Moreover, even where the latter category has grown, only one or a very few new items have been involved. Taken singly or together therefore, the Central American republics have experienced little or no change in their export commodity diversification to the United States during the post-war period. This problem of an exceptionally rigid export base renders all the more difficult the region's ability to solve the equally serious problem of the recent decline in its exports to that market.

VI. SOME IMPLICATION FOR THE FUTURE

Per capita incomes in Central America are currently among the lowest in Latin America, and the extent to which they can be raised in the future will, as in the past, depend considerably upon the growth in earnings originating in the region's export sector. In this context, the United States occupies an important position since it still accounts for over half of Central America's total income generated by merchandise exports. Whether Central American sales to the United States will once again recover the growth momentum that was their major characteristic during the first post-war decade, or will continue to decline as has been the case in recent years, is a matter of great potential concern to the future economic and political well-being of the region.

Unfortunately there are few grounds for anticipating that the recent and declining trend has as yet run its course. On the one hand, coffee still faces its most serious crisis of over-supply and depressed prices since the end of the Second World War, and recent studies indicate little likelihood if any of a forthcoming reversal in the post-war pattern of declining United States *per capita* banana consumption. Secondly, and as has been so markedly evident

Table 35

UNITED STATES: IMPORTS FROM NICARAGUA IN SELECTED POST-WAR YEARS

(Values in millions of dollars)

Item	1946		1950		1954		1958	
	Value	(%)	Value	(%)	Value	(%)	Value	(%)
Bananas and coffee: Total	*4.5*	*(69)*	*16.7*	*(84)*	*21.5*	*(79)*	*15.5*	*(72)*
Bananas	0.3	(5)	1.1	(6)	1.2	(4)	0.3	(1)
Coffee	4.2	(64)	15.6	(78)	20.3	(75)	15.2	(71)
Other items: Total . . .	*2.0*	*(31)*	*3.3*	*(16)*	*5.8*	*(21)*	*6.0*	*(28)*
Sesame seed	0.4		0.7		2.0		1.6	
Sugar	—		0.6		0.9		1.9	
Lumber	0.2		0.9		0.9		1.1	
Silver	—		0.1		0.5		0.2	
Miscellaneous	1.4		1.0		1.5		1.2	
All items: Total	*6.5*	*(100)*	*20.0*	*(100)*	*27.3*	*(100)*	*21.5*	*(100)*

SOURCE: *Report FT 120,* with adjustments for banana undervaluation, and including silver ore and base bullion.

throughout the period 1946-58, Central America must continue to expect active and persistent competition from other coffee and banana producers selling in the United States market. Considering that coffee has provided 55 per cent, and bananas about 35 per cent of Central American exports to the United States since the war, the prospects of growth seem limited so far as these two traditional products are concerned. As for residual items, it has been shown that they have not succeeded in reducing Central America's historically rigid range of commodity exports to the United States, whether viewed on a country-by-country basis or in terms of the region as a whole. Moreover, with only a few exceptions, the post-war performance of these residual items has not been such as to indicate more than a modest growth potential in the foreseeable future.

In view of these circumstances, Central America is confronted with a current and pressing need to re-examine its regional export prospects. On the one hand, every step should be taken to strengthen its position within the United States market, not only by maintaining competitive price and quality standards for its coffee and bananas, but also through the active promotion of existing, and the development of new exports.[71] The recent and rapid export growth of soluble coffee and seafood items are cases in point. In addition, Central America has other and hitherto unexploited possibilities, such as forest products (including pulp), meat and meat products, rubber, vanilla and spices.[72]

Again, Central America's access to markets in other industrialized countries—such as Japan and Canada, and especially Europe—should be actively encouraged. Imports of coffee and bananas into Western Europe, for example, have been rising substantially during recent years, in contrast to the trend followed by the United States. Moreover, this group of countries, and especially Japan, have provided important outlets for Central American cotton, again in contrast with the United States.

Finally, special mention should be made of the stimuli provided by the Central American Economic Integration Programme for developing new products within, and increasing trade flows between, the various countries of the region. By facilitating the adoption of a common tariff policy *vis-à-vis* other areas, by progressively eliminating trade barriers between member countries,[73] by directly assisting in the development of new industrial projects,[74] and by a variety of other measures that it is actively promoting for the raising of income, employment and investment levels generally, the Programme should ensure for Central American intra-regional trade a much faster rate of growth in the future than in the past. A variety of existing and new products, both agricultural and industrial, will be affected by the Programme and will offer an excellent source of growth potential for the future.[75] To the extent, therefore, that the Programme facilitates the prompt and rapid development of these items and accelerates their subsequent entry into intra-regional trade channels, Central America's problems of inadequate commodity and area diversification will become progressively less serious.

[71] See *Economic Survey of Latin America* (E/CN.12/480/Rev.1), United Nations publication, Sales No. 58.II.G.1, pp. 16 *et seq.*

[72] See Kathryn Wylie, "Central America as a market and competitor for United States agriculture", in *Foreign Agriculture Report*, op. cit.

[73] Under the terms of the Multilateral Treaty on Free Trade and Central American Economic Integration (10 June 1958) and the Central American Agreement on the Equalization of Import Duties and Charges (1 September 1959).

[74] Under the Agreement on the Régime for Central American Integration Industries (10 June 1958).

[75] See *El desarrollo económico de El Salvador*, op. cit., pp. 91-95.

STATISTICAL INDEX

Central American exports to the United States, as reported by official sources in the various exporting countries, and United States imports from Central America, as tabulated in United States governmental publications, may differ for a variety of reasons, including time-lags in reporting, differences in commodity classification and country allocation, the use of general or special trade coverage, and because of the different valuation procedures used. To provide a greater degree of comparability, therefore, virtually all the statistical data used in section III were taken from two publications of the United States Bureau of the Census, namely FT (Foreign Trade)Reports Nos. 110 and 120, which provide volume and value totals for United States imports on commodity-by-country and country-by-commodity bases, respectively. These reports measure merchandise imports entering consumption channels and are based upon the various entry forms which importers are required to file for each shipment arriving in the United States. In general, the dollar totals represent f.o.b. market values in the foreign country, i.e. excluding United States import duties, ocean freight and maritime insurance.

Two modifications have, however, been made in the above-mentioned Bureau of the Census data for the purpose of the tables presented in this article. Firstly, while United States imports of silver ore and bullion are excluded in the FT sources mentioned, they have been incorporated in the subsequent tables, following in this respect the methodology used in United Nations trade publications.[76] Secondly, the FT coverage for United States banana imports has been adjusted to take account of both volume and value shortcomings. The FT data, for example, show "volume" only in terms of the number of stems imported. Since, however, average weights per stem can differ so substantially from one year to another and from one country to another, a more accurate volume estimate is obtained by using the weight of bananas listed in the import shipping manifests as published in other Bureau of the Census sources. For value data the FT publications use importers' declarations which have been found to contain serious undervaluations of the value of transactions at the point of foreign origin. To compensate for this shortcoming, import values have been adjusted by multiplying the shipping weights by an estimated price per pound of bananas at the foreign port. Both of these volume and value adjustments have been effected in conformity with the procedures adopted by the United States Department of Commerce in preparing the official United States balance-of-payments tables. As will be seen from table I of this annex, the differences between the reported (unadjusted) FT values and the balance-of-payments (revalued) values are exceptionally large: from 1955 to 1958, for example, the adjusted total was on the average almost 110 million dollars per year higher than the unadjusted figure. Given this substantial discrepancy, on the one hand, and the importance of bananas in United States imports from Central America, on the other, the methodology utilized by the Balance of Payments Division of the United States Department of Commerce in effecting such valuation adjustments is reproduced below:

[76] See United Nations, "Definitions and Explanatory Notes", *Supplement to the Monthly Bulletin of Statistics*, 1954, p. 83. It should be noted from this supplement that gold ore and bullion are excluded.

"There are various reasons why values incorporated in the Census statistics for goods entering free of duty, or dutiable at specific rates, may not represent actual transactions prices applicable at the foreign port or border. Perhaps the most important of these is the assignment, in some cases, of arbitrary values to imports produced by foreign branches or subsidiaries of American companies. Bananas are one of the major United States imports supplied in this manner. Because arbitrarily low prices are declared by leading United States importers, Census import statistics seriously understate the amount of dollars actually credited to the foreign subsidiaries to cover production costs and profits assigned to foreign operations. Adjustments have been made to correct for this undervaluation of bananas in the Census data by deducting, from the domestic wholesale (banana) prices in leading ports of entry, estimated costs of ocean transportation and estimated expenditures in the United States such as storage and marketing. The resulting estimated prices f.a.s. foreign port were then applied to the estimated shipping weights of bananas imported from subsidiaries or branches of American companies. The differences between these estimated values and the values shown in the Census statistics for corresponding statistics represent the actual adjustments made. Census statistics covering imports other than bananas from foreign branches or subsidiaries of United States companies appear to represent more accurately the actual amounts for which the foreign producers were credited on the books of the parent companies."

As will be noted, the above procedure relies upon certain estimates and assumptions which cannot be checked for accuracy. But it provides a far more accurate indication of post-war trends in United States banana imports from Central America than would be available from the FT publications. This article therefore uses the adjusted series in every table in which these imports are mentioned.

Table I

UNITED STATES: TOTAL IMPORTS OF BANANAS

(Millions of dollars)

Year	Reported data unadjusted[a]	Undervaluation estimate[b]	Adjusted total
1946	43	28	71
1947	50	53	103
1948	50	69	119
1949	53	84	137
1950	56	95	151
1951	55	100	155
1952	56	103	159
1953	67	96	163
1954	65	97	162
1955	67	94	161
1956	68	97	165
1957	70	118	188
1958	69	120	189

[a] As published in United States bureau of the Census, *Report No. FT 110*, under Schedule A number 1 301 000, "Bananas, Green or Ripe".

[b] As published in the United States Department of Commerce, *Balance of Payments Supplement to the Survey of Current Business*, 1958, and *Survey of Current Business*, June, 1959.

Table II

UNITED STATES: BROAD BREAK-DOWN OF IMPORTS FROM CENTRAL AMERICA, BY COMMODITIES

(Values in millions of dollars)

Year	Total		Coffee		Bananas		Residual items	
	Value	Percentage total	Value	Percentage total	Value	Percentage total	Value	Percentage total
1946	102.2	100.0	41.0	40.1	44.6	43.6	16.6	16.2
1947	162.6	100.0	69.8	42.9	70.1	43.1	22.7	14.0
1948	181.2	100.0	78.1	43.1	79.0	43.6	24.1	13.3
1949	189.3	100.0	86.1	45.5	83.9	44.3	19.3	10.2
1950	238.1	100.0	125.3	52.6	92.3	38.8	20.5	8.6
1951	271.2	100.0	155.1	57.2	88.5	32.6	27.6	10.2
1952	265.1	100.0	156.5	59.0	81.1	30.6	27.5	10.4
1953	275.3	100.0	167.1	60.7	83.2	30.2	25.0	9.1
1954	263.0	100.0	162.3	61.7	74.5	28.3	26.2	10.0
1955	249.0	100.0	162.1	65.1	64.0	25.7	22.9	9.2
1956	243.4	100.0	141.2	58.0	75.4	31.0	26.8	11.0
1957	260.8	100.0	146.8	56.3	77.8	29.8	36.2	13.9
1958	258.5	100.0	137.3	53.1	86.6	33.5	34.6	13.4

SOURCE: *Coffee:* United States Department of Commerce *FT Report 110. Bananas:* Data provided by the United States Department of Commerce, Office of Business Economics, including estimated undervaluation adjustments. *Residual items: FT Report 110*, plus imports of silver in the form of ore and base bullion.

Table III

UNITED STATES: IMPORTS OF GREEN COFFEE FROM CENTRAL AMERICA

Year	Value (millions of dollars)	Volume (millions of pounds)	Unit value (cent per pound)	Indices: 1954 = 100		
				Value	Volume	Unit value
1946	41.0	233	17.6	25	88	29
1947	69.8	285	24.6	43	108	40
1948	78.1	294	26.6	48	111	43
1949	86.1	305	28.2	53	116	46
1950	125.3	330	38.0	77	125	62
1951	155.1	319	48.6	96	121	79
1952	156.5	319	49.1	97	121	80
1953	167.1	338	49.4	103	128	80
1954	162.3	264	61.5	100	100	100
1955	162.1	298	54.4	100	113	89
1956	141.2	244	58.2	87	92	95
1957	146.8	268	54.8	90	102	89
1958	137.3	305	45.0	85	116	73

SOURCE: United States Department of Commerce, *FT Report 110.*

Table IV

UNITED STATES: IMPORTS OF GREEN COFFEE, FROM SELECTED AREAS[a]

(Millions of pounds)

Year	From all areas	From Central America	From rest of Latin America	From Africa
1946	2 729	233	2 440	55
1947	2 495	285	2 153	53
1948	2 774	294	2 423	48
1949	2 923	305	2 553	57
1950	2 440	330	1 993	109
1951	2 693	319	2 237	129
1952	2 681	319	2 193	162
1953	2 787	338	2 245	194
1954	2 261	264	1 781	203
1955	2 599	298	1 992	297
1956	2 812	244	2 220	330
1957	2 761	268	2 056	413
1958	2 671	305	1 952	393

SOURCE: United States Department of Commerce, *FT Reports 110 and 120.*

[a] Imports from regions not shown account for less than 1 per cent of the total.

Table V

UNITED STATES: IMPORTS OF BANANAS FROM CENTRAL AMERICA

Year	Value (millions of dollars)	Volume (millions of pounds)	Unit value (cents per pound)	Indices: 1954 = 100		
				Value	Volume	Unit value
1946	44.6	1 477	3.02	60	103	58
1947	70.1	1 895	3.70	94	132	71
1948	79.0	1 950	4.05	106	136	78
1949	83.9	1 844	4.55	113	129	87
1950	92.3	1 845	5.00	124	129	96
1951	88.5	1 769	5.00	119	124	96
1952	81.1	1 621	5.00	109	113	96
1953	83.2	1 664	5.00	112	116	96
1954	74.5	1 432	5.20	100	100	100
1955	64.0	1 255	5.10	86	88	98
1956	75.4	1 461	5.16	101	102	99
1957	77.8	1 378	5.64	104	96	108
1958	86.6	1 535	5.64	116	107	108

SOURCE: *Volume* = Based upon shipping weights, as provided by the U.S. Census Bureau. *Value* = Data provided by the Office of Business Economics, U.S., Department of Commerce, including estimated undervaluation adjustments.

Table VI

UNITED STATES: IMPORTS OF BANANAS FROM SELECTED AREAS

(Millions of pounds)

Year	From all areas	From Central America	From rest of Latin America	
			Ecuador	Balance[a]
1946	2 500	1 477	24	999
1947	2 904	1 895	109	900
1948	3 080	1 950	156	974
1949	3 200	1 844	245	1 111
1950	3 256	1 845	375	1 036
1951	3 287	1 769	468	1 050
1952	3 367	1 621	932	814
1953	3 463	1 664	795	1 004
1954	3 336	1 432	845	1 059
1955	3 267	1 255	1 039	973
1956	3 298	1 461	1 042	795
1957	3 344	1 378	1 100	866
1958	3 364	1 535	1 026	803

SOURCE: Based on shipping weights, as provided by the United States Census Bureau.

[a] Including minor amounts from non-Latin American suppliers.

Table VII

UNITED STATES: IMPORTS FROM CENTRAL AMERICA, BY COUNTRIES

(Millions of dollars)

Year	Total	Costa Rica	El Salvador	Guatemala	Honduras	Nicaragua
1946	102.2	16.1	15.2	38.9	25.5	6.5
1947	162.6	29.9	27.7	57.0	38.6	9.4
1948	181.2	36.2	31.4	58.9	42.5	12.2
1949	189.3	40.0	40.4	55.2	46.7	7.1
1950	238.1	46.4	51.5	66.7	53.3	20.1
1951	271.2	47.6	63.9	73.7	64.5	21.5
1952	265.1	57.0	61.5	66.8	56.1	23.7
1953	275.3	53.4	65.5	70.2	60.5	25.8
1954	263.0	51.7	61.4	73.5	49.2	27.2
1955	249.0	43.6	62.4	78.5	38.1	26.3
1956	243.4	30.7	48.5	86.7	57.5	20.0
1957	260.8	43.9	55.7	82.3	56.2	22.7
1958	258.5	50.9	48.7	75.7	61.7	21.5

SOURCE: United States Department of Commerce, *FT Report 120*, including imports of silver ore and bullion, and adjusted for banana undervaluations.

THE COFFEE INDUSTRY IN SÃO PAULO

The following pages contain a synthesis of the findings of the coffee survey conducted in the State of São Paulo in 1958. The survey was sponsored jointly by the Food and Agriculture Organization of the United Nations (FAO), the Economic Commission for Latin America (ECLA), the Brazilian Coffee Institute (*Instituto Brasileiro do Café*) (IBC) and the Department of Agriculture (*Secretaria da Agricultura* (DA) of the State of São Paulo.[1]

The purpose of the survey was to supply information on a variety of characteristics of coffee growing in the State of São Paulo, which were hitherto insufficiently known. For this purpose it was necessary to collect original data in the field by means of a large-scale and statistically representative sample of all coffee farms in the State.

Quantitative estimates, of, for instance, the number of trees, area and production, are based on the careful on-the-spot investigation of 1 991 coffee farms in all parts of the State. Economic information, such as the number of man-days employed in coffee growing, the use of capital, etc., are derived from an even more detailed study of 486 farms, included in the 1 991 already mentioned.

All data have been rigorously inspected and sifted by technicians fully acquainted with coffee-growing methods in the State of São Paulo. In addition, the results of the survey have been checked with those obtained on 33 farms which independently kept daily records of activities during the survey period.

Though original farm data, obtained through a field survey, cannot be expected to yield mathematically accurate results, it is considered that the data presented in the following pages are reasonably reliable and adequately reflect the average conditions under which coffee is produced in São Paulo.

Although many features of coffee growing are, of course, similar irrespective of the place where it is cultivated, it is stressed that the detailed results obtained and the analysis made are valid only for the State of São Paulo and that they do not apply to Brazil as a whole. Many of the characteristics and problems of coffee growing in São Paulo, as well as many of the possible solutions, are peculiar to that State. The situation in other States is often very different.

This study does not enter into the present problem of world supply and prices, although the conditions in São Paulo are directly related to the world coffee situation owing to the importance of the State in total production. Many of the internal problems of the industry are of a long-term nature and their solution calls for independent measures, to a certain extent regardless of the present world market situation.

But for the splendid co-operation of the Brazilian Coffee Institute and of the Department of Agriculture of São Paulo it would have been impossible to undertake an extensive and important survey such as the one outlined here. The Institute financed local costs and also supplied technicians to supervise the various field operations and plan the statistical services. The Department, through its Division of Rural Economy, headed by Mr. Ruy Miller Paiva, provided regional technical personnel for the field enumeration as well as central personnel for the planning, execution and evaluation of the multiple phases involved. These phases included the planning of the samples and of the questionnaires, the checking of the data collected, the mechanical tabulation of results, and permanent consultations with FAO and ECLA staff members assigned to the project. Special recognition is therefore due to all who worked so assiduously to complete the survey, often under difficult conditions.

As the results of the survey will be given in greater detail in the volumes mentioned previously, they are commended to the attention of the reader who wishes to delve more deeply into the subject. This article presents the most important data obtained, as concisely and clearly as possible. It has been divided into five sections: the first contains the principal conclusions deriving from the survey, and is followed by a consideration of the structure of coffee cultivation, of the main economic factors bearing on production and of basic technical and economic problems. The final section contains an evaluation of the industry's prospects.

The São Paulo coffee industry is facing serious problems at present owing to greatly expanded output in many production areas, prices notably below those of the past decade, and certain inherent weaknesses in the State's coffee production structure, which are analysed in these pages. It is hoped that the result of this joint study will contribute towards a better understanding of the present difficulties and that it will also help to suggest adequate long-term solutions.

[1] The complete report, in its different aspects and phases, has already gone to press, and will form part of the series *Coffee in Latin America*, published jointly by ECLA and FAO, the first volume of which was devoted to Colombia and El Salvador (see E/CN.12/490, United Nations publication, Sales No. 58.II.G.4). The São Paulo survey will appear in the following two volumes (II and III) in the same series: the first is entitled *The state and prospects of production* (E/CN.12/545/Vol.1); the second (E/CN.12/545/Vol.2) is divided into two main sections: *Case study of 33 farms* and *Analysis of the functions of production.*

I. PRINCIPAL CONCLUSIONS

1. The São Paulo coffee industry has entered upon a critical phase of its development owing to the world situation as well as to factors peculiar to the State. The steep rise in output in other areas of Brazil, particularly in Paraná, as well as in other regions of the world (Africa), is creating much stronger competition on the world market. These are a challenge to the position of São Paulo as an efficient coffee producer. At the same time the incorporation of new lands has practically come to an end in State, and no further expansion can take place in this

way. Existing plantings are faced with serious problems of soil exhaustion, excessive age, poor yields and correspondingly low productivity.

2. World market prospects are unlikely to improve in the short run, and internal coffee prices seem more likely to fall further in real terms than to rise. The present price situation is illustrated in figures XVIII and XIX.[2] In these circumstances the position of the São Paulo industry may well deteriorate further, unless determined efforts are made to adjust to the new situation. While it is not possible to separate coffee prospects in São Paulo from the world picture, special measures may nevertheless be adopted to deal with the problems which are largely peculiar to that State. Corrective action should, of course, take the world coffee situation fully into account, especially as regards its effect on the total level of production.

3. Six hundred million trees, half of the adult plantings in São Paulo, produce yields below 400 kg per 1 000 trees (see figure XVII). It is doubtful whether coffee production is profitable at such low levels of yield with the existing price and cost structure, and if the cost of capital is duly accounted for. The large majority of these plantings must therefore be considered as sub-marginal. They do not provide the State with net economic profits and this situation could be radically changed only through large-scale new investments aiming at their replacement by more productive plantings or by other profitable agricultural activities. While the causes of this extremely low productivity are manifold, the magnitude of the State's internal production problem can be judged from the preceding estimate.

4. The existing situation characterized by poor yields and productivity is the outcome of the migratory development of coffee cultivation for more than a century. Growing techniques seem to have varied little over this period and they are generally still at a low level. A cycle of developments has therefore taken place which has resulted in the loss of the original soil fertility, the abandonment of former coffee areas, the continued existence of over-aged plantings and the steady westward movement of the centre of gravity of production. Though these trends have been known to exist for a considerable time, this survey presents the problem on a quantitative basis.

5. The following are among the main factors contributing to current technical defects in coffee growing:

(*a*) Only 13 per cent of the existing plantings receive any chemical fertilizer no fertilizer of any kind is used on about 60 per cent (see figure XV). This indicates a widespread failure to rectify low yields and soil depletion. As a result, coffee yields are far lower in São Paulo than in competing areas, even with relatively young plantings and improved varieties.

(*b*) About one third of all plantings are over 30 years old (see figure III). This indicates that farmers do not replace their trees in order to maintain productivity at the highest possible level. Neither are they interested, generally speaking, in introducing new practices which require new planting systems. The present proportion of old trees would even be greater but for the exceptionally high rates of abandonment and elimination prevailing in the abnormal 1930's and during the Second World War.

(*c*) Eighty-five per cent of the State's coffee trees are of the traditional varieties. Considerably improved strains have been available for more than a decade (see figure IV), but the introduction of new ones in São Paulo is limited to a rather marginal volume of new planting, and the position of the industry as a whole has been hardly affected so far. This means, in effect, that average productivity is at least a fourth lower than what it would be if all plantings consisted of improved trees, other conditions being identical. Furthermore, the high frequency of new varieties in recent plantings is not an indication of new cultivation techniques, as it is not always accompanied by any other structural improvements in coffee growing.

(*d*) Less than 20 per cent of the labour employed in coffee production is used on tree improvement or soil maintenance (see figure XII). This means not only that inadequate attention is paid to the future of coffee growing, but also that the technological pattern is excessively rigid. This is especially serious, as labour is the predominant variable input in coffee production.

6. Large amounts of additional capital investment would be required to solve the present problems. On the basis of the elimination of about one half of the existing trees, of their partial replacement by new coffee plantings, and of related farm adjustments, it may be estimated that total new investment needed to complete such a programme would be of the order of Cr. 30 000-40 000 million at 1958 prices. A large part of the investment would begin to pay only three to four years after it was made.

Furthermore, farmers would not harvest an estimated 10 million bags of coffee, normally obtained from the low-yielding trees in three years. If this loss is valued at about Cr. 20 000 million, it will be seen that the total amount involved would be of the magnitude of Cr. 50 000 million to 60 000 million, i.e. equivalent to the value of about three coffee crops for the entire State. These figures show the magnitude of the problem as a whole. Naturally replacement would always be gradual and call for a smaller but steady financial investment.

7. It is unrealistic to suppose that farmers would be willing to make such large financial sacrifices on their own initiative, particularly in view of the present uncertain prospects of the coffee market. The new investment would involve a considerable risk because of fluctuating coffee prices. Again, anticipated profits, though substantial, might not equal those obtainable over an equal period from alternative investments. They would also involve a widespread shift to modern production technology, with all the accompanying difficulties and structural adjustments and the heavy demands for agricultural extension services. Hence, spontaneous action by farmers is expected to be strictly limited despite the presence of favourable factors in the economic development of São Paulo and of many technical improvement possibilities.

8. The "three-to-one programme" of the Brazilian Coffee Institute, under which the elimination of three low-yielding trees and the establishment of one new tree by modern methods is to be financed, constitute a constructive effort to break the vicious circle of stagnation affecting coffee cultivation in many parts of São Paulo. They would encourage higher coffee-growing standards and greater diversification in farm production. Though important, the programmes so far approved are only a first step and can satisfy only a small part of present requirements as regards capital and technology. It might be possible to use available funds in ways which would attract further pri-

[2] The figures quoted in this section appear in their appropriate places in sections II and V, *quod vide*.

vate capital for use along the same lines, but this would require special approaches. The effectiveness of the existing programmes would also be enhanced if they included specific plans to utilize the resources freed by the elimination of old trees, for different enterprises could be associated with coffee in many zones of the State. One difficulty of the present programme is that it contributes little towards balancing total coffee supplies with prospective demand. In three years the production of one new tree might well equal that of the three old trees which it replaced. The general increase in production which may be expected on the basis of other factors would more than offset even the modest temporary reduction caused by the three-to-one programme. Thus the emphasis is mainly on raising the productivity of coffee growing within given volumes of output.

9. Present indications are that, up to the mid-sixties, much of the low productivity problem will remain as an outstanding handicap to the São Paulo industry. On the other hand, it is likely that the rising post-war trend in total production will continue until then. An analysis of the existing structure of plantings and of reasonable assumptions for the industry's evolution up to 1965 leads to the conclusion that total output might increase by 30-35 per cent in the six years 1958/59-1964/65, reaching a level of 15 million to 16 million bags by 1964/65. These figures provide, of course, only a very general picture which may be considerably modified by weather conditions, new Government programmes affecting coffee, or unforeseen events, but they indicate the general production trend calculated from rather complete observations in 1958 and in large measure already determined by the present structure of the industry.

10. Although serious problems are now facing the São Paulo coffee industry and are likely to continue in the near future, it is also true that favourable opportunities exist for successful corrective action. The economy of the State is becoming gradually less dependent on coffee growing, owing to the significant progress of industrialization in recent years. Internal demand for agricultural commodities other than coffee is at record levels and is certain to increase still further, with rising income levels, strong urbanization trends and rapid population growth. A favourable internal environment therefore exists in which the modernization of coffee cultivation might take place, and any resources shifting away from coffee production can be profitably employed in a host of other agricultural and livestock activities, which will find favourable market outlets in the State. The recent discovery that high-yielding plantings may be re-established on old coffee lands, which was formerly considered impossible, is also an important contributing factor. There is no intrinsic reason for stagnation in the coffee sector, other than the unavoidable rigidities of coffee production itself and the traditional immobility of the State's rural economy in general. On other occasions it has already been shown, however, that São Paulo's agriculture can face up to the requirements of basic shifts in demand and of important technological innovations. All possible efforts should therefore be directed towards eliminating specific impediments in the way of change, and towards stimulating the establishment of a permanent and modern coffee industry, profitably associated with other important branches of farm production. Only under these conditions can the State's economy be expected to continue to prosper in the long run, as the experience of other industrial nations has proved.

II. PHYSICAL STRUCTURE OF COFFEE GROWING

It is common knowledge that the State of São Paulo has led the world in coffee production for at least the past 60 years. After the introduction of coffee growing in São Paulo at the beginning of the nineteenth century, the basis for the great expansion in production was laid in the second half of that century and the main upsurge look place in the first 40 years of the present century. During the latter period, the volume of production in the State of São Paulo alone exceeded that of all other areas in Brazil plus that of the rest of the entire world.

The spectacular growth of coffee cultivation in São Paulo in the past 100 years has been made possible by the existence of especially favourable internal physical and economic factors, which operated in conjunction with the rapidly expanding world coffee market. The most important internal physical factors include rather homogeneously favourable climatic and edaphological conditions and a relatively even topography. Furthermore, important railways gradually penetrated into the extensive territory of the State, consolidating the opening-up of virgin lands to coffee the production of which could reach the port of Santos easily. At about the same time large-scale immigration from Europe helped to provide manpower for the coffee plantings, which require a relatively high labour import.

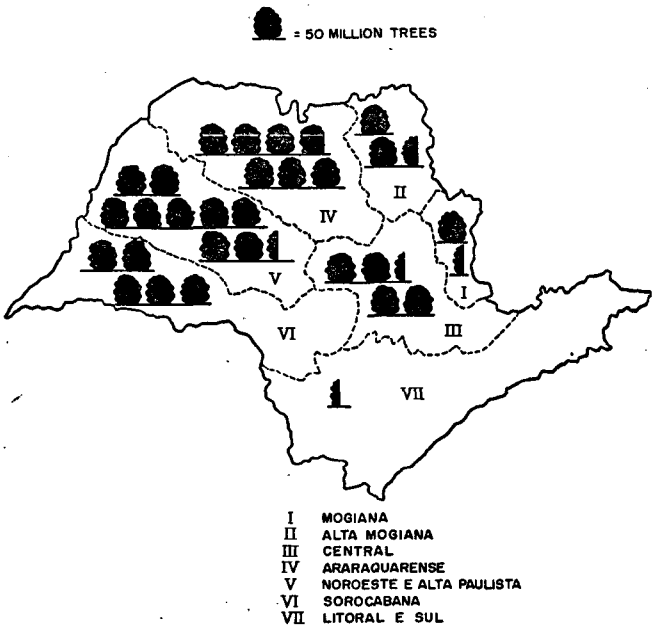
The entire period of rapid growth of the São Paulo coffee industry was characterized by the clearing of virgin forests and by the opening up of new lands, which produced high yields for at least one generation of coffee trees. Subsequent declines in yield, as well as periods of unfavourable coffee prices, resulted in the abandonment of large areas, especially in the eastern and north-eastern parts of the State, and in a general east-west shift of the centre of gravity of production. However, the volume of new planting exceeded the abandonment of old trees at least up to about 1930, and total production continued to expand.

In the period 1930-45, the abandonment and elimination of trees greatly exceeded new planting, and São Paulo's production fell off sharply. This occurred when the maximum cyclical volume of coffee output coincided with the world-wide economic depression, and when the important European market was closed by the war after 1939. The east-west shift of cultivation, however, continued in this period, with the limited new planting taking place primarily in the Araraquarense, Noroeste e Alta Paulista and Sorocabana regions, and much of the abandonment occurring in the Mogiana, Alta Mogiana and Central regions (see map 1).

The post-war period of expansion, once more involving the westward penetration of coffee growing, culminated in the recent large crops of 1958 and 1959, but also coincided with the final incorporation of the last western reserves of São Paulo's virgin lands. Between the 1948-52 average and 1959, and additional 400 000 hectares were planted to coffee (an increase of 31.5 per cent). The traditional

MAP 1

REGIONAL DISTRIBUTION OF ALL EXISTING COFFEE PLANTINGS, 1958



evolution of coffee growing in São Paulo can therefore no longer continue, and the industry has reached a decisive juncture in the history of the State.

As the limit of western expansion was reached in São Paulo, surplus production again began to bedevil the world coffee market. Real prices and farmers' profits fell sharply after 1954 and helped to bring the structural problems of the São Paulo industry into perspective.

It is no exaggeration to say that, under these circumstances, the future of coffee growing in São Paulo will be strongly affected by the events of the next few years, when the world production cycle is expected to raise output further.

During 1958, when the present survey was made, coffee occupied a leading role both in the economy of the State and of Brazil as a whole as well as in the world coffee picture. São Paulo accounted for about 40 per cent of Brazil's total production and one fifth of world output. It also provided one fourth of the total value of Brazil's exports, a crucial dynamic contribution to the country's economic development efforts. Within the State's agriculture, coffee still remained the principal commodity, providing nearly a fourth of the total gross value of farm production. While the recent growth of industry and of agricultural activities other than coffee cultivation has relatively diminished the role of coffee in the economy of São Paulo as a whole, coffee still absorbs a massive volume of human and other resources and continues to be the mainstay of nearly all rural areas.

1. Plantings and their present distribution in the State

The total area occupied by coffee farms comprises about one half of the State's total land area of some 247 000 square kilometres.

Within this area, the 104 800 coffee farms in the State of São Paulo are estimated to have occupied, in 1958, some 1.7 million hectares for growing purposes, which constitutes 14 per cent of the total area of the farms. The total number of trees in 1958 is estimated at 1 500 million.[3] Total coffee production, including all types and qualities, amounted to 11.7 million bags clean equivalent, or 700 900 metric tons, in 1958 (see figure I). These figures indicate the magnitude of the physical structure within which the industry is operating.

The resident population on coffee farms, which is one measure of the direct human dependence on coffee growing, is estimated at nearly 2.2 million in 1958, composed as follows:

	Thousands
Farm owners and their families	570.0
Hired labourers (*colonos*) and their families	640.0
Sharecroppers (*parceiros*) and their families	810.0
Other workers and their families	130.0
Resident population on coffee farms	2 150.0

This total is only a partial estimate of the number of people actually dependent on coffee in São Paulo. To it should be added those engaged in transporting, storing and marketing coffee in all rural communities, in the State capital and in Santos, as well as the large number of people servicing the requirements of coffee farms and their resident population. The figure of 2.2 million is therefore a very conservative one, but even so it corresponds to about 20 per cent of the entire population of the State.

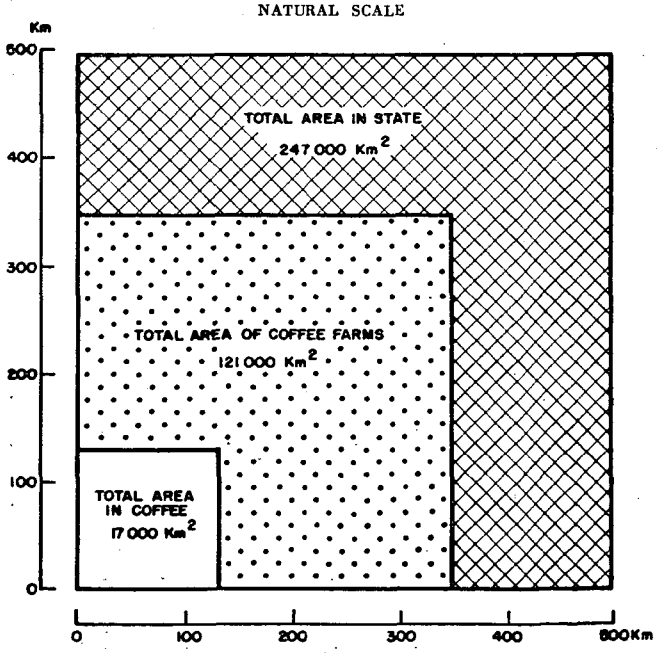
Estimates of the total investment represented by coffee

[3] Throughout this report the term "trees" refers to the Brazilian *cova* or *pé*, which consists of four to eight individual coffee plants growing closely together and constituting one bush for operational purposes.

FIGURE I

THE FRAME OF COFFEE GROWING IN SÃO PAULO, 1958

NATURAL SCALE



farms are rather difficult to make, because land values are frequently influenced by factors which may not adequately reflect agricultural productivity. However, on the basis of the 1958 commercial farm value, it is estimated that coffee growing represented a total asset value of between 120 000 million and 140 000 million cruzeiros at 1958 prices.[4]

Map 1 shows that more than 70 per cent of the trees are now concentrated in the three western regions, whereas only 28 per cent are found in the Central, Mogiana and Alta Mogiana regions, which several decades earlier were the main producing zones. The greatest concentration of production is now found in the Noroeste e Alta Paulista area, which accounts for nearly one-third of the entire output of the State.

An analysis of existing plantings by age of establishment clearly reveals the geographical shift of the industry during the past 60 years. The bulk of the oldest coffee plantings, as of 1958, is still found in the north-east, the centre of coffee growing during the early part of the century. Similarly, the current heavy concentration of young plantings in the west points to the displacement of coffee growing in that direction. An intermediate situation is revealed with respect to the remaining share of plantings, as reflected in the following data (see also map 2):

	Percentage of trees		
Area	*Over 50 years*	*4-50 years*	*All trees less than 4 years*
Mogiana	14.0	3.3	4.9
Alta Mogiana	21.5	8.0	5.5
Central	43.9	12.7	9.3
Araraquarense	11.2	22.4	34.8
Noroeste e Alta Paulista	2.8	34.7	30.4
Sorocabana	6.6	18.3	13.3
Litoral e Sul	—	0.6	1.8
Total	100.0	100.0	100.0

2. Age composition of trees

Special attention was paid to a full investigation of the distribution by ages of the coffee plantings in existence in 1958. The proportion of trees by major age groups and by significant historical periods are given below (see also figure II).

Age of planting (years)	*Period of establishment*	*Percentage of trees existing in 1958*	*Percentage of production in 1958*
0 - 3	1956 - 1958	13.3	0.9
4 - 12	1946 - 1955	25.4	30.9
13 - 28	1930 - 1945	22.0	26.5
29 - 40	1918 - 1929	25.0	26.8
41 - 50	1908 - 1917	7.2	7.1
more than 50	before 1908	7.1	7.8
		100.0	100.0

These results, tabulated from farmers' reports on the specific age of each of their plantings, show a highly significant pattern. The post-war period of variable, but generally high, planting rates has by now led to the predominance of new plantings in São Paulo. On the other hand, about one third of the post-war plantings, i.e. 13.3 per cent of all existing plantings consisted, in 1958, of trees up to three years old, which had not yet entered full production. The proportion of output represented by this group was therefore notably less than the share of trees. But the production of post-war plantings will probably exceed the proportion of 40 per cent of total output in 1960, as trees planted in the period 1956-58, reach full production.

[4] This would represent an equivalent of about 1 000 million dollars at the average free-exchange rate prevailing in 1958.

MAP 2

PERCENTAGE DISTRIBUTION OF OLD AND NEW COFFEE PLANTINGS BY REGIONS, 1958

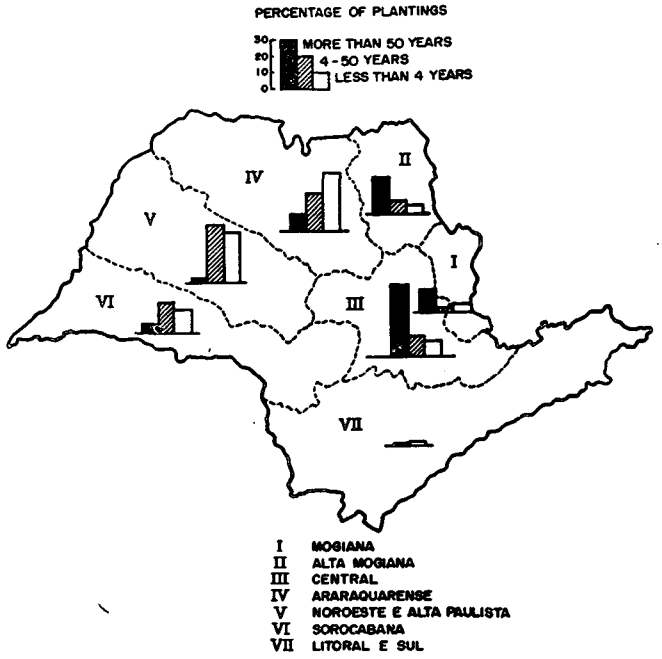
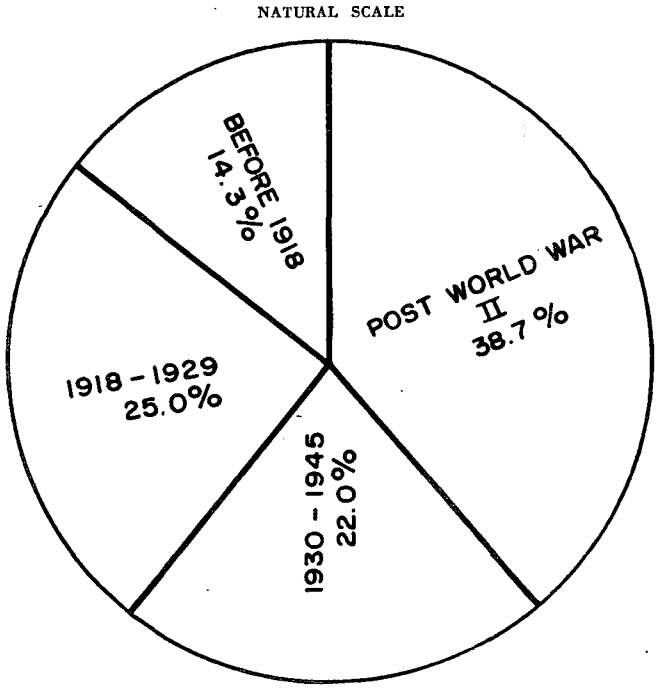


FIGURE II

PROPORTION OF EXISTING COFFEE TREES PLANTED IN SIGNIFICANT HISTORICAL PERIODS, 1958



In 1958, only 22.0 per cent of existing trees and 26.5 per cent of production corresponded to plantings established in the disturbed period 1930-45 covering the great depression and the Second World War. This relatively small proportion seems to be the direct result of low planting rates in the unfavourable period mentioned rather than the result of abandonment, for the corresponding plantings are still relatively young at present, falling within the age group 15-30 years.

The estimates for the period 1918-1929 show that the coffee boom of the 1920's is reflected even today in the high proportion of trees belonging to that period. One fourth of the plantings in 1958 was established between the end of the First World War and the beginning of the depression, i.e. after 1929. This figure is especially significant, since the abandonment and elimination of the 1930's and 1940's have probably greatly reduced the frequency of this age group.

Finally, about 14 per cent of all existing trees was planted before 1918, equally divided between the age groups 40-50 and more than 50 years. It would appear, however, that only the best plantings originating in those periods have survived the economic upsets of later years and that a large proportion of the trees planted that long ago no longer exist.

The age composition of coffee trees is particularly important in São Paulo in view of current efforts to modernize the industry and to increase its competitive strength. The following are detailed estimates prepared on the basis of the survey (see also figure III).

Age of plantings in 1958 (years)	*Millions of trees*	*Percentage*
1 - 3	195.8	13.3
4 - 6	132.0	8.9
7 - 9	113.4	7.7
10 - 12	129.2	8.8
13 - 15	68.5	4.6
16 - 20	108.4	7.4
21 - 25	98.4	6.7
26 - 30	169.8	11.5
31 - 35	146.7	9.9
36 - 40	102.1	6.9
41 - 50	106.2	7.2
51 - 60	49.7	3.4
61 - 70	29.8	2.0
71 - 80	18.7	1.3
more than 80	5.9	0.4
Total	1 474.6	100.0

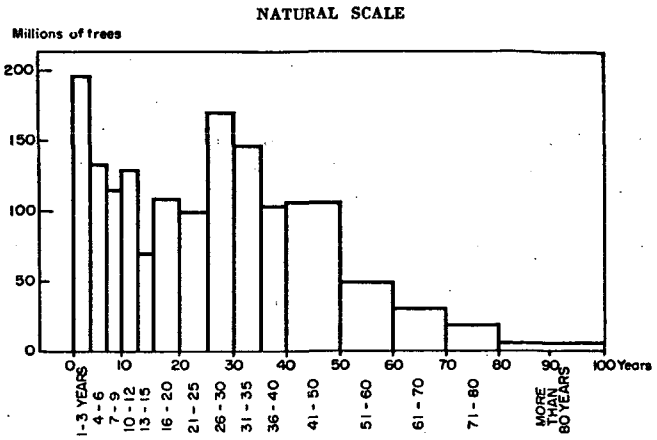
These estimates also throw light on rates of planting. If it is assumed that no significant proportion of the originally established plantings up to 25 years old were eliminated or abandoned by 1958, the following planting rates would result for the last quarter century:

Years	*Number of trees planted per year (millions)*
1934-38	19.7
1939-43	21.7
1944-46	22.8
1947-49	43.1
1950-52	37.8
1953-55	44.0
1956-58	65.3

The very low rates up to 1946 and the sharp increases in plantings as soon as market prospects improved after the war stand out clearly. But the surprising thing is that the largest volume of new plantings over the period —some 65 million trees—were planted in the most recent triennium 1956-58. In that period the world market situation changed profoundly, but planting rates showed no reaction. This is probably largely explained by the fact that cruzeiro prices did not begin to decline up to the middle of 1958, though dollar prices had already fallen sharply in 1957 and early 1958. The effects of this rising trend in new planting, up to 1958, in likely to be felt until the mid-1960's when the 1956-58 plantings reach maximum production.

FIGURE III

AGE COMPOSITION OF EXISTING COFFEE PLANTINGS, 1958



3. Shift towards new varieties

One of the most dynamic changes in coffee growing in São Paulo in recent years is certainly the rapid shift towards improved varieties. The introduction of the *Mundo Novo* has proceeded at a striking pace since about 1950, but improved strains of *Bourbon* and the new *Caturra* variety also of commercial importance. The trend towards better types of tree is a direct result of the well-known research carried out by the Agronomic Institute of Campinas, which began during the 1930's.

Mundo Novo, which became available for distribution only after 1950 accounts for 14.7 million trees in the age group originating in 1950-53 (7 to 9 years), or 13.0 per cent of all coffee trees of this age. During the next three years (1953-55), 48.2 million trees of *Mundo Novo* were planted, constituting 36.5 per cent of total planting. During the last three-year period for which data are available through the present survey, it is estimated that 111.3 million trees of *Mundo Novo* were planted, representing 57.0 per cent of all new planting, and this proportion appears to be increasing further, as the 1958 percentage was 63.7 (see figure IV).

The *Caturra* variety was introduced somewhat earlier than *Mundo Novo* and shows up in the survey estimates in the age group 7-9 years, with 2.4 per cent of all trees of this age. Since that time the proportion of *Caturra* on new plantings has increased somewhat, but it has never reached as much as 5 per cent in any one year. It was not possible to make a distinction between the different strains of *Bourbon* plants used.

Altogether it may be estimated that about 70 per cent of all trees planted in the last few years have been of various improved types. Yet, a classification of all trees existing in 1958 by variety shows that the traditional types still predominate strongly, as is apparent from the following data:

Variety	*Millions of trees in 1958*	*Percentage*
Comum	682.1	46.3
Bourbon	591.6	40.1
Mundo Novo	174.2	11.8
Caturra	15.5	1.0
Mixtures and minor types	11.1	0.8
	1 474.6	100.0

Figure IV illustrates, furthermore, that nearly 30 per cent of new plantings continue to be of the *Comum* variety though *Comum* has in part also given way to *Mundo Novo*. But *Bourbon* is apparently most affected by the invasion of *Mundo Novo* and by the less rapid introduction of *Caturra*, its proportion falling from nearly 50 to only 10 per cent of new planting in the post-war period.[5] At current average planting rates, it would therefore still take several decades for improved varieties to occupy a dominant position in São Paulo coffee production as a whole. However, available statistics clearly indicate that *Mundo Novo* will play a major role in the future development of the industry.

4. Present size distribution of coffee farms

The average size of coffee farms in São Paulo is greater than that in most other producing zones in Latin America, especially outside Brazil. The average area in coffee in São Paulo is estimated at 16.2 hectares, or 14 100 trees per farm unit. In Colombia, for instance, coffee farms average only 3.2 hectares in coffee, and in El Salvador 6.9 hectares. Average production per farm in 1958 was about 112 bags of clean coffee, equivalent to 6.7 metric tons. A relatively large number of small farms *(sitios)*, together with a smaller number of commercially important *fazendas*, produce this State average, but this figure does not represent the characteristics of the most typical or the most important farm type.

The principal feature of the size structure of coffee farms in São Paulo is the commercial importance of medium-to-large farms with more than 8 000 but less than 128 000 trees. This size group accounts for over two-thirds of total production and tree numbers. Neither very large nor very small farms are of comparable importance in production though both the number and the proportion of small farm units is large (see figure V).

The following table shows the relative importance of major size groups:

Number of trees	*Share of number of farms (Percentage)*	*Share of production (Percentage)*
up to 8 000	56.7	10.0
8 - 32 000	33.8	35.1
32 - 64 000	6.1	17.8
64 - 128 000	2.3	15.5
more than 128 000	1.1	21.6
Total	100.0	100.0

An analysis of the size structure of farms established in various past periods seems to indicate that, over the years, the smaller farms have gained in importance, while the larger ones have gradually come to play a smaller role. This trend towards smaller coffee farms appears to have manifested itself in the last 30 years according to the survey.

[5] Many farmers do not make a clear distinction between *Comum* and *Bourbon*. The current proportion of *Comum* among new plantings is therefore likely to be less than 30 per cent.

FIGURE IV

AVERAGE VARIETY COMPOSITION OF EXISTING COFFEE PLANTINGS AND THE INCREASING IMPORTANCE OF NEW VARIETIES IN RECENT PLANTINGS

NATURAL SCALE

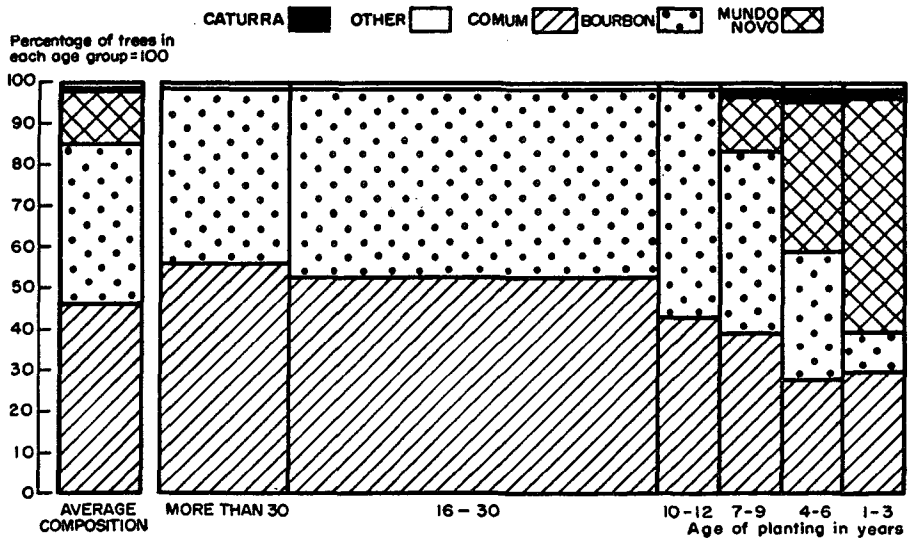
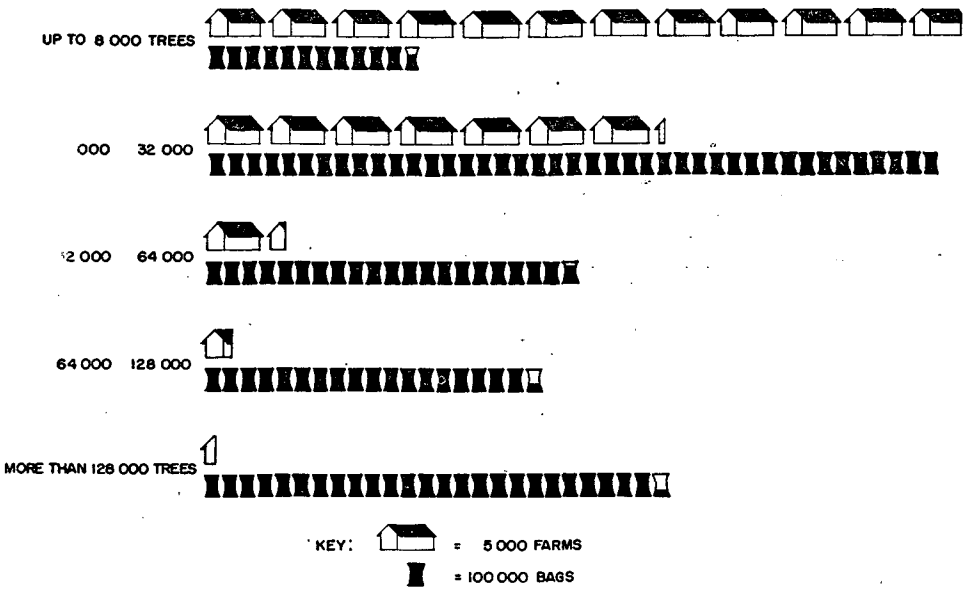


FIGURE V

THE SIZE STRUCTURE OF SÃO PAULO COFFEE FARMS, 1958



5. Diversification of activities on coffee farms

The description of the physical structure of production would not be complete without mentioning the relationship on coffee farms of coffee growing to other activities and the intrinsic importance of the latter.

It was shown in figure 1 that coffee plantings in São Paulo in 1958 occupied some 17 000 km², whereas the total area belonging to coffee farms as a whole was estimated at about 121 000 km², more than seven times as much. The various uses of the land on these farms are indicated in figure VI.

About one half of the total farm area was used as pasture. Cash crops other than coffee took up a total of about 10 per cent of the total farm area. Pastures thus made up an area over three times that in coffee and cash crops other than coffee covered an area equivalent to about two thirds of that used for this staple crop.

The estimate of the area in crops includes both that directly planted by farm-owners and that contracted under various share-cropping arrangements. Such arrangements generally allow the individuals concerned relatively little independent management, unlike the situation of share croppers in some other countries. In São Paulo, a large part of the main food crops, especially maize and rice, are produced in this way, and this accounts for the fact that more than five per cent of the total land on coffee farms is let out on share-cropping contracts.

A further 3.2 per cent of the land of coffee farms was allocated to hired labourers *(colonos)* in partial remuneration for their work in the coffee plantings. While much of this area is also used for the growing of food crops, this output goes to supply the needs of the *colonos* and their families and does not contribute to commercial production.

Finally, an important part of the total farm land (17.4 per cent and including woodlands, fallow and otherwise idle land) was not used commercially.

In general, the quality of land within a farm may vary considerably and this affects the use of each part. The best lands are generally used for coffee growing, the remainder being left for non-coffee enterprises. Nearly all farms also produce most of their internal food crop requirements, and a considerable number of them engage in the commercial production of food or other crops as well. The depleted lands naturally remain for livestock production or are not usable.

Though less than one sixth of the average farm area is thus directly employed for coffee production, the role of this commodity is far greater than that of any other single product.

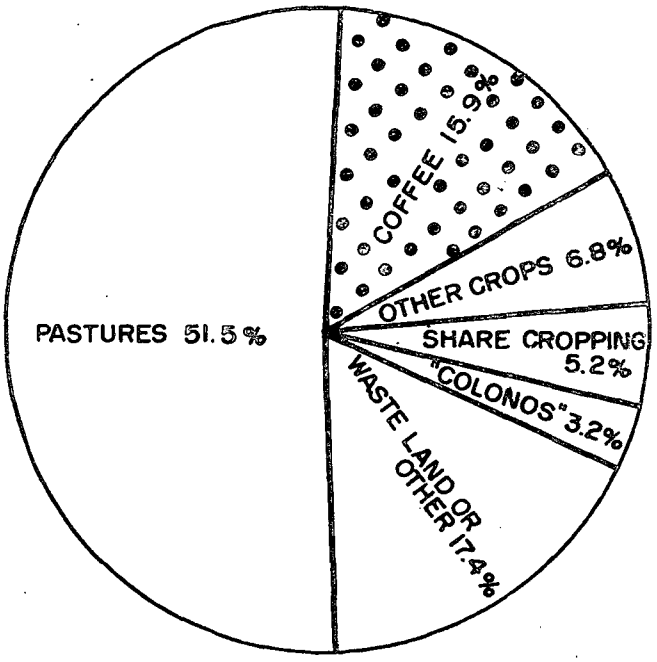
The economic importance of each of the main activities on coffee farms is reflected in the following estimates of gross value produced by each in 1958 (see also figure VII):

Product	*Gross farm value produced on coffee farms, 1958 (millions of cruzeiros)*	*Percentage*
Coffee	20 590	51.6
Cattle (except milk)	3 900	9.8
Milk	3 250	8.1
Sugar cane	2 940	7.3
Cotton	2 150	5.4
Maize	2 110	5.3
Rice	1 210	3.0
Eggs	990	2.5
Pigs	820	2.1
Groundnuts	510	1.3
Castor beans	440	1.1
Other	990	2.5
Total gross value produced	39 900	100.0

The predominant role of coffee in the total value obtained emerges clearly from these data, as the value of its production was almost three times as high as the estimated value of cattle and milk together, and about seven times that of sugar cane, the most valuable single crop after

FIGURE VI

THE USE OF LAND ON COFFEE FARMS, 1958

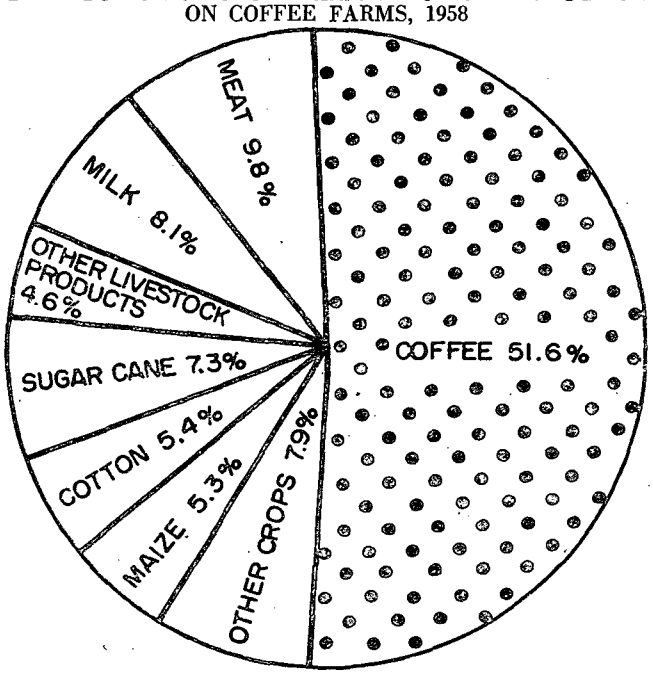


coffee. But the evidence also demonstrates that commodities other than coffee have already acquired considerable commercial importance. Taken together, the non-coffee-growing activities contributed nearly as much to the total gross value of farm production as did coffee growing itself.

Unfortunately it is impossible to compare these estimates for 1958 with similar ones for other periods. Yet it appears that the traditionally highly specialized coffee farm structure may have been modified by the rapidly changing economic conditions in the post-war period. This is not to say that before 1945 no other commercial activities existed on coffee farms. The rapid introduction of cotton during the 1930's is a notable example of such a development. But the recent rise in non-coffee activities seems both to cover a wider range of products and also to grow in new directions.

FIGURE VII

DISTRIBUTION OF GROSS FARM VALUE OF PRODUCTION ON COFFEE FARMS, 1958



The most important recent development has been the increasing association of animal husbandry with coffee production. The manures produced are especially valuable in connexion with the maintenance or restoration of low-yielding coffee plantings. At the same time animal husbandry could be practiced on the pasture land formerly used for coffee growing, but which no longer provided economic returns.

The association of dairy production with coffee growing has gained special prominence, and it is estimated that currently probably over half of the State's total milk supplies originate on farms also producing coffee. If the value of the meat produced by dairy cattle is added to that of milk production, the total gross value produced by the dairy enterprise on coffee farms may be calculated at about Cr. 4 500 million in 1958. This represents more than one fifth of the farm value of coffee production in the same year.

Another important livestock activity associated with coffee is poultry raising. The introduction of the poultry-coffee combination is of recent origin, and perhaps owes much of its original acceptance to the high nutrient content of chicken manure in restoring old coffee plantings. By now, however, most commercial poultry farms specialize in egg production, and meat and chicken manure constitute important by-products. It is estimated that there were more than eight million chickens on coffee farms in 1958.

Sugar cane, cotton and maize are the principal non-coffee crops on the coffee farms in São Paulo. Together these three crops added about Cr. 6 500 million to the gross value of production, nearly the same value as that contributed by dairy and cattle production together. The total value of all smaller crops, not including the three already mentioned, amounted to close to Cr. 3 000 million, about equal to that of sugar cane production. In addition, maize and beans are widely grown by *colonos* for subsistence purposes.

The competitive situation of the various crops in relation to coffee varies considerably, and this point will be further analysed in section V.

Suffice it to point out here that many crops have apparently already found a place in the production plan of coffee farms and that this process would seem to be part of an important change in the farm structure itself.

The growth of the internal market for food and agricultural products is the main underlying force which now stimulates the diversification process. The strong industrialization movement in São Paulo has raised the level of real incomes and has attracted workers to already large urban centres, thus causing the demand for food and other farm products to rise steeply. Rates of population growth in São Paulo are also high, both on account of natural increase and because of immigration from other parts of Brazil and abroad. Added to this is the fact that coffee yields tend to decline gradually with the advancing age

of trees, and that the present average level is already rather low.

Generally speaking, the degree of diversification of coffee farms is higher in the more easily accessible eastern parts of the State than in the western areas. In the former, dairy and poultry production and the cultivation of fruit and vegetables are of special importance. Those enterprises are favoured by geographic factors and by the fact that coffee yields in the east are smaller than in the west. Further west, the principal non-coffee crops are cotton, groundnuts, castor beans and other less perishable and relatively high-priced cash crops.

As long as farm prices for coffee were at high levels, the returns from coffee growing greatly exceeded those of most other agricultural activities. But, in the last few years, prices for coffee have fallen appreciably, both in absolute and in real terms, while the prices of other products have usually at least kept up with the rise in the general price level. These divergent price tendencies have no doubt exercised a strong influence in recent years.

6. Variations in coffee yield

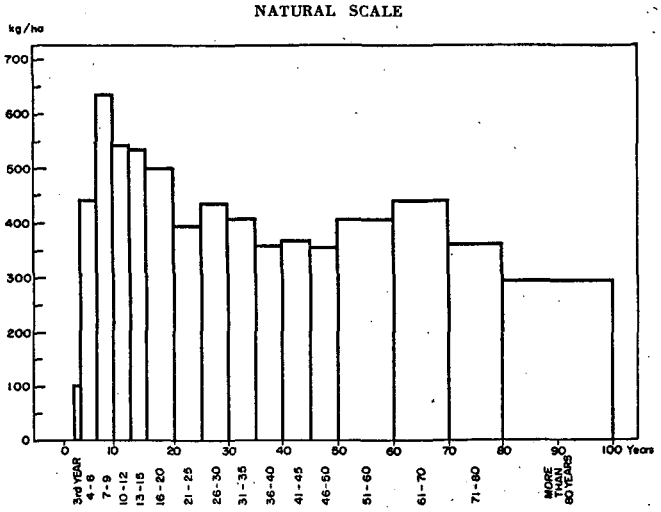
Coffee yields on individual farms, or on specific groups of plantings, are determined by a host of different physical and economic factors. Owing to the perennial character of coffee growing, the yield of any one year is affected as much (or more) by the accumulated conditions of previous years as by those prevailing in the year of the crop.

A large part of the variations in yields of coffee plantings is explained by the impact of two important physical variables mentioned earlier: age and variety. The evidence shows that, as conditions are in São Paulo, these two factors have a strong impact on yields, especially in the first 20 years of the planting's existence, which are at the same time its most productive years.

Figure VIII gives the average yields, in 1958, of coffee plantings for age groups up to more than 85 years. These data refer to all plantings in the State, regardless of variety, soil type, cultivation technique or other important factors.

FIGURE VIII

AVERAGE YIELD PER HECTARE OF PLANTINGS OF DIFFERENT AGES, 1958



No yield was reported for plantings one or two years old. In the third year, which is still generally considered to belong to the formation period, a small production of 99 kg per hectare was registered. Plantings 4 to 6 years old showed the first complete production at 441 kg per hectare. Another sharp increase can be noted for the 7 to 9 year old plantings, which yielded 634 kg per hectare. The latter figure was at the same time higher than that of any other age group and therefore appears to coincide with the maximum of the age-yield cycle. The next most productive age group showed yields somewhere between those of the 4 to 6 and the 7 to 9 year old plantings. Further declines, smaller than those registered immediately after the maximum, took place subsequently, average outputs approaching 400 kg per hectare for plantings just over 20 years old.

It should be emphasized that, after the initial maturation period, a large part of the age-yield fluctuations are actually a reflection of inadequate growing methods, particularly the failure to replenish soil nutrients. Under fully modern conditions no large decline in yields need occur after ten years.

The fact that maximum yields in São Paulo seem to fall within the 7 to 9 year group, as compared with the 10 to 12 year group in both Colombia and El Salvador, merits some attention. It is perhaps explained by the rapid introduction of higher-yielding trees in the past decade, the commercial production performance of which is not yet fully known over a long period. The lack of shade cover may be another factor which tends to advance the yield maximum of São Paulo plantings, for it is known that this also leads to higher output in the first productive years. Insufficient data are available for it to be concluded definitely whether the occurrence of maximum yields in the 7 to 9 year group is a characteristic feature of coffee cultivation in São Paulo or whether the 1958 figure has been influenced by special factors. The following average yields were obtained in 1958 for specified age groups up to 25 years:

Age of plantings (years)	*1958 yield per hectare (kilogrammes)*
3	99
4 - 6	441
7 - 9	634
10 - 12	541
13 - 15	536
16 - 20	499
21 - 25	392

For ages up to about 25 years, it may be assumed that these yield differences approximately reflect the experience of individual plantings over a like period, at least in relative terms. No significant portion of these relatively young plantings is likely to have been eliminated or abandoned up to 1958, and average yields in that year therefore represent a cross-section of the plantings established in a given period.

Though the yields of age groups up to 10 years are higher than "normal" due to the introduction of new varieties, it will be seen that, starting with the 10 to 12 year groups, yields fall significantly for each succeeding group. Plantings of 21 to 25 years produced, in 1958, yields 25 to 30 per cent below those obtained in the 10 to 12 year group. This reveals a marked influence of age and soil depletion on yields.

On the other hand, there appears to be no clear relationship between age and yield for age groups over 25 years, as is seen from the following data:

Age of plantings (years)	*1958 yield per hectare (kilogrammes)*
26 - 30	435
31 - 35	405
36 - 40	357
41 - 45	365
46 - 50	355
51 - 60	406
61 - 70	440
71 - 80	361
more than 80	294

Except for the very oldest plantings (over 80 years), average yields in these age groups fluctuated irregularly around 400 kg within a margin of about 10 per cent on either side. Yet it would not be reasonable to conclude that age has no effect on yields after plantings have reached the age of 25 years. The evidence is that older plantings are still subject to further degeneration, but that for the more advanced age groups 1958 yields no longer represent an average cross-section. This is due to the fact that the older plantings are subject to a continual process of selection, abandonment and/or elimination, as their yields decline further. For that reason, the majority of older plantings which still exist are of better than average quality. More fertilizer is also used on older plantings, as the survey results have shown. These tendencies seem to compensate for most of the natural effects of age, and soil depletion and they indicate that farmers take remedial action when certain minimum levels of yield are reached.

It is interesting to note that these factors gradually become important after the plantings have passed the age of 20 years, which, in 1958, also coincided with yields of about 400 kg per hectare. Detailed estimates, made for purposes of the present survey, also indicate that this level corresponded, on the basis of 1958 cost and price relationships, roughly to the minimum yield for coffee growing to be profitable. The two findings are apparently consistent.

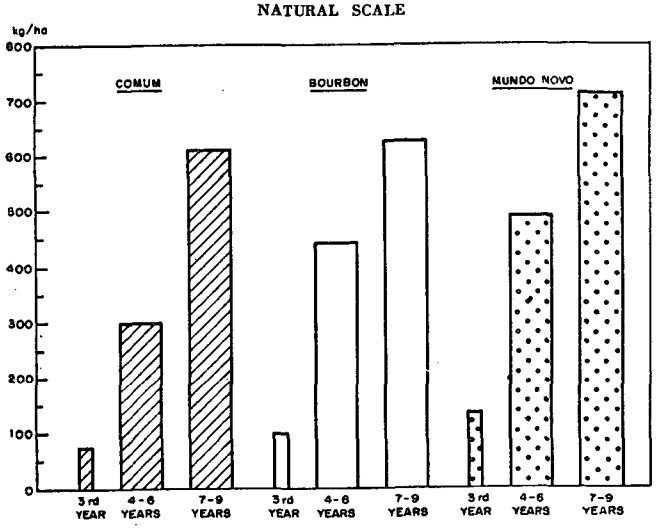
It was mentioned earlier that yields in the younger plantings not only reflect the maturing process but, in the specific case of São Paulo, also the impact of the shift towards improved varieties, which was already discussed. As the new trees produce higher yields, this factor raises average yields in the age groups up to 10 years. The following average yields result by main varieties:

Age of planting (years)	*Yields per hectare, 1958 (kilogrammes)*		
	Comum	*Bourbon*	*Mundo Novo*
3	74	100	135
4 - 6	297	442	491
7 - 9	610	625	710
10 - 12	525	551	...
13 - 15	544	532	...
16 - 30	451	460	...

The superiority of *Mundo Novo* over *Comum* is apparent from these figures. Up to the age of nine years, a hectare of this type produced, under average commercial conditions, nearly 1 000 kg of coffee more than *Comum* (see figures IX and X). As the value of this additional production alone represented about two-thirds of the entire establishment costs of the *Mundo Novo* planting, the power

FIGURE IX

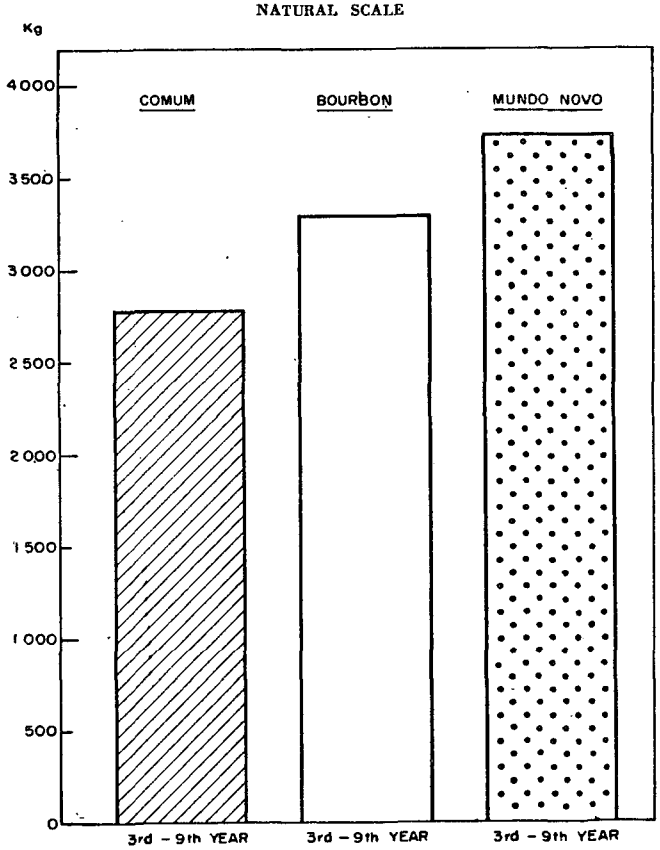
ANNUAL YIELDS UP TO NINE YEARS FOR *COMUM*, *BOURBON* AND *MUNDO NOVO*, 1958



ful incentive to change to this variety becomes apparent. This is further enhanced by the fact that the introduction of *Mundo Novo* does not require other changes in growing methods or extra investment. The yield margin for

FIGURE X

TOTAL PRODUCTION OF ONE HECTARE OF COFFEE OF DIFFERENT VARIETIES IN FIRST SEVEN PRODUCTIVE YEARS



this tree-type thus brings a significant increase in net profits. Consequently, once *Mundo Novo* became available for distribution, this type was used on more than half of all new plantings.

The remarkably higher yield of *Mundo Novo*, which was established through the survey, is representative of all the plantings of this type thus far made in São Paulo, some 87 million of which produced a crop in 1958. Tests carried out under above-average conditions may show even better results, but the significance of the figures just presented is that they reflect normal commercial conditions of production, which are, of course, not optimum.

The comparison of *Bourbon* with both *Mundo Novo* and *Comum* is complicated by the circumstance that, in the past decade, new improved strains of *Bourbon* were distributed, which are indistinguishable from earlier strains for the purposes of the present survey. But the available figures show that for existing plantings of up to nine years *Bourbon* produced a margin over *Comum* of some 500 kg per hectare, whereas it fell short of *Mundo Novo* by approximately 450 kg. Average yields for *Bourbon* were therefore more or less equidistant between those of *Comum* and those of *Mundo Novo*.

An evaluation of the improved varieties for a longer period is not yet possible, for *Mundo Novo* was available on a commercial scale only after 1950. On the other hand, the use of *Caturra* was too infrequent in any year for its average performance to be measured by a sample survey of limited coverage. The performance of *Bourbon* in plantings of ten years and older differed very little from that of *Comum* according to the reported data. But the yield differences in favour of the improved varieties, especially *Mundo Novo*, in the first ten years after establishment have apparently already been amply sufficient to justify their large-scale introduction and to prove their competitiveness.

Despite the significant variation in yields between age groups and between different varieties, it is stressed that many other factors, such as soil type, tree density, cultivation practices, etc., also affect yields. After a detailed analysis, which will be presented separately, it is concluded, however, that a large part of the differences in yield may be attributed to the independent effects of age and of variety. But as the available data cover only one year, they are intended primarily as an illustration of the yield structure, rather than as a measure of future yields.

III. MAIN ECONOMIC FACTORS AFFECTING PRODUCTION

The combination in São Paulo of relatively low yields and of declining coffee prices in the last few years has led to a price-cost squeeze on many farms in the State. At the same time, the large-scale introduction of new varieties and types of trees, and the intensive experimentation with more modern cultivating techniques are focusing attention increasingly on the cost structure of coffee growing and on methods to improve this structure in accordance with present technical and economic possibilities.

In order to appraise such possibilities, it is necessary to review briefly the current situation as regards production costs. Detailed data were collected through the survey on the use of capital and labour, the principal inputs, and on the application of fertilizers, machinery and equipment in the various phases of coffee production.

1. Use of fixed capital

Due to the perennial character of coffee cultivation, fixed investment per unit of product greatly exceeds that of annual crops. In 1958, an average of 77 400 cruzeiros was invested in each hectare of coffee planting and in the corresponding share of farm buildings and equipment, which is equivalent to 159 cruzeiros per kilogramme of coffee produced. As one kilogramme of coffee on the farm in 1958 had a value of about 29 cruzeiros, this means a capital-output ratio of more than five to one.

More than three fourths of this capital investment is accounted for by the coffee trees themselves (51.2 per cent) and by the value of the land (26.1 per cent). The next important item is workers' housing, which is practically always owned by the farm. Among the smaller investments items are, in order of declining importance, installations for coffee processing, automotive power, work animals and miscellaneous equipment (see figure XI). The following table shows the average investment per hectare of coffee planting for nearly 500 representative farms which were covered in the survey:

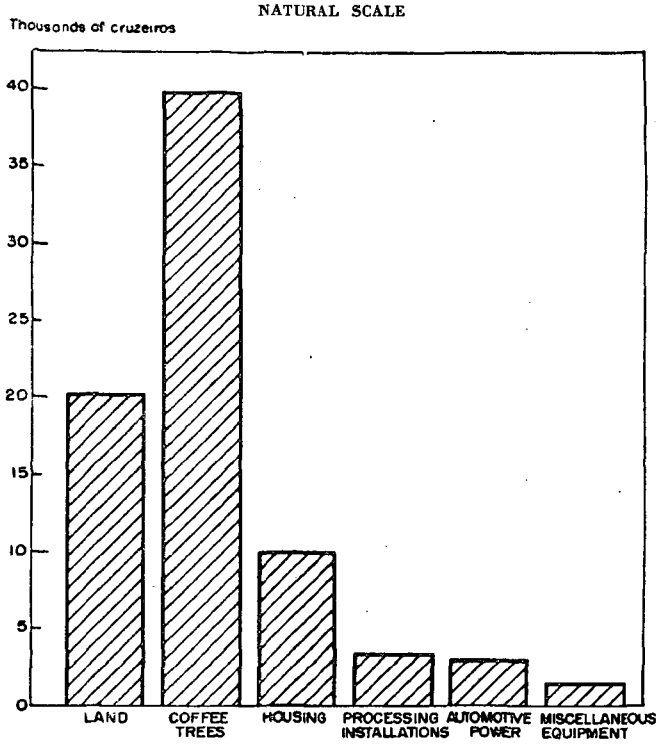
Type of investment	*Amount invested per hectare of planting, 1958 (thousands of cruzeiros)*	*Percentage*
Land	20.2	26.1
Trees	39.7	51.3
Housing, etc	9.9	12.8
Processing installations and equipment	3.3	4.2
Automotive power	2.9	3.8
Work animals, etc.	0.8	1.1
Miscellaneous equipment	0.6	0.7
Total	77.4	100.0

It will be seen that 95 per cent of the total investment referred to consists of fixed capital and only about 5 per cent of other kind of capital. At the same time, at least two thirds of the total farm investment is represented by the capitalized value of the farm's own labour, whereas only about one third of the investment consists of land or items in the non-agricultural sector. The former category of items includes the coffee trees themselves and a large part of the housing and other construction. Practically the only items originating outside the farm are automotive power and some minor installations and equipment. These characteristics are important as they affect the degree to which growers would be able to modify the farm structure and the pattern of production with available resources.

The data on capital investment also illustrate the low level of mechanization on coffee farms. Practically the entire investment in machinery and power is for the coffee-processing installations and lorries and other vehicles required for the transport within the farm of the crop and of materials such as fertilizers and manures. This is a

FIGURE XI

AVERAGE VALUE PER HECTARE OF COFFEE PLANTING, 1958



result of the difficulty of mechanizing the principal growing operations, especially the harvest itself, which on the average absorbs nearly 40 per cent of total labour requirements. As sufficient labour is maintained on the farm to guarantee the timely harvesting of the crop, the farmers are also less interested in mechanizing operations such as weeding, which are performed in other months of the year. Apart from this, the high cost of all machinery as compared with the outlay on labour is of course one of the principal factors working against the mechanization of coffee growing in a more general sense.

It is difficult to estimate accurately what share of production costs is accounted for by the use of capital. The rate of capital depreciation depends largely on the way in which the plantings are managed, the type of soil and its susceptibility to erosion, the age of the trees, etc. However, if the additional economic life of the average existing coffee planting in 1958 is considered to be 20 years, that of constructions 30 years, and that of mechanical equipment, installations and work animals 10 years, it may be estimated that the cost of depreciation of a hectare of coffee planting amounted to about Cr. 3 000 in 1958. This is equivalent to Cr. 4.6 for each kilogramme of coffee produced on the average.

No depreciation of the land is included in this estimate, although most coffee land is subject to considerable physical deterioration as a result of erosion and depletion. It is considered, however, that the reported land values were also determined by many factors unconnected with coffee production or with agricultural productivity in general.

The cost of the use of capital itself, i.e. the interest to be applied to the amount invested must be added to depreciation, in order to find the total capital cost. The use of a conventional interest rate of 6 per cent seems indicated here, since it may be assumed that the current value of coffee properties fluctuates in accordance with rises in the general price level, and the rate need not therefore make allowance for inflation. The average cost of interest would therefore be of the order of Cr. 4 600 per hectare of planting, and Cr. 6.9 per kilogramme of coffee at 1958 prices. (The average farm price in 1958 was Cr. 28.7 per kilogramme.)

As might be expected, larger farms have in general a more economic capital use pattern than smaller ones because their investment in housing, other constructions and installations is correspondingly lower per hectare.

A close relationship was found between the amount of capital invested per unit of product and yield. The following table referring to the 500 farms covered shows that, as yields increase, the amount of capital required per unit of product falls steadily:

Yield per thousand trees (kilogrammes)	*Capital investment per 100 kg of coffee (thousands of cruzeiros)*
up to 200	22.4
201 - 300	20.6
301 - 400	12.0
401 - 500	14.2
501 - 600	12.5
601 - 700	11.0
701 - 800	10.4
801 - 900	7.6
901 - 1 000	8.1
1 001 - 1 100	6.1
1 101 - 1 200	7.1
more than 1 200	9.9

This influence of yield on capital cost per unit of product is a strong argument in favour of high-yielding plantings, especially since it will be seen later that similar findings apply for many other important cost items. The advantages derived from a situation of high yields must, therefore, not be examined in the light of capital utilization only but must take due account of the entire production relationship. But one general conclusion stands: owing to the high proportion of fixed and overhead costs, profits from coffee growing vary more sharply with yields than those of most other farm activities.

2. Use of manpower

On the majority of farms and at present levels of technique, manpower is still practically the only variable input in coffee production in São Paulo. The individual farmer faces the problem of cultivating a structure of plantings, which can only be modified at considerable cost. Non-labour items of expense, on the other hand, such as fertilizers, pesticides, machinery and equipment, are of much smaller economic importance, and their use is mainly limited to a relatively small minority of progressive farmers. There are no indications so far that the heavy dependence on manpower for coffee production is diminishing, and even the wide application of technical improvements would bring little or no change.

In the year preceding the 1958 crop, an average of about 72 man-days were used in attending each hectare of producing coffee plantings, which corresponds to 95 man-days per 1 000 coffee trees. Correspondingly, one kilo-

gramme of coffee represented, on the average, a current labour use of 1.18 man-hours and an actual labour cost of 9.4 cruzeiros.

Harvest operations accounted for 37.6 per cent of all labour use and absorbed 217 man-hours per hectare (see figure XII). Weedings represented most of the remaining use of labour (about 36 per cent of the total). Other operations were of much smaller importance than the two major categories already mentioned. They included the preparation and application of fertilizer (8.8 per cent), the maintenance and repair of installations and equipment (6.8 per cent), the control of pests and diseases (4.8 per cent) and various other activities (6.5 per cent).

The labour cost per 100 kg of coffee seems to vary considerably from one region of the State to the other as is illustrated by the following findings:[4]

Region	*Number of farms in sample*	*Use of cultivating and harvest labour per 100 kg 1958 (man-hours)*	*Yield per ha 1958 (kg)*
Mogiana	50	161	408
Alta Mogiana	63	143	330
Central	119	88	612
Araraquarense	69	152	432
Noroeste e Alta Paulista	84	118	498
Sorocabana	92	119	498
São Paulo	477	118	488

[4] These figures are based on the second (B) sample of farms, which was less extensive in coverage than the basic (A) sample. For this reason the finding of the two samples are not always identical. The average yield of the above farms (488 kg/ha) is, for instance, slightly above the real State average yield of 446 kg per hectare.

The regional data show that the variations in labour cost are closely related to yields. The lowest costs are reported in the *Central* region, which also has the highest yield average in the State (more than 600 kg). At the other extreme, *Mogiana* has labour costs nearly twice as high as those in the *Central* region and yields around 400 kg. As regards the principal producing zones in the western part of the State, it will be seen that in both *Sorocabana* and *Noroeste e Alta Paulista*, average labour costs are at about the State average level. But *Araraquarense* appears to have higher production costs.

Although the differences between the results obtained on individual farms are very large, farms with the hired-labour (*colono*) system or sharecroppers used labour more efficiently on the average than the usually small family concerns. These thee types of farms comprise the large majority of coffee holdings in São Paulo, and average labour use resulted as follows for each type:

Type of farm	*Labour use per 100 kg of coffee (man-hours)*
Hired labour system	116
Sharecropping system	114
Family farms	193

It was also established that labour costs are lower for larger farms than they are for smaller ones. This is true despite the fact that techniques of farming do not appear to differ greatly between farms of different sizes. Furthermore, there is little reason to suppose that economies of scale are effected in the manual processes of coffee cultivation. The reasons for the differences in labour costs are attributable rather to the physical structure of the

FIGURE XII

THE USE OF LABOUR BY MAIN OPERATIONS, 1958

NATURAL SCALE

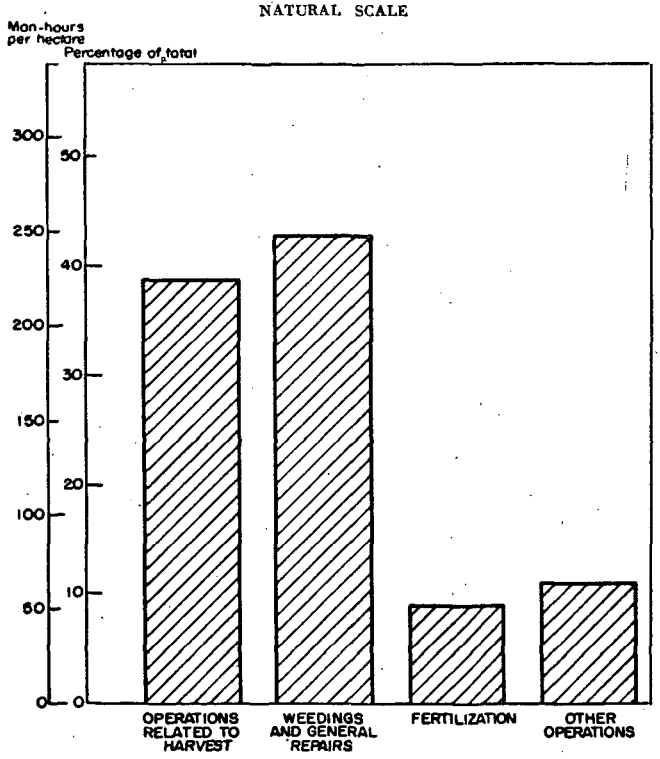
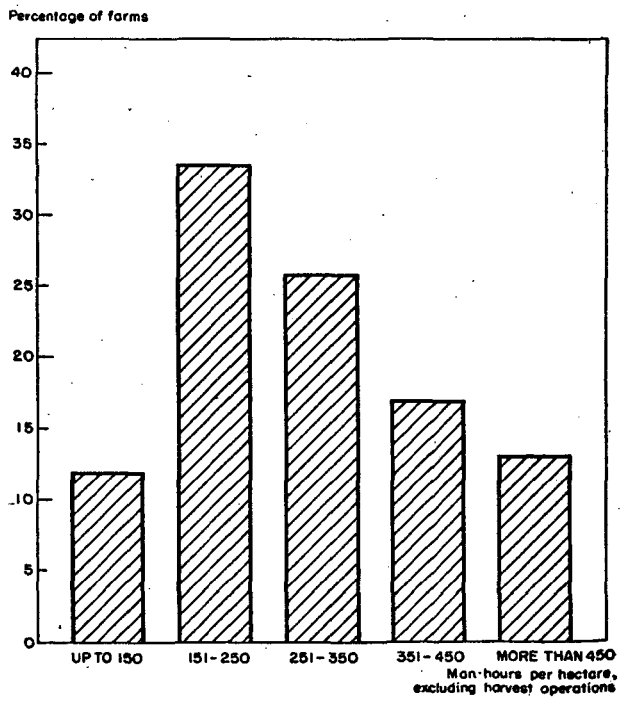


FIGURE XIII

FREQUENCY DISTRIBUTION OF FARMS BY CULTIVATION INTENSITY, 1958

NATURAL SCALE



respective coffee plantings, i.e. their composition by age and by type of trees, and not to the inherent superiority of large-scale farming as such.

The relative uniformity of growing practices in São Paulo is illustrated by the concentration of a high proportion of the farms in a rather small range of cultivation intensity (see figure XIII). On about 60 per cent of the farms, these intensities (i.e. labour use excluding harvest operations) were found to range between 150 and 350 man-hours per hectare. Nearly 90 per cent of the farms devoted less than 450 man-hours per hectare. The proportion of intensively cultivated farms, with a wider range of advanced operations such as fertilization, pruning, replanting, etc., therefore appears to be small.

Owing to the perennial character of coffee growing, maintenance operations come under the heading of overhead. Regardless of the yields obtained, many current operations, such as three to five weedings annually, must be performed, and the corresponding labour use is relatively constant per area unit. This leads to a clear gain in efficiency for plantings of above average yields.

The close relationship between yield and average labour costs is indicated by the following data (see also figure XIV):

Yield in kg/1 000 trees	*Labour use per 100 kg coffee per man-hours*		
	Total	*Harvest*	*Cultivation*
up to 200	302	130	172
201 - 300	210	93	117
301 - 400	148	75	73
401 - 500	133	72	61
501 - 600	103	56	47
601 - 700	86	48	78
701 - 800	87	49	38
801 - 900	58	37	21
901 - 1 000	63	36	27

Total labour cost per 100 kg coffee declines steadily as yield increases, from about 300 man-hours per 100 kg for yields below 200 kg per 1 000 trees to less than 100 man-hours for yields above 600 kg per 1 000 trees. This gain in labour efficiency is attributable both to a saving in cultivation operations, as already mentioned, and to lower harvesting costs, as yields increase. High-yield plantings have therefore a strong advantage over low-yielding ones from the point of view of labour use.

As the range in yields in São Paulo is rather large because of differences in the age and variety of plantings, soil conditions, the use of fertilizers, etc., the amount of labour used to produce 100 kg of coffee also varies greatly from farm to farm. Although the average use of labour for the State in the crop year 1958 amounted to 118 man-hours per 100 kg of coffee, 16.6 per cent of the plantings absorbed more than 200 man-hours. On the other hand, 42.8 per cent were able to produce at a cost of less than 100 man-hours per 100 kg:

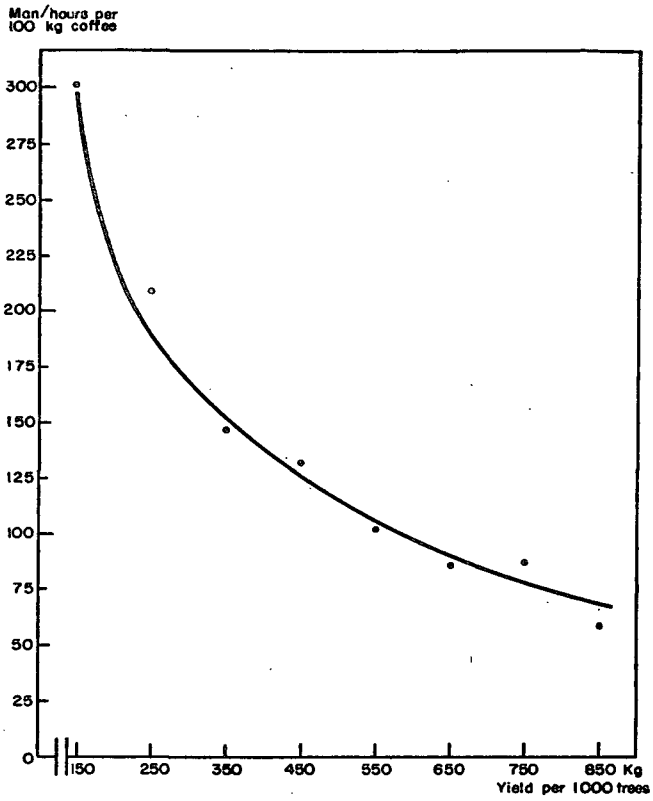
Use of labour per 100 kg coffee (man-hours)	*Percentage of farms*	*Percentage of trees*
up to 100	31.6	42.8
101 - 200	43.2	40.6
201 - 300	12.0	9.2
301 - 400	6.9	4.2
more than 400	6.3	3.2
Total	100.0	100.0

The present discrepancy between the intensity of labour input and the average level of resultant productivity emphasizes the fact that this major resource is being used unecomically in many farms. Though total (excluding harvest) labour input per hectare may fluctuate owing to certain soil-type and other ecological differences, this seems to be largely caused by differences in the quality of the work. Thus no great differences in technology can be observed between farms using, say, 200 and those using 400 man-hours per hectare. Unfortunately it was not possible, for the purposes of the present survey, to analyse operating efficiency within given levels of total labour use.

FIGURE XIV

LABOUR COST AT VARIOUS LEVELS OF YIELD, 1958

NATURAL SCALE



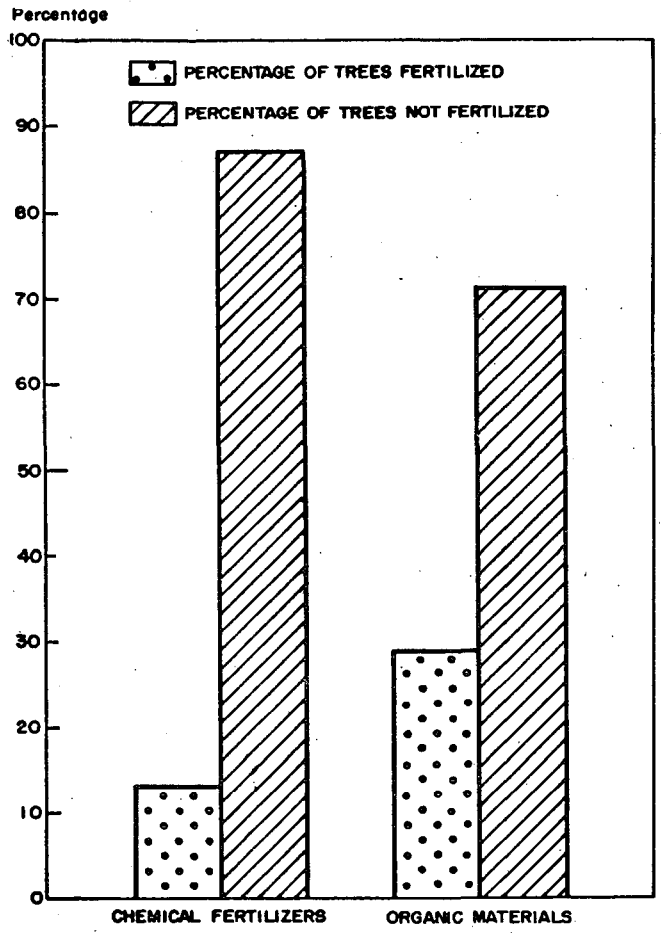
3. Use of fertilizers

The use of organic and chemical fertilizers in São Paulo has become rather common in the relatively recent past. Available information indicates that few major coffee-producing areas in the world equal this State in the average intensity of fertilization. Yet this is more the result of the very small use of fertilizers in coffee growing than to the intensive application of fertilizers in São Paulo. The large majority of existing coffee plantings are not yet benefiting from the rational administration of either organic or chemical fertilizers, as was clearly established in the present survey.

About 13.2 per cent of all trees received chemical fertilizers in 1958. On the other hand, a considerably larger proportion (some 29 per cent) were treated with one or more types of organic materials. Furthermore, the latter are frequently applied in rotation, which raises the total proportion of trees treated over a longer period. As the

FIGURE XV

THE INTENSITY OF FERTILIZER USE IN 1958



use of both types of fertilizers is common on farms applying chemicals, it may be estimated from these figures that at least 60 per cent of all existing trees were not fertilized at all in 1958, while the remaining 40 per cent received one or more types of fertilizer in varying quantities (see figure XV).

It is estimated that altogether about 103 000 tons of chemical fertilizers were applied in the survey year, as well as some 4.6 million tons of organic materials, the unit nutrient content of which is of course much lower. The estimated contents of the three main elements of both types of fertilizer are as follows:

TOTAL NUTRIENT CONTENT OF FERTILIZERS APPLIED IN COFFEE PLANTINGS IN SÃO PAULO

	Chemical	*Organic*
N	9 000	30 000
P_2O_5	11 000	12 000
K_2O	13 000	31 000
	33 000	73 000

The above table shows that two to three times as much nutrient was applied by the use of organic materials than with chemicals (see figure XVI). This is interesting since there has been some controversy about the use of chemical fertilizers. Unfortunately no comparable data are available for years other than 1958, but the present figures at least show that chemical fertilizers now account for a sizable proportion of the total nutrient value applied.

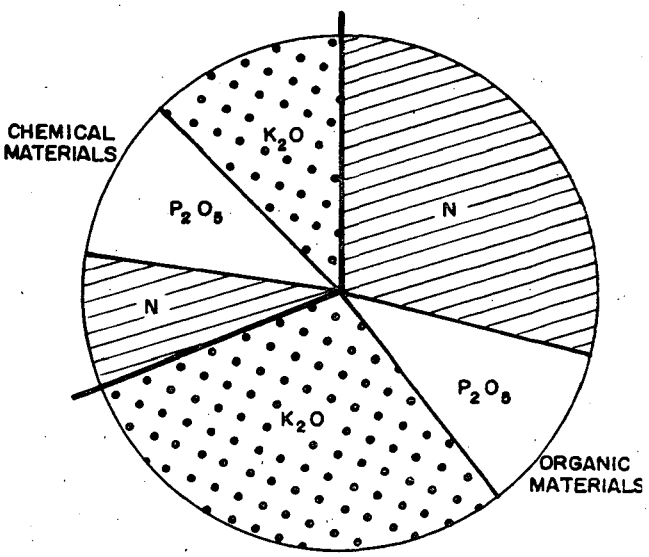
Many different types of chemical fertilizers were used, but more than half were mixed formulae containing various nutrient ingredients. On the other hand, the composition of organic materials was less varied: about two thirds of their total weight consisted of cattle manure, a clear indication of the importance of the coffee-livestock combination. Another 11 per cent was made up of coffee hullings. Smaller quantities of compost, bone-meal, mulches, green manures, etc., were also applied. Among the minor groups, the importance of high-nutrient materials merits special mention. It is estimated that about 80 000 tons of poultry droppings and nearly 50 000 tons of oilseed meals (cotton-seed, groundnut and castor bean mainly) were spread on the State's coffee plantings. The importance of poultry manure reflects the increasing frequency of the coffee-poultry farm already mentioned. On the other hand, the use of oilseed meals on a relatively large scale is a curious phenomenon in a region of expanding dairy production, where many such meals could be used as feed concentrates if properly processed.

It is significant that more than 90 per cent of the organic materials used as fertilizer are obtained on the farms themselves. This appears to have a strong influence on the farmer's choice of materials. The chemical ingredients must be purchased from outside sources and their prices are relatively high, as a portion of the nutrients is imported.

The issue of organic versus chemical fertilizers therefore has its economic as well as its technical aspects. Chemical fertilizers are expensive and have to be obtained from outside the farm. Most organic materials are available on the farm at a relatively small cost. Nevertheless, the cost of preparing and applying organic fertilizers is

FIGURE XVI

PROPORTION OF FERTILIZER NUTRIENTS* DERIVED FROM ORGANIC AND CHEMICAL MATERIALS, 1958



* Based on the sum, by weight, of the nutrient elements N, P_2O_5 and K_2O.

considerable because of the greater volume of materials handled and their lower nutrient content. It is estimated that the total cost of applying a given quantity of nutrient by means of organic materials in São Paulo, is, on the average, at least twice as high in terms of labour and transport as is the case with chemical materials.

The survey established various interesting differences in fertilizer use among different farm groups. In the first place, it was noted that the use of chemical fertilizers is practically unknown on smaller farms and increases steadily with size, as shown below:

Size group (trees)	*Percentage of chemical fertilization*
up to 32 000	6.0
32 - 64 000	11.8
64 - 128 000	22.0
more than 128 000	28.2

No important variation in the use of organic materials was found between the different size groups.

It was also observed that farmers try to offset the effects of the increasing age of their plantings, coinciding with greater soil depletion, by increased fertilization. Whereas the proportion of trees under 16 years old, which were fertilized with chemical or organic materials, was about 10 and 24 per cent respectively, the comparable figures for trees of 16 years or older were about 20 per cent and 33 per cent. This supports the conclusion that the older plantings existing today are the better ones of their period and that their average yields would be lower but for the wider application of fertilizers which partly compensates for the effect of soil exhaustion and age on yields.

As regards varieties, *Caturra* received more fertilizer than the other types. The fertilization—both chemical and organic—of *Mundo Novo* and *Bourbon* plantings appeared to be of about the same intensity. *Comum* was not fertilized as intensively as the other varieties though the differences were not very substantial.

Variety	*Percentage of plantings fertilized*	
	Chemical	*Organic*
Caturra	22	26
Bourbon	15	32
Mundo Novo	14	30
Comum	11	27

Despite the higher proportion of fertilizer used on *Caturra* plantings, the large majority of the improved trees planted in the past decade are not being fertilized. This is an important conclusion, for it is often thought that the introduction of new varieties is also a sign of a more general technological advance.

An analysis of fertilizer use by soil type shows that, on the sandy western soils, which are particularly susceptible to erosion, the intensity of fertilizer use was much lower than on the more clay-like soils of the north-east, at least so far as chemical materials are concerned. The use of organic materials shows rather little variation as between regions and farm types.

On the average, each kilogramme of coffee in 1958 represented an investment of about 3.7 cruzeiros in fertilizing materials, including the value of organic products contributed by the farm itself. The cost of application amounted to an average of 1.0 cruzeiro, so that the total expenditure on fertilization may be estimated at about 4.7 cruzeiros per kilogramme, a major element of production costs.

4. Coffee processing on farms

Before the coffee enters marketing channels, it is usually processed on farms up to the stage where it can be stored safely. Although in many cases this farm processing takes the simple form of thoroughly drying the product after it comes from the fields, many farms also have equipment ranging from hulling ad sorting machines to mechanical dryers.

According to the survey, the investment in processing installations and equipment amounted to an average of 3 300 cruzeiros per hectare, or 4 300 cruzeiros per 1 000 trees in 1958. This represents 4.2 per cent of the total estimated commercial value of the farm and its coffe plantings, but is about one fifth of the value invested in coffee farms, excluding land and coffee plantings. The importance of processing is therefore considerable in terms of investment requirements especially since machinery is one of the few items in coffee production which has to be bought outside the farm.

About 30 per cent of the farms covered in the sample prepared the coffee up to the green stage after drying —usually on brick platforms and occasionally in mechanical dryers—hulling and sorting. The average amount of labour required for these processes was 16 man-hours per 100 Kg coffee, i. e. some 13 per cent of the total up to and including the harvest. The most labour-consuming operations of the processing phase are drying and hand-sorting after hulling.

The coffee is also commonly marketed in the form of dried berries (*coco seco*). On 37 per cent of the farms, this was the final product sold and handling was limited to drying. In São Paulo the fruit dries suddenly and unevenly on the tree as it matures, leaving little time to pick it fresh as is customary in the mild-coffee countries of Latin America. It is therefore already partially dry when it is harvested.

In certain areas of the State, notably in the higher north-eastern zones, the depulping of fresh coffee by the so-called "wet" process seems to be becoming more widespread. This improves the quality of the end product, but it is also much more expensive for the beans have to be picked individually as is common in Colombia and other countries. In 1958, probably not more than 1 per cent of the crop was processed in this way under the incentive of higher prices for depulped grades.

Finally, 25 per cent of the farms reported no formal processing activities. Among this group were the numerous small units, where the coffee is dried under primitive conditions and/or sold in the same form as it is harvested.

5. Cost structure and productivity levels

Despite the great variation in production costs on individual farms, which in turn results in a wide range in the productivity of all resources engaged in coffee production, some important generalizations can be made about the present cost structure in São Paulo.

One of the foremost characteristics of coffee growing in the State is the large proportion of fixed or overhead expenditure. Because of the relatively high commercial value of land and plantings, the large share of certain minimum routine cultivating operations (e.g. weeding)

and of harvest work in total labour use and a variety of minor fixed items such as general administrative outlay, etc., coffee growing has a rather rigid cost structure under present conditions. The causes of this apparent rigidity, which is noticeable throughout São Paulo, seem to derive from the fact that the technical level of operations is very uniform in the whole State and follows a pattern which has not been modified for a long time. New techniques, especially those that have come to the fore in the past decade, have not so far had a significant impact on coffee growing, though considerable attention is now paid to them.

The use of labour, capital, fertilizers and other items was found to be similar by and large in all regions of the State and with all the various major soil types. Furthermore even the use of new tree types seems to have influenced the pattern of cultivation but little, as is apparent from a comparison of tree-spacing, labour and fertilizer application on *Mundo Novo, Comum* and *Bourbon* plantings.

The survey consequently established few clear differences in cultivation methods and cost structures between the groups of farms analysed. Perhaps the most significant one is the fact that large farms appear to be following more advanced methods than the small ones, as is illustrated by the more intensive use of chemical fertilizers, higher yields and the more efficient use of harvest labour on the former.

Another example of a different cost structure is the more intensive cultivation pattern which is followed for *Caturra.* This variety requires special care for optimum efficiency but all indications are that this has been one of the main reasons for its limited adoptions under commercial conditions, which strengthens the conclusion that a rather rigid cultivating system tends to prevail in São Paulo.

The high proportion of fixed costs is of course partly explained by the perennial character of coffee plantings, which require a rather heavy permanent investment and maintenance. But they are also partly the result of poor cultivating techniques. The wider adoption of fertilizers, better spacing and advanced growing practices in general would all result in higher variable and lower fixed costs per unit of product.

Despite the relative uniformity of cultivating practices (i.e. input per area unit), great differences in productivity (i.e. input per product unit) were noticeable in the survey year. Total labour costs per 100 kg coffee ranged from less than 100 to more than 300 man-hours for sizable numbers of farms, and yields from 200 to more than 3 000 kg were obtained per 1 000 trees.

With the existing structure of coffee plantings and with the relatively extensive cultivation techniques that are common in the State, yields and hence productivity are especially influenced by ecological conditions and by factors which, for all practical purposes, are fixed from the point of view of the farmer, such as the age and variety of his plantings. Average growing techniques have not yet reached the level where the farmers' own effort is the decisive factor in maintaining yields.

Thus a relatively old producing area such as São Paulo faces considerable difficulty at present in competing with zones such as those of Paraná, where newer soils are planted predominantly with improved varieties of rather young and vigorous trees. Nevertheless, basic techniques are similar in both these principal coffee-growing areas. In fact, typical conditions in the neighbouring State of Paraná today are very similar to those in São Paulo 30 to 40 years ago.

But whereas relatively simple techniques are perhaps justified in frontier areas, they no longer fit the case in São Paulo, which is now fully caught up in a process of rapid industrialization and economic growth. It is therefore not surprising that strong competition should make itself felt on São Paulo coffee farms at this stage.

The technological improvements in coffee growing, which are now available after considerable experimentation, offer much that would seem adapted to the envolving economy of São Paulo, e.g. more intensive utilization of the land, the maintenance of adequate soil fertility levels, the partial mechanization of maintenance operations and the use of the best available varieties. On the other hand, relatively few farmers, as yet have adopted such innovations on a commercial scale. This is not to say, however, that the behaviour of farmers is necessarily irrational. As will be discussed later, there are serious technical and financial obstacles in the way of any important transformation of coffee growing in São Paulo, which would need to be removed in order to assist farmers in modernizing their production structure.

Yet, though the original fertility of the soils in São Paulo has been greatly reduced, climatological and other conditions for coffee growing remain especially favourable, a factor which in the long run favours the State's competitive position over many other producing areas. But there is little doubt that the industry will face great difficulties in the short run, unless action is taken to improve the production structure itself. The characteristics of the existing cost distribution already show that such adjustments will be painful and expensive and that they can therefore be effected only at a considerable outlay and with a special impetus in the desired direction.

IV. BASIC TECHNICAL AND ECONOMIC PROBLEMS

The present study covers all types of coffee farms throughout the State of São Paulo. General conclusions may therefore be drawn for the State as a whole with respect to the basic technical and economic problems affecting coffee growers. An objective discussion of these problems is essential if an effective coffee production policy is to be carried out. The following examination of these problems is not exhaustive but it covers some important issues emerging from an analysis of the survey findings.

1. Defects in present plantings

(a) *Old plantings and replacement practices*

Despite the large-scale abandonment and elimination of coffee plantings during the 1930's and the Second World War, and despite high plantings rates in the fifteen postwar years, the proportion of trees over thirty years old reached the impressive figure of 31.5 per cent in 1958 (see again figures 2 and 3), a good portion of them exceeding 50 years.

The fact that yields decline with age as soils become depleted, while maintenance costs remain equal, this shows that the productivity of these old plantings is much less than what it could be if proper replacement practices were followed. Higher productivity would not only result from a better age distribution of trees but also from the gradual modernization of existing plantings in keeping with the technical improvements that have become available since the old planting was established.

So far, the general policy of coffee growers in São Paulo has been to reap the highest possible profits from the original capital invested in establishing the plantings, without much further investment which would guarantee reasonable stability in farming. As a result, coffee growing moved to new lands as the original soils and trees were depleted. The older zones therefore contain large tracts of former coffee lands, now frequently turned into low-productive pastures, and a still considerable number of old plantings, many of which are technically in very poor condition.

Thus it is very difficult to indicate any specific age at which it would be economical to replace the old plantings by new ones so as to maximize profits. Variety and soil type are the main determining factors on a well-kept coffee planting. The profit incentive to shift from depleted lands to virgin areas further west, inside or outside the State of São Paulo, has been much stronger up to now than that associated with the stable types of cultivation, including the application of modern technical principles and reasonable replacement practices on existing farms. Yet, in the long run, traditional practices are unlikely to be maintained as they are wasting too much of the land resources.

The harsh fact of the matter is however, that little further opportunity exists today for coffee migration in São Paulo, owing to the incorporation of the last reserves of virgin land in the recent past. A choice must therefore now be made between two clear-cut possibilities. The first would be to leave the situation as it is. This might lead to a gradual decline in coffee growing in the State and to the aggravation of the already serious problems of low productivity. The second would be to try to revive coffee production in order to adapt it more to the present realities of resource availability and to strong world-wide competition, while imparting a more stable growing pattern.

The existence of a high proportion of old plantings and the apparent absence of adequate replacement practices are two signs that the second choice has not so far been widely selected. Other evidence available through the present survey and from other sources confirms this. Thus coffee producers, as well as the State as a whole, are faced with the grave problems outlined above.

(b) *Obstacles to modernization*

At a time when little virgin land remains for coffee production and when cultivation may be considered "mature", in the sense that no spectacular changes comparable to those of earlier periods can be expected, growers are facing the fact that new techniques of production are emerging as the outcome of research undertaken mainly over the last twenty to thirty years.

It has been proved that, taken together, the use of fertilizers, soil conservation measures, new varieties and a better layout of plantings may raise productivity to levels much above the prevailing ones.

The São Paulo industry is in a difficult position to adopt such changes despite the benefits that would accrue therefrom, for most of the improvements cannot be applied on the existing old plantings. The lack of soil conservation measures, inadequate spacing and the existence of traditional varieties all require rather profound and costly changes involving the total replacement of present plantings by new ones. Such changes would of course imply strong financial backing and technical assistance.

But, under present circumstances, the farmers most in need of these improvements are also the ones least likely to have sufficient resources or technical preparation for carrying them out. On many low-yielding plantings few, if any, profits are now made from coffee, as appears from a detailed analysis of survey results. Cash incomes therefore barely suffice for a continuation of existing conditions far less large-scale new investment.

It is therefore clear that there are serious obstacles to modernizing coffee cultivation methods in Sãa Paulo and that a special effort would be required to assist this process.

(c) *New varieties*

An estimated 85 per cent of São Paulo's tree stock still consists of the traditional varieties (see figure IV). As new planting is of marginal importance and represents the only possibility of spreading improved types, most farms are not benefiting from this important method of raising productivity. Though it is difficult to make a specific estimate of the potential increase in productivity through the introduction of new varieties, because of incomplete data, the magnitude of this factor under average commercial conditions appears to be of the order of 25 to 30 per cent, other items being equal (see figures IX and X).

At the same time, competing producing areas in newer regions are making full use of the improved seeds, having the additional advantage of fertile virgin soils. The introduction of new varieties has so far been one of the few rather general technical changes made by farmers investing in new plantings in São Paulo, and the question arises whether it would not be useful to enhance the State's competitive position by encouraging the current trend towards improved varieties, on the older farms also. Despite the high proportion of new planting with improved seeds, the entire subject of new varieties is thus of marginal importance in São Paulo and is likely to remain so until the older plantings are replaced by new ones.

(d) *Soil depletion*

Soil deterioration is probably the most serious standing problem of coffee growing in São Paulo and has existed since the introduction of this crop in the State more than a century ago. In its westward shift coffee expansion has now reached and surpassed State limits, and virtually no areas remain that retain their original fertility. Furthermore, the new post-war plantings, which occupied the last reserves of land, are situated on generally sandy soils in the west, subject to heavy and rapid erosion.

From the point of view of the State of São Paulo as a whole, the soil problem is therefore assuming critical proportions. Losses in soil fertility affect practically all parts of the State and not only the older ones. As a result average yields have dropped and are considerably below

those obtained in adjacent competing areas. Furthermore, part of the soils in Paraná seem to be of higher quality than those of several western zones of São Paulo, a factor which favours competing producers still further.

The problems connected with soil exhaustion are among the most difficult ones to solve, for heavy investment is required to counteract it effectively, and yet it has proved possible to devise new systems of coffee production on the basis of soil restoration, even in the case of soils which were abandoned years ago for coffee growing. The economic aspects of these technological improvements will be taken up in chapter VI.

2. Defects in present exploitation methods

(a) *Labour use*

A detailed analysis of labour use in coffee production reveals several important shortcomings which are naturally closely related to the advanced age and bad condition of the plantings themselves. On the one hand, it was found that a uniformly high proportion of labour is spent on the harvest and on basic routine operations which are indispensable. On the other hand, present variations in the intensity of labour use seem to be largely unrelated to differences in cultivation techniques and in productivity. This would seem to imply wide differences in the operating efficiency of this principal resource, which accounts for more than half of all production costs.

On the large majority of farms, the more advanced cultivating methods, including fertilization, pruning, soil conservation measures, etc., are still the exception. More than 80 per cent of the total labour is employed on minimum maintenance operations and on picking the crop (see figures XII and XIII).

This is particularly serious as labour is one of the main resources on which any structural adjustments would have to be based. The alternative use of available manpower in activities conducive to optimum total farm productivity should be the main objective in the efficient employment of this valuable resource, which is generally in ample supply in São Paulo. In view of the relatively high cost of items such as fertilizers and equipment and of capital for agricultural purposes, the rather intensive utilization of labour in solving the problems facing the industry is often preferred by the individual farmer. But the use of labour in this connexion would have to follow a new policy aimed specifically at utilizing technical improvements to raise productivity.

In the course of the rapid agricultural and industrial development now taking place in São Paulo, the role of manpower in coffee production and the way in which it is used will have to be constantly revised in accordance with changing price and cost factors. Rigidity in growing techniques would be a handicap.

(b) *Fertilizer use*

About 60 per cent of all coffee plantings received no fertilizer at all in 1958 (see figure XV). Fertilizer use therefore appears to be inadequate for maintaining reasonable levels of soil fertility and this is naturally a principal factor affecting coffee yields. At the same time, a detailed analysis of fertilization practices in 1958 leads to the conclusion that a greater use of chemical fertilizers would contribute more to net farm profits, under 1958 price and cost relationships, than an increase in any other farm input in coffee growing.

It was also found that the use of fertilizers during the formation period of the planting is exceptional and that heavier fertilization takes place once declines in yields caused by soil depletion on older plantings threaten to eliminate profits altogether. At that stage, however, the net effect of fertilization seems to be less than at earlier ages. Again, more fertilizer is being used on the relatively resistant loamy soils in eastern districts than on the sandy western lands, which are subject to rapid soil depletion and erosion. Even at present fertilizer is not always applied in ways which produce the maximum benefits for the State as a whole.

Under present circumstances, a substantial increase is required in the use of fertilizers, with a certain preference for chemical materials. Though the latter represent a high outlay for farmers, flexibility and efficiency in their distribution and their possible adjustment to the specific requirements of present plantings are factors in their favour.

This is not intended to detract from the great value as fertilizers of locally available organic materials which are often by-products of coffee growing and of other profitable associated enterprises. But it is felt that most of the required expansion in fertilizer use will depend on chemical materials.

(c) *Combinations of advanced practices*

So far only a very small proportion of farmers (1 or 2 per cent) adopt a combination of various advanced practices. The results show that commercial growing standards follow a rather rigid traditional pattern, with the sole exception of the shift to improved seeds in new plantings and of a moderate increase in fertilizer use, often unrelated to the introduction of improved varieties.

In recent years the value of a considerable number of technical improvements in coffee growing has been proved by experiment; together they could bring about important changes in the São Paulo industry. The principal ones are the introduction of new varieties, more adequate spacing of trees, measures of soil conservation in the basic layout of the planting, and the rational use of fertilizers.

The combined application of these practices, even on "old" soils, may in many cases triple present average yields in the State. A farm might therefore produce as much coffee as it does today on a much smaller land area utilizing the available resident manpower. Routine weedings could be partly mechanized, or effected by the use of weed-killers and a considerable part of the land could be assigned to other remunerative enterprises.

A change along these lines would put coffee growing on a technically advanced level, which also appears to be economically feasible. It would also ensure the more efficient use of available resources without requiring great shifts in rural population. Much interest has therefore developed in technical circles in the large-scale adoption of suitable combinations of the modern farm practices mentioned. The low proportion of farmers actually using these methods proves, however, that it is difficult to secure their general adoption. The main factors involved appear to be financing problems and the need to give the farmer more ample technical instruction.

The data show that at present the application of one

growing improvement is largely unrelated to that of another. Though some 15 per cent of the existing trees are of various improved types, only a small portion of them is fertilized. Furthermore, little difference in tree-spacing and in the frequency of soil conservation practices is evident between the new plantings and the older ones. The latter fact is explained by the rather common use of the interplanting (*dobraçao*) system to replace the old plantings: under this system, new trees are planted between the existing ones, and the layout of the planting remains substantially unchanged once the old trees are removed.

Thus there is little indication of a systematic adoption of a "modern" cultivation system which differs substantially from that traditionally followed in São Paulo. A small minority of farms is using one technical improvement or the other with partially better results. The changing agricultural picture in the State would justify a much more dynamic process of production adjustment in line with that characterizing all rapidly developing areas.

(d) *Cost structure*

A result of this situation is the very high proportion of fixed costs characteristic of São Paulo coffee production. This constitutes, in its own right, a problem of inflexibility and resistance to the introduction of new technology, for it discourages farmers from shifting their factors of production so as to obtain the best possible results under varying conditions. It also greatly hampers the rechannelling of resources from coffee production to other profitable and useful activities, wherever required by changes in demand.

The factors already mentioned in the foregoing paragraphs affect the present cost structure of coffee production in several ways. The presence of many old plantings, which react less efficiently to increased fertilization and other improved practices, diminishes interest in breaking the vicious circle of inadequate cultivation, declining yield and soil erosion through the more efficient use of labour and other inputs. The spread of new varieties, which yield more even with the traditional cultivation system, provides no major stimulus for further technical development of the industry through improved growing methods. Finally, until soil erosion in the relatively new western areas has progressed much further, it seems unlikely that farmers will make large-scale investment in the conservation of land resources.

(e) *Low yields*

The general indicator of the problems already mentioned is the low level of coffee yields obtained in São Paulo. Though yields of adult coffee plantings fluctuate between extremes of 100 kg and more than 3 000 kg per hectare, the State average in 1958 was about 450 kg per hectare, equivalent to 540 kg per 1 000 trees. This average level is low, not only in relation to what healthy and well-kept plantings may normally achieve, but also compared with the results obtained in other important producing areas of the world. The most notable difference is that between São Paulo and Paraná. While both States seem to have very similar production techniques, in Paraná the industry has largely developed in the past two decades. Average coffee yields in Paraná, in years not affected by frost damage, appear to be about double those for São Paulo in 1958.

The low-yield problem is one that affects a large portion of existing plantings, as is shown by the following frequency distribution of trees by yield classes (see also figure XVII):

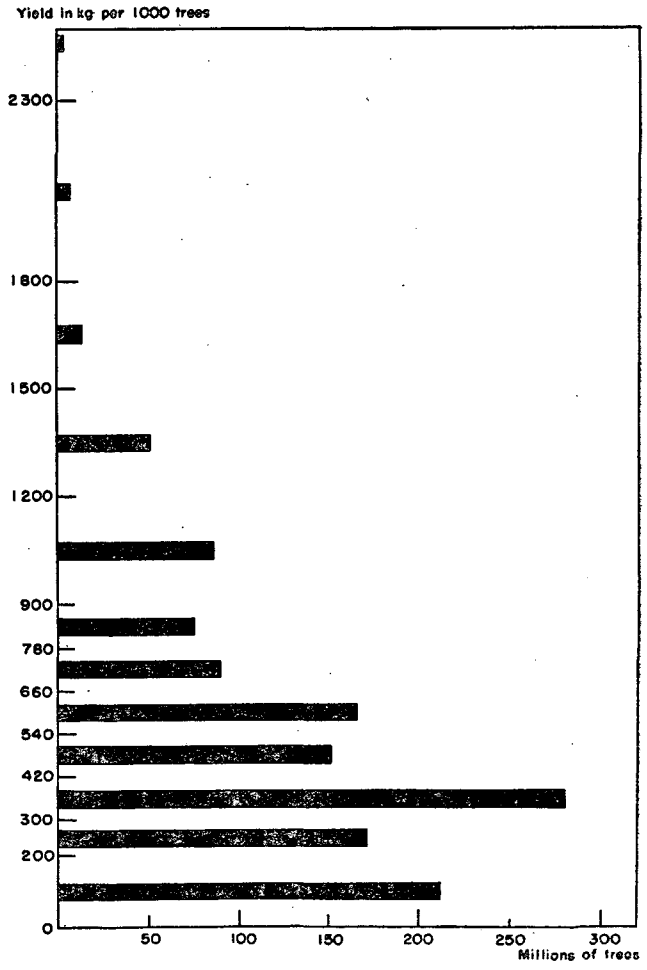
Yield per 1 000 trees (kg)	*Millions of trees (rounded figures)*	*Percentage of trees*
Up to 200	210	16.2
201 - 300	170	13.2
301 - 420	280	21.4
421 - 540	150	11.4
541 - 660	165	12.8
661 - 780	90	7.0
781 - 900	75	5.9
901 - 1 200	85	6.7
1 201 - 1 500	50	3.7
1 501 - 1 800	13	1.0
1 801 - 2 300	7	0.5
More than 2 300	3	0.2
All adult trees in São Paulo	1 300	100.0

About one half of the existing adult trees had yields below 420 kg per thousand (equivalent to 7 bags of green coffee and to approximately 21 bags of *vindo de roça* cof-

FIGURE XVII

DISTRIBUTION OF ADULT TREES BY YIELD CLASSES, 1958

NATURAL SCALE



fee). The level of 420 kg is often considered the minimum break-even point for coffee production in São Paulo though naturally such a point is never fixed at any given level of yield but fluctuates with the price structure. The magnitude of the problem is well illustrated by this impressive proportion of apparently submarginal plantings, which comprises more than 600 million trees or over half of all adult trees in the State.

The proportion of trees in higher yield classes tends to diminish with each successive level of the table. Nevertheless it is seen that the upper tenth of the distribution had yields exceeding 1 000 kg per 1 000 trees. Between these extremes lie about 40 per cent of the trees with fair to good yields of between 400 and 1 000 kg per 1 000 trees.

3. Defects in the farm structure as a whole: excessive specialization

Despite certain improvements in the farm structure as a result of the recent growth of other activities, a large section of the farms specialize excessively in coffee production to the neglect of profitable alternative activities. Activities associated with advanced types of coffee cultivation should be given first priority.

It was already stated that there are important indications of the growth of non-coffee activities on coffee farms, both in association with and independent of coffee growing proper. But this movement towards diversification is far from having exhausted all available possibilities. At the present pace of economic development in the State, there is every prospect of creating a rapidly expanding market for locally-consumed food and other agricultural commodities including coffee, especially for those demanded on a rising scale as income levels increase, such as milk and other livestock products, fruits and vegetables.

The traditionally high degree of specialization on coffee farms was no doubt economically justified in the earlier phases of coffee development in São Paulo, when there were unsatisfactory transport facilities, consequent high transport costs, a strong competitive position for São Paulo coffee, a relatively small domestic market for alternative farm commodities, and much greater profits in coffee production than in other branches.

However, these basic conditions have all changed radically, and there is every reason to suppose that a greater relative growth of non-coffee than of coffee production is justified in São Paulo under present and foreseeable future conditions. This conclusion is supported by the current difficulties of the coffee surplus and by the possibility of using São Paulo's agricultural resources, not only for an expansion of the local food supply but also for boosting existing alternative export commodities and for providing certain new categories of exports.

4. Interrelations of existing problems

The preceding section dealt with ten major problems of a general nature, which affect the State's coffee industry as a whole. It is clear that all these problems are of a long-term nature and that they bear little or no relation to the present world market situation. However, the emerging phase of the coffee cycle of production and prices, which has already led to a clearer definition of competitive conditions and to substantial losses in farm prices for coffee, is helping to bring these problems into much sharper focus than would otherwise have been the case.

The level of yields in São Paulo is unsatisfactory on many farms. With the present price and cost structure and growing methods, there is no doubt that farmer's profits from the low yielding plantings are very small. In fact, if capital costs were properly taken into account, many farms would show a net loss. Such farms remain in operation only by means of the gradual depreciation of existing investments and as long as cash outlays can be kept to a minimum.

On the other hand, it may also be concluded from the survey data that better techniques, especially the more intensive application of chemical fertilizers, the closer spacing of trees and the planting of improved varieties, would result in greater net rewards to farmers, as the detailed analysis of survey data has proved.

Yet it must be remebered that the main cause of the great difference in yields between São Paulo and Paraná can be traced to the fact that the latter State has a high proportion of young plantings and that growing takes place largely on recently deforested virgin lands. Consequently, in raising yields, São Paulo farmers are for the time being at a considerable disadvantage compared with their counterparts in the neighbouring State.

In São Paulo, higher yields can be obtained only through a considerable new investment in coffee plantings, which not only implies the availability of capital for these purposes, but also greater technical preparedness on the part of producers and a willingness to change long-established methods. Again, average production costs on improved plantings might well be higher still, in the end, than those incurred in Paraná under the exceptional conditions prevailing there at present. Nevertheless, the individual farmer in São Paulo can greatly improve his position by the adjustments mentioned.

It must be borne in mind that most of the defects discussed earlier are closely interrelated and that each is very difficult to eliminate. The continued operation of unprofitable plantings is, of course, explained by the failure of farmers to take account of fixed costs. The replacement of poor plantings is therefore unlikely to result spontaneously on a scale which would radically change the present situation.

A much smaller land area could produce the same volume of coffee as now obtained, if better growing techniques were adopted. On the other hand, the cost of operating a hectare of planting would climb steeply as a result. Assuming that the volume of coffee production on a farm remained the same after the introduction of rational practices, this situation would release additional land which could be earmarked for non-coffee activities.

The difficulties of coffee production can therefore be resolved only by measures affecting the farm structure as a whole and by the general reallocation of available resources, with a view to maximizing the profits obtainable under the new conditions.

Such a task is certainly forbidding and difficult to accomplish in a short time. Large capital investment would have to be made in this connexion, and technical assistance would have to be utilized fully in order to obtain satisfactory results. One of the foremost requirements in planning such investment, both public and private, would be the careful establishment of priorities on a district basis with due regard to special local factors influencing farm production.

V. EVALUATION OF PROSPECTS

1. The case of no special action

The preceding analysis of the basic structure of coffee growing in São Paulo makes it easier to hazard an evaluation of what may happen to coffee growing in the foreseeable future. Owing to the relatively fixed character of coffee production and to special factors in São Paulo that contribute to this situation, many of the changes that are likely to occur in the next five years or so are limited to a certain extent by the current production structure. This is true notwithstanding the fact that São Paulo's total economy, as well as its agriculture, is at present in a state of considerable flux associated with rapid growth. Yet appreciable changes may occur within the industry, depending on market forces and on Government plants affecting coffee growing.

Without special action of some kind, it seems next to impossible that the State will be able to solve the problems of low yields and productivity in a short period. The present situation is not caused by the events of the last few years; it is the cumulative result of the growth of coffee production over more than a century. There is nothing in the present market situation nor in the position of farmers today to indicate that the industry is proceeding to remove the serious interrelated difficulties of soil exhaustion, low yields and old age of plantings without a special impetus in this direction.

The radical changes that would be required to lift the industry as a whole to a higher technical level were already indicated in connexion with the present distribution of plantings by yields (see figure XVII). At current prices and costs, about half of the existing trees apparently fail to produce profits. In most cases little improvement could be brought about by changing the cultivation of these trees. The only adequate solution would therefore be their wholesale elimination and replacement by other agricultural activies, or partly by modern coffee plantings competitive with those of other areas. Such a complete transformation would involve new investment of the order of 30 000 to 40 000 million cruzeiros at 1958 prices, a figure about twice the value of the entire 1958 crop.

During 1957 and 1958, when internal farm prices dropped sharply from their previous levels (about 11 per cent from 1956 to 1957 and about 35 per cent from 1957 to 1958), farmers stepped up considerably the elimination of low-yielding trees. Some 35 million trees were destroyed in each of these years, according to survey data. Nevertheless, at these rather high rates it would take fifteen to twenty years to remove all the trees which in 1958 could be classified as submarginal. It was also shown that the spontaneous introduction of modern farm practices has so far been very small, being limited to devices requiring little new investment and hardly any change in growing techniques.

The large investment farmers would have to market in order to modify present techniques, not only through the elimination of low-yielding trees but also through the construction of terraces, adequate fertilization, etc., make the spontaneous adoption of the new experimental methods difficult under present conditions. In addition, farmers may simply not wish to adopt systems which differ substantially from those used traditionally and of which they have no personal experience. They may also be hesitant to introduce new and rather costly methods, which do not pay off for several years, at rates that may well be inferior to those obtained by alternative investments ventures inside or outside agriculture and inside or outside the State of São Paulo.

There are therefore serious reasons for doubting whether even the large-scale removal of low-productive plantings automatically result in a fundamental change in the productivity level. Foreseeable elimination rates may affect the situation still less, though the disappearance of low-yielding trees would be a positive contribution by itself. On the other hand, it may also be difficult for farmers to introduce the new practices on a large scale, independently of the removal of their present unproductive plantings.

While the productivity structure is therefore unlikely to change much in the next five years, the same conclusion does not apply to the level of production. Total coffee production in the State may well rise considerably in the same period, unless important new events occur. The maturing of the relatively large number of new trees established during the 1950's, the continued shift to higher-yielding varieties, and a continuation of the trend towards chemical fertilization, at least on a moderate scale are all factors contributing to an increase in output. The following table summarizes the possible affect of these forces on production up to 1964/65, in the absence of significant new factors affecting coffee production and on the basis of three different sets of assumptions:

ALTERNATIVE PRODUCTION TREND ESTIMATES UP TO 1964/65

Alternative conditions	*Percentage change in production 1958/59 to 1964/65*	*Approximate production level 1964/65 (millions of bags)*
A. Low planting rate 1959-61 High elimination 1959-64 Small increase in fertilizer use 1959/64	+18.5	13.8
B. Low planting rate 1959-61 Medium elimination 1959-64 Considerable increase in fertilizer use 1959-64	+32.0	15.4
C. Relatively high planting rate 1959-61 No elimination 1959-64 Considerable increase in fertilizer use 1959-64	+40.3	16.4

Planting rate: Low 100 million trees in 3 years
High 135 „ „ „ „ „
Elimination: Medium 30 „ „ „ „ „
High 50 „ „ „ „ „
Fertilizer increase: Small 25 per cent in 5 years
Large 50 per cent in 5 years

The three alternative projections all cover what reasonably might happen on the assumptions described, and provide an estimate of the range of expectation. The postulated planting rates for the triennium 1959-61 would both be well below the comparable actual figure for the preceding three years (196 million trees). The estimates of elimination are within a relatively small margin of what farmers reported the situation to be in the year 1957 and 1958 (35 million trees eliminated each year). The further adoption of chemical fertilization practices would raise the proportion fertilized to 16.5 per cent, or to 20 per cent of all existing trees (the 1958 proportion was 13.2 per cent). Further assumptions are: (*a*) that differences in weather conditions balance out over the period and would not therefore affect the trend as such; (*b*) that the incidence of frost would be relatively small in São Paulo, as it has been in most past years; (*c*) that yields of trees eliminated in the period will be below the State average level of yields in 1958.

What the real level of production will be by the mid-sixties is, of course, still uncertain, even after the detailed consideration of each of the above factors. On the basis of the conditions prevailing up to the beginning of 1960, it would seem that the second alternative (B) might come closer to reality than the other two, or than any other combination of assumptions affecting production. In this case, the total output of coffee would rise at a composite rate of 4.8 per cent per year and might reach a volume of 15 million to 16 million bags by 1964/65. But this figure should in no case be regarded as a valid guide to the actual level of production in 1964, or in any intervening year; it is only an indication of the six-year trend 1958/59-1964/65.

Yet the conclusion is warranted that current conditions all point to a further substantial output increase in the next few years. It seems that more than half of this expected rise is due to the maturation of plantings already in existence in 1958. The other main factors, roughly of similar quantitative importance, making for higher production are the shift to better varieties, the expected expansion in fertilizer use, and the maturation of plantings to be established in the period 1959-61. The reduction in yields of plantings passing the optimum age and the elimination of low-yielding trees will both have an effect in the opposite direction, but are unlikely to offset the positive effect of the factors mentioned earlier.

In conclusion it would therefore appear that, in the absence of special programmes for the industry and of major unforeseen events, the productivity structure of coffee growing in São Paulo in the mid-sixties will not differ basically from that of today. On the other hand, total output is likely to show a sizable increase from the 1958 level.

2. Present plans

In the past year, important new programmes have been drawn up by the Brazilian Coffee Institute (IBC) to deal with coffee production problems. The Institute's programme is to be financed through agencies of the *Banco do Brasil;* Cr. 1 000 million will be appropriated for this purpose. The programme may be supplemented by similar plans at the State level.

Under these programmes, directed credit will be supplied to farmers for the elimination of three low-yielding coffee trees and for replanting one new tree in accordance with modern technical principles, established by the State experimental and extension service. These objectives show that it is intended to boost productivity, while reducing the total number of coffee trees.

The Institute's plans for the coffee industry are a new development, constituting a positive effort strike at the deeper roots of the coffee problem. It shows that the Brazilian authorities are well aware of the need for changes at the farm level as a result of the low productivity of many farms.

The execution of the Institute's programme is now in its initial phase, and it is difficult to estimate its possible impact on the São Paulo industry in the coming years. But on the basis of the survey findings it is possible to compare the magnitude of the problem with that of the efforts described.

If it is estimated that the total cost of eliminating three low-yielding coffee trees, of planting one new tree by modern methods and of maintaining it until maturity (three years) would be some Cr. 100 and that the number of low-yielding trees that would be affected on the basis of available funds, would be of the order of 25 million. As the total number of submarginal plantings may be estimated at about 600 million trees, it is clear that the programme could affect only a small portion of the deficient plantings. Further efforts would be required to ensure the success of such a productivity drive, but the programme represents a serious new start on industry-wide structural adjustments. A number of farmers not directly benefiting from the special credits might also be induced to follow suit on their own initiative because of profit incentives, as they became aware of the possibilities.

The campaign mentioned would have relatively little effect on the production trend. The elimination of about 25 million trees might result in a drop in output of little more than 100 000 bags, a figure which would probably be made up three or four years later by the new and high-yielding trees. While total production might therefore be slightly affected by the programme, it is felt that this effect would be very small and transitory. The present campaign is therefore designed much more to show the possibility of raising productivity than to limit production.

In order to affect the existing production trend substantially it would be necessary to undertake much greater modernization efforts and to raise the ratio of trees eliminated to trees planted at least from three-to-one to four-to-one. As it is, each participating farmer may approximately maintain his present output of coffee, while improving cultivation techniques and considerably reducing the area in coffee. In fact, more than two thirds of the area used before the programme was put into effect would be freed for other purposes.

In this connexion it may be noted that present plans are not apparently intended to control the use to which the freed land resources would be put after removal of the old coffee trees. In view of the favourable outlook of the demand for non-coffee farm products and of the varying adaptability of a given farm to one new activity or other, it would be of great practical value to extend the campaign to include credit for additional farm activities. Recent information shows that this idea has already been taken up by the Institute. In this way the entire farm structure could be strengthened through greater diversification, and the State's economy would benefit more fully

from such a change. In view of the relatively small experience of farmers in activities other than coffee growing, they might encounter difficulties if they were left entirely to their own initiative in allocating the freed lands.

To sum up, the plans recently formulated with respect to the São Paulo industry are an interesting new step towards solving the problems of low productivity and putting coffee growing on a sounder and more stable technical and economic basis. The oustanding problem is, however, of such magnitude that these plans may only affect a small minority of farms in the coming years. The level of production as a whole is not likely to be substantially altered in the course of the various campaigns as scheduled at present.

3. Prospects for diversifying the coffee farm

The increased diversification of coffee farms more than any other single factor would assist the coffee industry in its present difficult phase. Farmers would be much more willing to remove their inefficient plantings and to reduce the total number of trees, if profitable alternative uses could be found for the resources thus freed. It is therefore of special importance to summarize the conclusions of the survey on diversification prospects.

In the previous paragraphs reference was made to the relatively low coffee yields, to the present degree of diversification on coffee farms, and to the fact that the rapid economic development of São Paulo creates a favourable environment for agricultural production for the domestic market. The effect of the current situation on prices and on the productivity of various activities will be shown below.

(a) *Price trends*

In the past decade price's of coffee and other agricultural commodities have fluctuated sharply, not only as a result of the unstable coffee situation but also of the changing pace of inflation, which led to annual increases in the general price level ranging from 7 per cent (1948/49) to 35 per cent (estimate for 1958/59).

Yet price trends show quite clearly that the real price level of other commodities has been much more stable that of coffee, and that the relative position of coffee has deteriorated markedly since the post-war peak of 1954 (see figures XVIII and XIX). While most other products have roughly maintained real prices throughout the decade, real coffee prices received by farmers were, at the end of 1959, little more than one third of those received in 1954 and about one half of those of the 1948-52 five-year average. Even in comparison with 1948, the last year before the post-war peak period, 1959 prices show a decline of more than 20 per cent. There is no doubt then that the relative position of coffee *vis-à-vis* other commodities has markedly worsened in recent years.

(b) *Productivity of agricultural activities*

In the absence of adequate data on production cost for different agricultural activities, trends in gross farm value produced per hectare provide partial indications regarding the profitability of producing coffee and other crops. These data take into account yields and prices, factors which greatly influence net productivity.

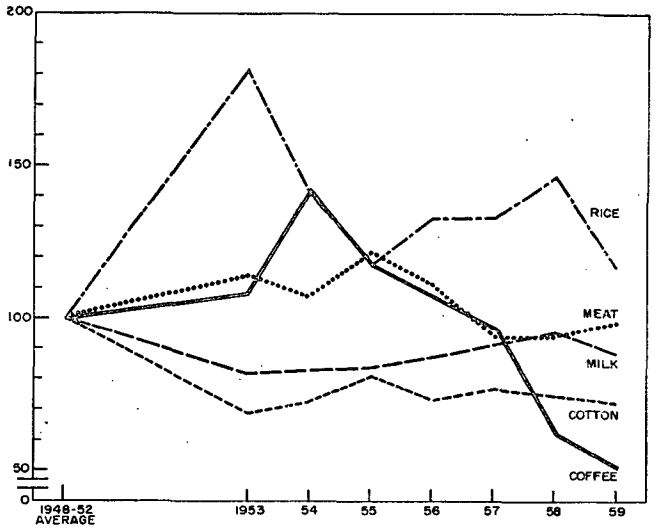
Figure XX illustrates the situation in three different recent periods: before the post-war boom; the peak of the coffee cycle; and the period for which the most recent data

FIGURE XVIII

SÃO PAULO: DEFLATED FARM PRICE INDICES*

(1948-52 average = 100)

NATURAL SCALE



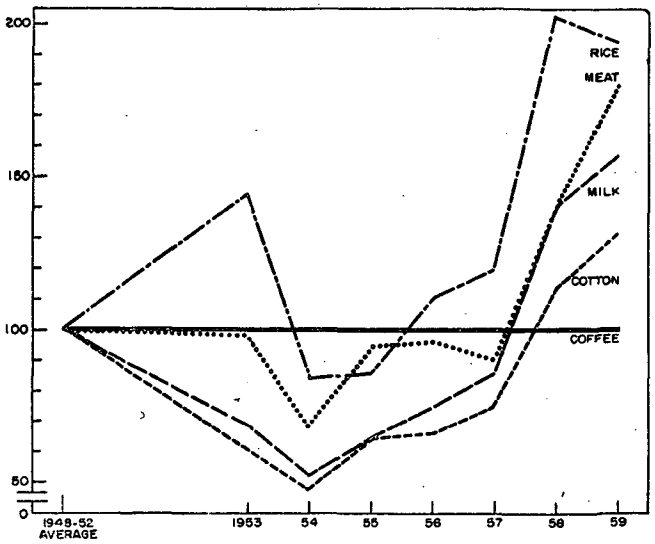
* Prices received by farmers, corrected for increases in the general price level.

FIGURE XIX

SÃO PAULO: FARM PRICES RELATIVE TO COFFEE*

(1948-52 average = 100)

NATURAL SCALE

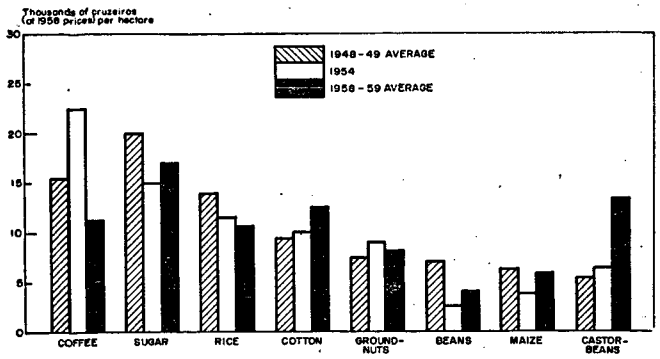


* Prices received by farmers, divided by similar prices for coffee.

FIGURE XX

VALUE OF OUTPUT PER HECTARE IN SELECTED ENTERPRISES IN SÃO PAULO

NATURAL SCALE



are available. In 1948-49, gross returns per hectare of coffee compared favourably with those of most other crops, margins of 65 to 200 per cent existing with respect to such major crops as cotton, maize, beans, groundnuts and castor beans. This margin was smaller with respect to rice (about 10 per cent only), and sugar cane production gave 25 to 30 per cent higher gross returns than did coffee growing. Many intensive crops such as potatoes, fruits, vegetables, tobacco (not show in the figures) naturally have always produced higher values per hectare than has coffee, but production costs are also much higher and each of these crops has limited possibilities.

In 1954 coffee growing returns naturally greatly exceeded those of 1948/49. But the 1958/59 figures show not only that the 1954 bulge disappeared completely, but also that coffee's relative position deteriorated considerably with respect to 1948/49. Many of the important crops shown now surpass or equal coffee in gross value per hectare. Indications are that this tendency is still continuing, for 1960 coffee prices are again lower in real terms than those of 1959.

The careful survey of several important production combinations such as coffee-sugar cane, coffee-rice and coffee-dairy products shows that, under 1958 average conditions, *net returns* per unit of expenditure were only slightly lower than those obtained, on the average, from coffee. It may be concluded from the available data that large sectors now exist where other farm activities can compete effectively with coffee growing for productive resources. The most competitive products, to each of which different circumstances apply, seem to be dairy and poultry products, cotton, beef cattle, sugar cane and rice, but this list is not exhaustive. Other interesting items are oranges, oilseeds and other fruits and vegetables, and eucalyptus trees on poor land.

The general situation seems to be that all of these and several others are equally or more profitable than coffee growing in most cases where coffee yields are less than about 400 kg per hectare. Developments since 1958 are likely to have enhanced the position of other activities even further. This opens up vast prospects, for in 1958 more than half of the existing coffee plantings had yields of less than 400 kg per hectare.

Naturally there are other considerations to be taken into account, for instance, the fact that coffee growing is less risky and less complicated than other branches of agricultural production. Experience has shown that the price of coffee is likely to be supported at certain minimum levels unlike that of other commodities. On the other hand, traditional coffee production is challenged not only by non-coffee activities but also by the more advanced coffee-growing techniques themselves.

It is not possible to analyse fully diversification prospects in São Paulo in a few pages. Neither has the present survey provided all the necessary information on which to base a diversification campaign. It is essential to have data on each of the State's sub-regions, to indicate specifically which activity would be suitable in present and foreseeable circumstances. The existing structure gives, in many cases, some idea of the suitability of the various possible activities. Examples of this are the present concentration of dairy, fruit and vegetable production in the north-eastern part of the State and that of cotton and groundnuts in the west.

But it may be affirmed that ample possibilities exist in São Paulo for expanding agricultural production for the domestic market on a basis competitive with coffee. This situation is only the natural result of the gradual transformation of the State's economy from a primary commodity exporting area to a major industrial region. If these favourable basic conditions are taken advantage of in formulating agricultural policy, it is likely that substantial results will be obtained in a relatively short period.

4. Summary of prospects

The two aspects which are most likely to change spontaneously through the play of market forces are the total level of coffee production and the importance of commodities other than coffee on coffee farms. The volume of coffee output is likely to increase further in the next five years at an average rate of about five per cent per annum. Although the actual rate will also depend on conditions developing in the coming years, the existing structure already determines the probable approximate range of production increases as a result of the age distribution of plantings in 1958.

Expanding domestic demand and the fact that coffee prices are declining in relation to non-coffee farm products are major factors which are likely to lead to a greater output of the latter. Much of this increase will take place on farms producing coffee, because of the predominant position of the latter in the State's agriculture, and the outcome will therefore be a greater diversification of the coffee farm structure.

Despite the fact that there is a considerable fund of technical knowledge, which might substantially raise the productivity of coffee growing if applied on a large scale, it is difficult to see how the adoption of these new methods could take place rapidly in the absence of large and well-organized campaigns. This seems true despite the fact that farmers' profits could also be increased in this process. But there are many difficulties to be overcome, e.g. the fact that farmers might make larger profits investing in activities other than the modernization of coffee production and that there is no proper link between the experimentally proved results and the daily working conditions of most farmers. Only the most simple, most successful and least costly innovations are likely to be adopted spontaneously on a commercial scale. The introduction of improved

varieties generally meets these prerequisites, and consequently the majority of farmers are now using them when establishing new plantings.

One important new step is the recent formulation of special programmes to do away with the lowest-yielding plantings and to use modern techniques in setting up new ones. These programmes are being started by the Institute. The campaigns approved so far may deal with only a small part of the problem of low productivity, but they may profoundly change the situation of the participating farms. On the other hand, they are likely to have little effect on the total supply of coffee.

Although the current situation of the São Paulo coffee industry is characterized by considerable rigidity in many aspects, it is also true that the rapid growth of the economy and tested innovations in the technology of coffee growing provide a favourable environment for change. Efforts to remove the obstacles impeding the modernization of coffee production and greater diversification might therefore enjoy considerable success in the coming years.