ECONOMIC SURVEY
OF
LATIN AMERICA
1953

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LETTER OF TRANSMITTAL

Santiago, Chile
April 1954

Sir,

I have the honour to transmit to you the fifth *Economic Survey of Latin America,* covering the year 1953.

The somewhat greater length of this *Survey* in relation to previous surveys is due to the introduction of various themes which have not previously been included. For example, there is a chapter on monetary problems and, in the chapter on mining production, sections have been added dealing with coal and sulphur, in view of the growing interest in these commodities for the economies of many countries in Latin America.

Present and potential forestry resources of the region and their importance to the economies of the various Latin-American countries are analysed in a valuable chapter, prepared by the secretariat of the Food and Agriculture Organization of the United Nations, which is included as an appendix at the end of this *Survey*.

I wish to emphasize that the study of tendencies in the gross product, consumption and investment of the region, which was begun in the *Economic Survey of Latin America 1951-52*, has been continued in the present *Survey*. It now covers a larger number of countries, and the scope of the analysis has been widened.

I may add that this is the first time that the survey is appearing in printed form without having been presented in a provisional edition at a session of the Commission. It should also be noted that, in view of statistical difficulties, some of the data in this *Survey* are incomplete and many figures for 1953 should be considered as provisional and subject to revision at a later date.

Accept, Sir, the assurances of my highest consideration.

(*Signed*) RAÚL PREBISCH
Executive Secretary
Economic Commission for Latin America

The Hon. Dag Hammarskjold
Secretary-General
United Nations
New York, N. Y.

EXPLANATION OF SYMBOLS

The following symbols have been used throughout this *Survey:*

Two dotes (..) 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 full stop (.) is used for decimals

A comma (,) is employed to distinguish thousands and millions

A slash (/) indicates a crop year or fiscal year, e.g. 1952/53

Use of a hyphen (-) between dates representing years, e.g. 1948-53 normally signifies an annual average for the calendar years involved, including the beginning and end years. "To" between the years indicates the full period, e.g. 1948 to 1952 means 1948 to 1952, inclusive

References to "tons" indicate metric tons, and to "dollars" United States dollars, unless otherwise stated

Minor discrepancies in totals and percentages are due to rounding

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Part I

THE GROSS PRODUCT, FOREIGN TRADE AND THE MONETARY SITUATION

Chapter I

TRENDS OF ECONOMIC GROWTH IN LATIN AMERICA

I. General tendencies

1. *Decline in the rate of economic growth*

Figures available at the end of 1953 reveal that during the year there was a pause in the intense rate of growth in the gross product which Latin America had experienced since the end of the World War and which had made possible an increase of one-third in the stock of capital and substantial progress in industrialization, towards which both capital and labour resources had been preferentially directed. During the post-war period, a number of fundamental factors contributed to the achievement of one of the highest growth rates in the world. Among such factors was the substantial improvement in the terms of trade, which, besides enabling the gross product to expand faster than output, made it possible for investment to increase without prejudicing consumption. The latter, in turn, was able to rise more rapidly than output. Another factor was the liquidation of foreign exchange reserves accumulated during the war, through which available goods and services advanced proportionately more than the gross product. The aggregate result was a considerable enlargement of productive capacity, stimulated by private investment plans and the economic development programmes of public development institutions founded in the late thirties or early forties. The expansion was further encouraged by the rapid upward movement in consumer demand caused by higher *per capita* incomes and the increase in wages and salaries per employed person.

These features were not in evidence during 1953. The investment rate—including both new capital and the maintenance or repair of existing capital—represented only 14.3 per cent of the gross product, after having approached 18 per cent during the earlier, exceptional period. It permitted an increase of less than one per cent in the *per capita* gross product—as compared with a rate of 4.2 per cent during 1945-51 (see chart I)—which was entirely due to the terms of trade, since the growth of output was below that of aggregate population or the labour force; in other words, there was a decline in output per employed

Chart I

LATIN AMERICA: GROSS PRODUCT, OUTPUT AND EFFECT OF THE TERMS OF TRADE, 1945-53

(Natural scale)

Thousands of millions of dollars at 1950 prices

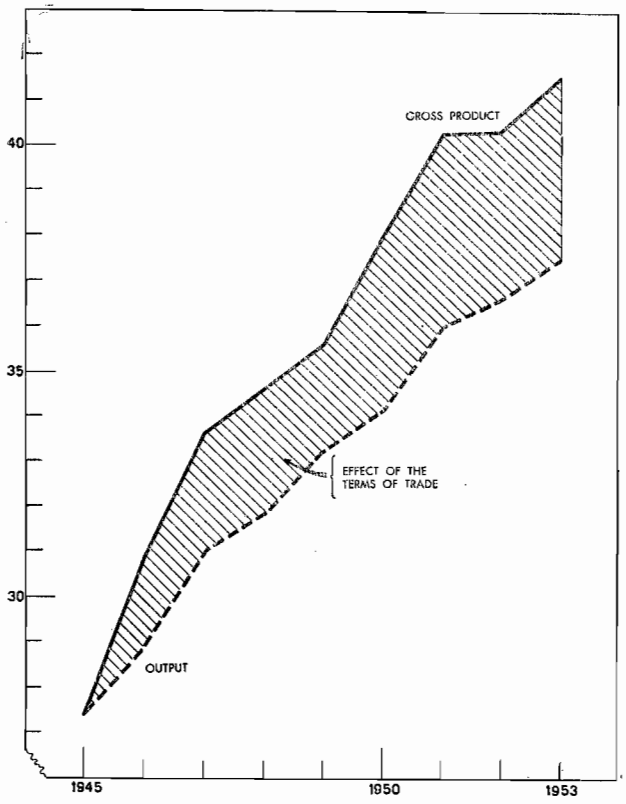
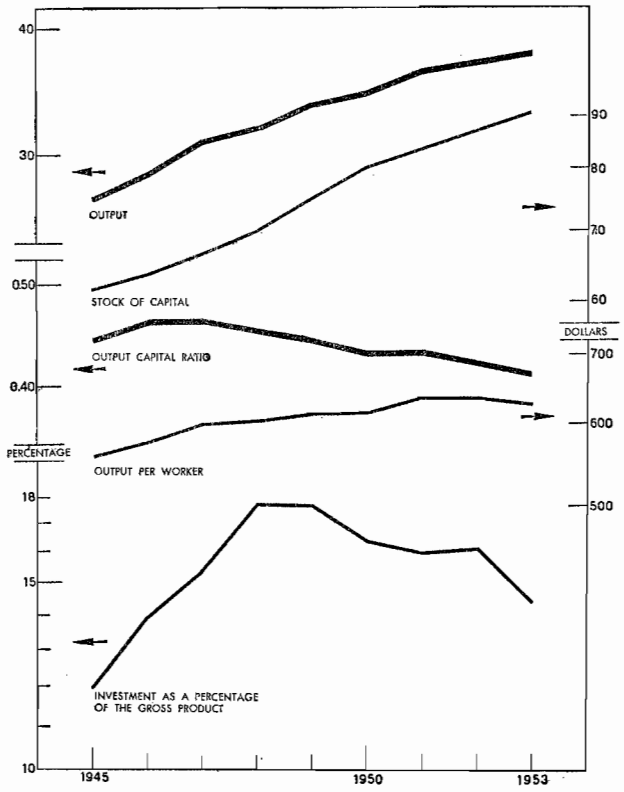


Chart II

LATIN AMERICA: INVESTMENT, STOCK OF CAPITAL, OUTPUT AND PRODUCTIVITY, 1945-53

(Semi-logarithmic scale)

Thousands of millions of dollars at 1950 prices



person (See table 1 and chart II.) This appears to be the result firstly of the low investment coefficient and secondly of the output-capital ratio, which was the lowest during the entire post-war period. This, in turn, was due to a decline in the utilization of the available productive capacity as a result of the general contraction in demand caused by restrictive policies in some countries and by changes in income distribution.

Table 1. Latin America: Annual rates of per capita growth, 1945–53

(Percentage of cumulative variation)

	1945–51	*1951–53*	*1953*	*1945–53*
Output	2.3	−0.7	−1.0	1.6
Gross product	4.2	−1.0	0.4	2.9
Available goods and services	5.1	−2.2	−3.2	3.2
Consumption	4.5	−1.7	−1.9	2.9
Investment	9.1	−5.4	−10.0	5.2

Sources and methods

Based on tables I and V of the statistical appendix.

2. *The terms of trade*

The developments described occurred in spite of the fact that in 1953 the terms of trade had been sustained at a high and favourable level. Nevertheless, it should be noted that these terms, although apparently favourable when viewed in a regional context are the result of divergent tendencies in individual countries and commodities. Thus, an improvement in the relative prices of coffee and cocoa, so important in determining the over-all level of the terms of trade coincides with a deterioration in respect of most other Latin-American primary products, greatly affecting the economies of many countries. This emphasizes the vital importance of the problem of export raw material prices to the countries of the region.

Conversely, the effect of the terms of trade on the growth of the *per capita* gross product has been declining moderately since 1950. (See chart III.) More serious, however, was the decline during 1951-52 in the utilization of the gains from the terms of trade for purposes of investment, an element undoubtedly influenced by adverse prospects for export prices and quantum. In 1953 there was the additional impact of restrictive policies adopted in varying degrees by a number of Latin-American countries.

3. *Restrictive economic policy*

The substantial loss of international monetary reserves —due mainly to the high 1951 import level—and the aggravation of inflationary tendencies compelled certain countries to adopt restrictive measures in both the public and the private sectors. These measures, in conjunction with a stronger resistance to the contraction of consumption, had the effect of reducing the investment rate in 1953 to the lowest level since 1945, despite the fact that Latin America was still enjoying relatively favourable world trade conditions in respect of quantum of exports and terms of trade. It underlined the sensitivity of Latin America's economic growth to changes in the world situation.

To appreciate the new course followed by governments in their economic policies it is well to recall the role of

Chart III

LATIN AMERICA: THE CAPACITY FOR EXTERNAL PAYMENT, INVESTMENT AND EFFECT OF THE TERMS OF TRADE AS A PERCENTAGE OF THE GROSS PRODUCT

(Natural scale)

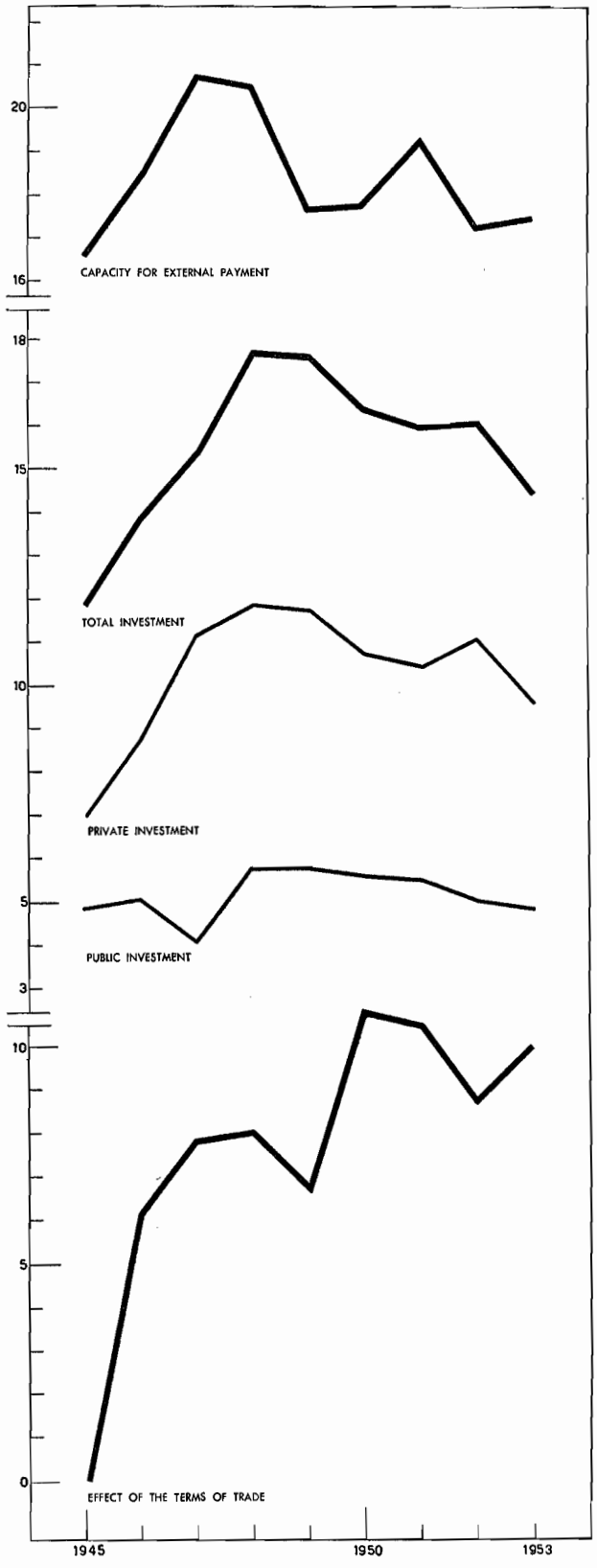


Table 2. Latin America: Public expenditure on goods and services, 1945–53

(Millions of dollars at 1950 prices)

Years	Public expenditure			Relation to the total of		Public expenditure		
	Total	Consumption	Investment	Consumption	Investment	Col. (A) as percentage of available goods and services	Col. (B) as percentage of total consumption	Col. (C) as percentage of total investment
				(percentage)				
	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)
1945	4,331	2,991	1,340	69.1	30.9	16.7	13.2	41.2
1946	4,985	3,419	1,566	68.6	31.4	16.9	13.6	36.5
1947	4,635	3,268	1,367	70.5	29.5	13.8	11.5	26.6
1948	5,525	3,504	2,021	63.4	36.6	16.3	12.6	33.0
1949	6,210	4,147	2,063	66.8	33.2	17.6	14.3	32.1
1950	6,758	4,605	2,153	68.1	31.9	18.2	14.9	34.4
1951	6,763	4,552	2,211	67.3	32.7	16.9	13.5	34.5
1952	6,494	4,478	2,016	69.0	31.0	16.0	13.1	31.2
1953	5,763	3,780	1,983	65.6	34.4	14.3	11.0	33.3

Sources and methods

Figures are based on available data from nine countries. Some were taken from official sources, for others, data on public finance appearing in the United Nations *Statistical Yearbook, 1952*, were used. For greater detail, see table 13 and table XIII of the statistical appendix.

Currency values for each country were expressed in dollars at 1950 prices in accordance with the procedure adopted and explained in the *Economic Survey of Latin America, 1951–52*, in the general note at the end of chapter I dealing with the gross product.

Col. (A): Col. (B) plus col. (C).

Col. (B): Includes all current government expenditure on goods and services (excluding transfers). Data for the nine countries were weighted for the whole of Latin America by using the ratio for each year between total expenditure on consumption for the entire region and aggregate expenditure on consumption in the nine countries.

Col. (C): Total Latin American public investment was also estimated on the basis of the nine countries. The method was similar to that used for col. (B), in this case using the ratio for each year between gross investment for all Latin America and that of the nine countries.

Col. (D): Col. (B) as percentage of col. (A).

Col. (E): Col. (C) as percentage of col. (A).

Col. (F): Col. (A) as percentage of col. (C) of table IV of the statistical appendix.

Col. (G): Col. (B) as percentage of col. (B) of table V of the statistical appendix.

Col. (H): Col. (C) as percentage of col. (C) of table V of the statistical appendix.

the public sector during the early post-war years. During and after the Second World War the Governments of many Latin-American countries embarked upon vast development programmes assisted by accumulated foreign exchange reserves and by investment projects prepared by the newly-formed development institutions. In 1945, 1946 and 1948, public investments increased to 41.2, 36.5 and 33.0 per cent, respectively, of all fixed investments, and during the whole 1945-53 their share stood at an average of one-third of the total. (See tables 2 and 3.) Governments pursued a policy of rapid industrialization and economic development, not only through direct public investment, but also by means of other important fiscal and economic measures. In the international sphere the substitution of domestic goods for imports was favoured, and, simultaneously, imports of capital goods were encouraged by exchange subsidies. Credit policy favoured industrial expansion and, in consequence, the shift of resources from agriculture to industry. Linked with the improvement in the terms of trade, this permitted a rise in the level of real income in the wage-earning sector, which resulted in the acceleration of economic development through the additional stimulus of growing demand.

Some important aspects of these Government policies have been reversed in 1953. The most significant of these changes are the following: (*a*) a decline in fiscal expenditures on goods and services for investment and consumption, after attaining a peak in 1950 and 1951 (as a contributory factor, mention should be made of endeavours to eliminate a budgetary deficit; (*b*) a severe reduction in imports by means of devaluation and modifications in exchange control policy; subsidies on capital goods imports were not entirely abandoned, however, since the new systems establish preferential exchange rates; (*c*) credit restrictions to arrest inflationary tendencies and their pressure upon the balance of payments; and (*d*) the stabilization of prices and wages.

Table 3. Latin America: Ratio of public expenditures to the gross product, 1945–53

Years	Public expenditure		Public expenditure	
	Total	Investment	Total	Investment
	(millions of dollars at 1950 prices)		(percentage of gross product)	
	(A)	(B)	(C)	(D)
1945	4,331	1,340	15.8	4.9
1946	4,985	1,566	16.2	5.1
1947	4,635	1,367	13.8	4.1
1948	5,525	2,021	16.0	5.8
1949	6,210	2,063	17.4	5.8
1950	6,758	2,153	17.6	5.6
1951	6,763	2,211	16.8	5.5
1952	6,494	2,016	16.1	5.0
1953	5,763	1,983	13.9	4.8

Sources and methods

Col. (A): Table 2, col. (A).

Col. (B): Table 2, col. (C).

Col. (C): Col. (A) as percentage of col. (B) of table I of the statistical appendix.

Col. (D): Col. (B) as percentage of col. (B) of table I of the statistical appendix.

4. *Restriction of imports and decrease in available goods and services*

While the *per capita* gross product rose by 0.4 per cent in 1953, the level of goods and services available *per capita* fell by 3.2 per cent, owing to a decline in imports by more than one-fifth. This decrease in imports despite the relative stability of exports, the terms of trade and the capacity for external payment (see table 4 and chart IV), is one of the more significant developments in Latin America during 1953.

Table 4. Latin America: Ratio of the capacity for external payments and investment to the gross product, 1951–53

Years	Capacity for external payment	Investment	Capacity for external payment	Investment
	Absolute figures (millions of dollars at 1950 prices)		(percentage of the gross product)	
	(A)	(B)	(C)	(D)
1951.....	7,739	6,404	19.2	15.9
1952.....	6,939	6,454	17.2	16.0
1953.....	7,242	5,954	17.4	14.3

Sources and methods

Col. (A): Col. (C) of table VI of the statistical appendix.
Col. (B): Col. (C) of table V of the statistical appendix.
Col. (C): Col. (A) as percentage of col. (B) of table I of the statistical appendix.
Col. (D): Col. (B) as percentage of col. (B) of table I of the statistical appendix.

For figures prior to 1951, see *Economic Survey of Latin America, 1951–52*, table 9.

The real value of Latin-American exports was well maintained in 1953 and has been exceeded in the post-war period only by the spectacular level of 1951. This was due to favourable terms of trade, since the export quantum remained at the virtually sttaionary post-war average. As in other years of the 1945-53 period, the capital inflow was insignificant, amounting to less than 2 per cent of the gross product, while the capacity for external payment remained relatively stable. In 1953, remittances of profits and interest plus the outflow of capital exceeded the capital inflow, so that the capacity to import was somewhat lower than the real value of exports, but was the highest during the post-war period with the exception of 1951. Actual imports, however, were 14 per cent less than the capacity to import. (See chart V.) This disparity was the result of the policy aimed at safeguarding gold and foreign exchange reserves and of the substantial repayments of short-term credit, the highest in the past eight years.

The following factors may be cited in explanation of the significant increase in reserves—also the highest in the post-war period with the exception of 1950—and in the repayment of short-term credit. With the fall in price of most primary commodities, almost all Latin-American countries feared a deterioration in their capacity for external payments, and consequently restricted imports. The concern caused by inflationary pressures likewise encouraged the application of import restrictions.

Another factor of importance in determining this policy resided in the temporary balance-of-payments difficulties of these expanding economies. They resulted in the para-

Chart IV
LATIN AMERICA: CAPACITY FOR EXTERNAL PAYMENT
(Natural scale)
Thousands of millions of dollars at 1950 prices

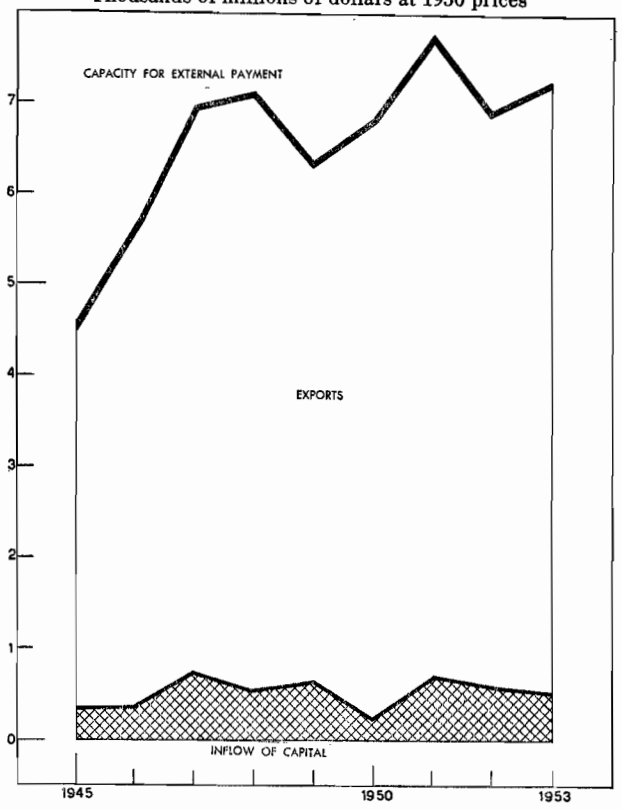


Chart V
LATIN AMERICA: CAPACITY TO IMPORT AND IMPORTS
(Natural scale)
Thousands of millions of dollars at 1950 prices

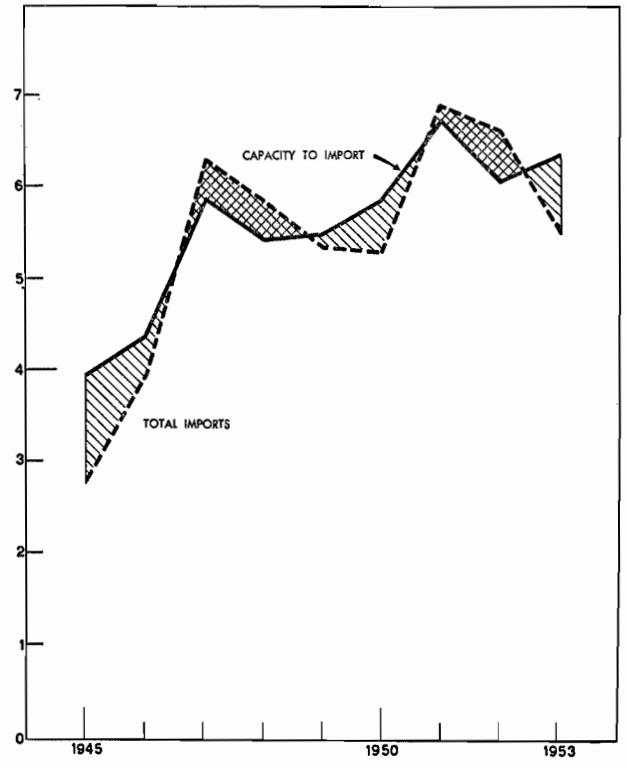


Table 5. Latin America: Coefficients of the composition of imports with regard to available goods and services, consumption and investment, 1951–53

Years	Capital goods as a percentage of investment	Consumer goods	Raw materials	Fuels	Total imports as a percentage of available goods and services
		(as a percentage of consumption)			
	(A)	(B)	(C)	(D)	(E)
1951.....	39.3	7.4	3.8	1.8	17.2
1952.....	38.0	7.1	3.1	2.0	16.3
1953.....	31.1	6.1	2.5	2.0	13.6

Sources and methods

Col. (A): Col. (E) of table VII of the statistical appendix as percentage of col. (C) of table V of the statistical appendix.

Cols. (B), (C) and (D): Cols. (B), (C) and (D) of table VII of the statistical appendix, respectively, as percentages of col. (B) of table V of the statistical appendix.

Col. (E): Col. A of table V of the statistical appendix as percentage of col. (A) of table VII of the statistical appendix.

For figures prior to 1951, see *Economic Survey of Latin America, 1951–52*, table 11.

doxical situation that, while Latin America as a whole recorded an increase in monetary reserves, some countries were obliged to bear the burden of repaying short-term credits contracted on relatively onerous terms.

As a consequence of the reduction in imports, available goods and services *per capita* underwent the decline mentioned above, in spite of the small increment in the gross product. (See table 5 and chart VI.) The post-war pattern of consumption and investment expenditure in the region clearly illustrates the impact of economic policy and the behaviour of the private sector, besides that of external factors and pressures, on the channelling of resources.

5. *Investment expenditure*

The role of public investment in stimulating output and economic growth during the early post-war years, and the sharp decline in such investment since 1951, have already been mentioned. Private investment in Latin America, which accounts for approximately two-thirds of all in-

Chart VI

LATIN AMERICA: GROSS PRODUCT, AVAILABLE GOODS AND SERVICES, AND EXCESS OF IMPORTS OR EXPORTS, 1945-53

(Natural scale)

Thousands of millions of dollars at 1950 prices

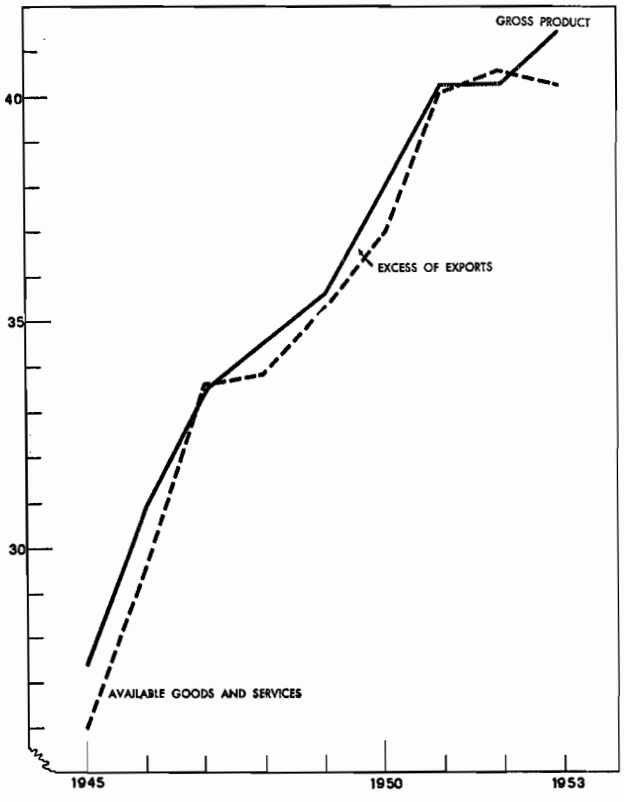
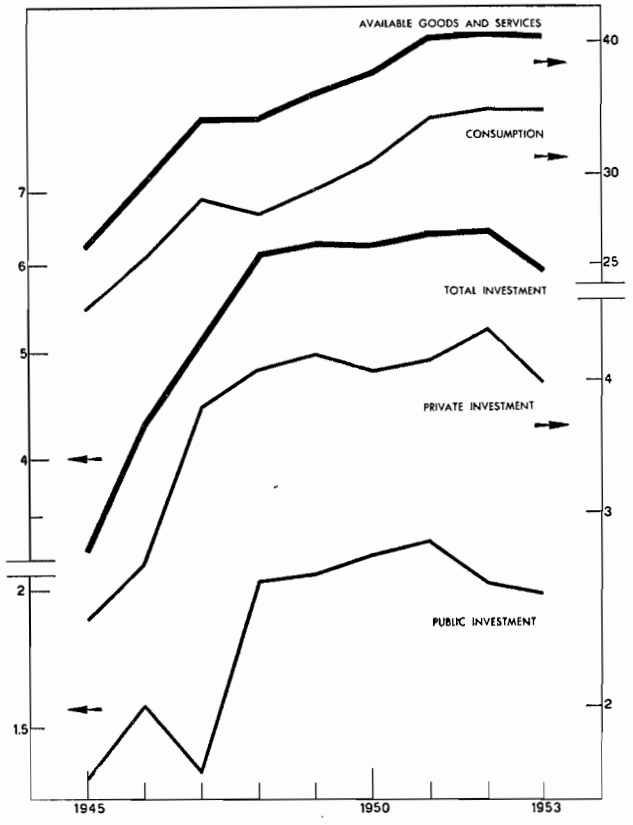


Chart VII

LATIN AMERICA: AVAILABLE GOODS AND SERVICES, CONSUMPTION AND PUBLIC AND PRIVATE INVESTMENT

(Semi-logarithmic scale)

Thousands of millions of dollars at 1950 prices



vestment in fixed capital, followed the lead of public investment during the post-war years. Stimulated by the many factors which contributed to economic growth, private investment initially rose at a somewhat slower rate than public investment, but accelerated later and reached a peak in 1952. (See chart VII.) In contrast, public investment had attained its maximum earlier and had already begun to decline. In 1953, however, private investment also took a downward turn, which suggests that, in addition to other influences affecting private investment prospects during 1953, the decrease in public investment, by influencing the rate of growth, reduced expectations and, thereby, the rhythm of private investment. Latin America's experience since 1945 appears to indicate that not only public investment but also the expansion in the Governmental share of aggregate expenditure on investment and consumption—from 16.2 per cent in 1945 to 17.5 in 1950 (see again table 4 and charts VIII and IX) — served as a stimulus to private investment, while the decline in the governmental proportion of all expenditure—to 14.2 per cent in 1953—discouraged private investment. Put in another way, the positive role of public expenditure to ensure economic growth would seem to have been more important than the negative effect of taxation on private and aggregate savings. It may also be that the anticipations of entrepreneurs were affected by the weakening in effective demand caused by regressive income redistribution.

6. *Consumption trends*

In spite of the rapid growth of the gross product during the post-war period, the share of available goods and services devoted to consumption declined from 87.5 per cent in 1945 to 82 per cent in 1948 and 1949, while the level of *per capita* consumption rose 17 per cent. This decline in the proportion of available goods and services for consumption, although permitting an increase in the real level of *per capita* consumption, also made possible an unprecedented rise in the investment rate for Latin America from 11.9 per cent in 1945 to 17.7 per cent in 1948, and the exceptional economic growth in the post-war period. Between 1945 and 1951, *per capita* consumption advanced at an anuual rate of 4.5 per cent, while *per capita* investment expanded at the annual rate of 9.1 per cent. This development was facilitated by the increasingly favourable influence of the terms of trade upon the quantum of available goods and services and the liquidation of foreign exchange reserves. It was relatively easy for Governments to capitalize the benefits from the terms of trade by means of exchange controls, import restrictions and other fiscal and monetary measures.

Conversely, since 1949—and especially since 1951—an increasing share of a volume of available goods and services increasing at a lower rate has been devoted to consumption. Correlatively, the investment coefficient has declined to the lowest level since 1946, and the rhythm of economic growth has been arrested. The rate of increase of available goods and services in 1953 was so slow that, although a greater proportion was destined for consumption, the level of *per capita* consumption declined from 212 dollars in 1952 to 208 dollars in 1953. Three main factors contributed to this result. Although it was relatively easy

Chart VIII

LATIN AMERICA: COMPOSITION OF PUBLIC EXPENDITURE, 1945-53

(Natural scale)

Thousands of millions of dollars at 1950 prices

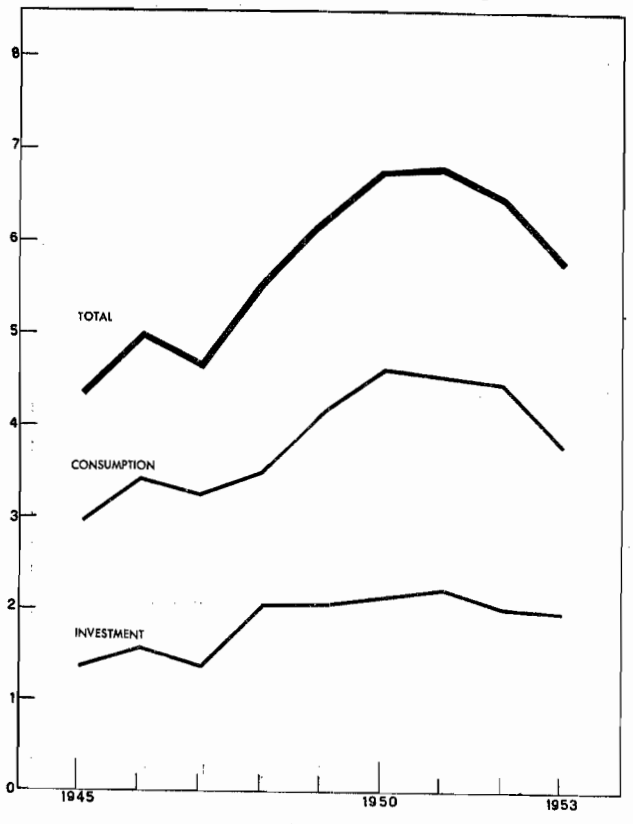


Chart IX

LATIN AMERICA: PUBLIC EXPENDITURE AS A PERCENTAGE OF THE GROSS PRODUCT, 1945-53

(Natural scale)

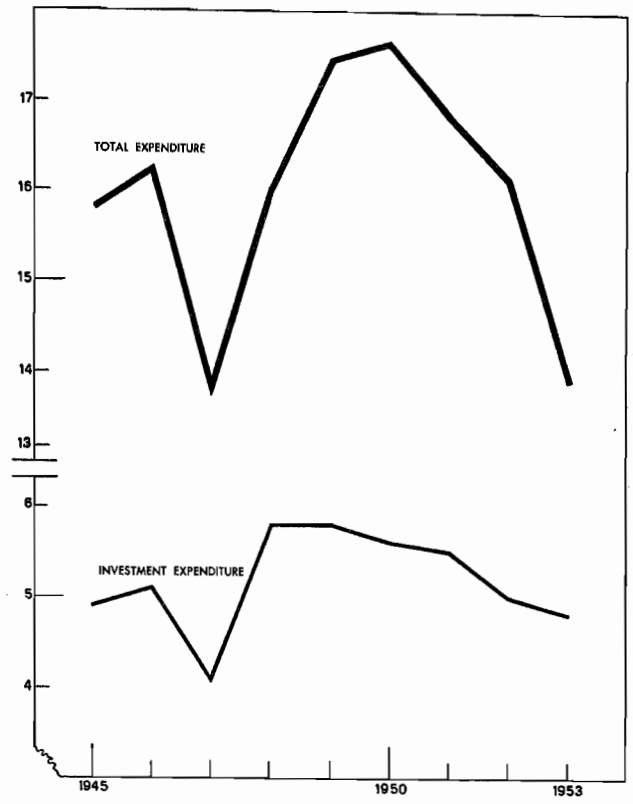
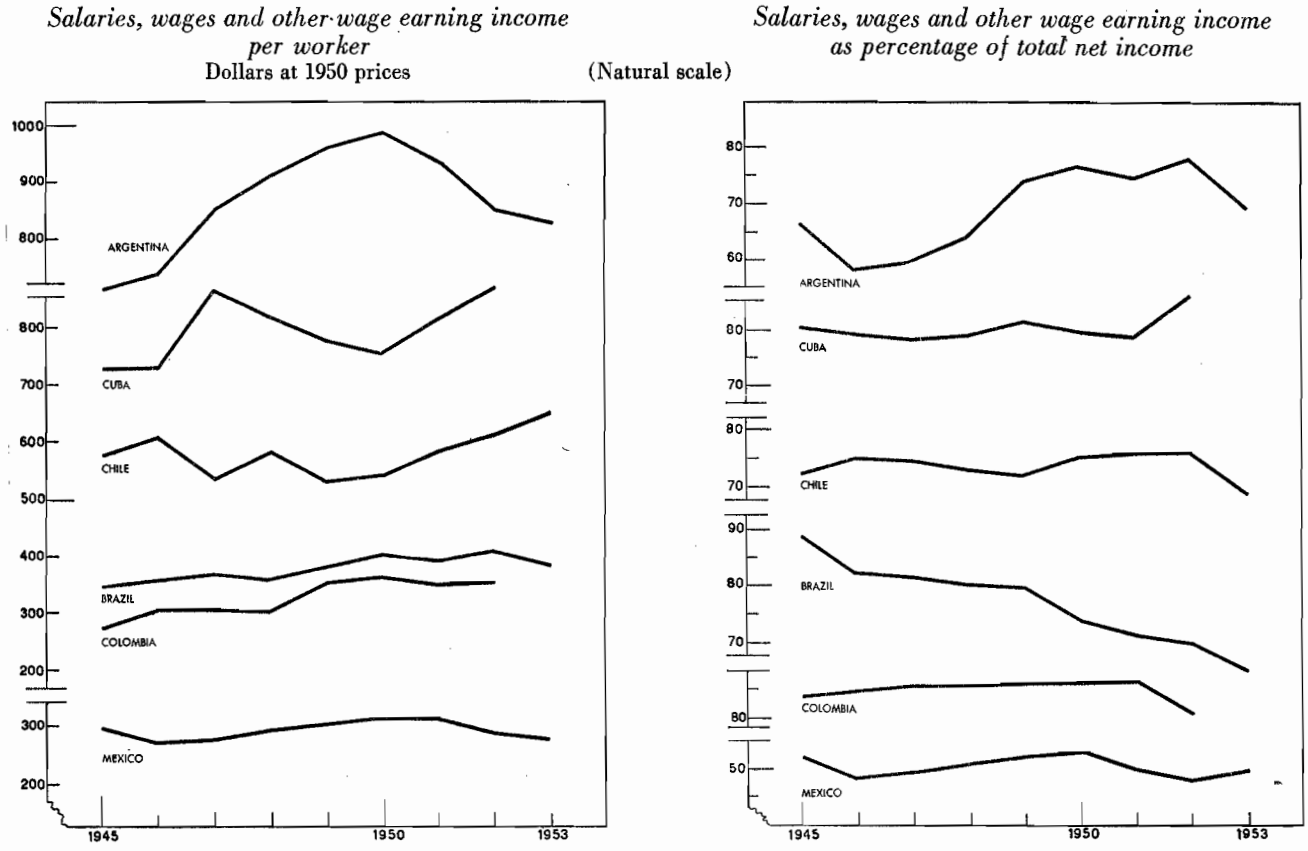


Chart X

LATIN AMERICA: SALARIES, WAGES AND OTHER WAGE EARNING INCOME PER WORKER IN RELATION TO TOTAL NET INCOME



to funnel most of the benefits of the terms of trade into capital formation during the early post-war years, the urgent need for immediate improvements in the standard of living made the capitalizing of these benefits more difficult after 1949. The rate of growth of the gross product decreased after that year and the available margin for investment was increasingly affected in proportion to the smaller increment. The fact that available goods and services did not increase in 1953, while consumption levels were maintained, caused a drop in investments. Thus the relatively low levels of *per capita* income in most countries of the region place strong pressure upon the use of available goods and services for consumption. Even more, consumption expenditure is relatively inelastic during periods of contraction. As a result, it is investment expenditure that is restricted in such a case.

7. *Post-war income distribution*

It is evident that an analysis of the role played by the public and private sectors in directing resources towards consumption and investment is incomplete without an examination of the changes in income distribution during the post-war period and in 1953. Unfortunately, the data available on income distribution in Latin America are scanty, undeveloped, and less reliable than information on output and investment, and they do not enable a study of this nature to be made.

Nevertheless, figures for some countries indicate that in 1953 income distribution became less favourable for the wage-earning sector than for those receiving property income. Thus a trend became more marked which, during the 1945-52 period, was clearly evident only in the case of Brazil (see chart X), but which had been conspicuous in Mexico.[1] and, to a lesser degree, in Chile and Argentina during the Second World War.

Various factors contributed to produce a redistribution process in these cases and to keep the share of labour in income relatively stable in others. First, the rapid rate of growth of the gross product, especially of available goods and services, enabled the *per capita* remuneration of the working population to increase even where there was no increment, or there was even a decline, in the proportion of wages to aggregate income. Secondly, the shift of under-employed labour from agriculture to industry brought about an increase in productivity that, in the majority of cases, was not followed by a corresponding rise in wages and salaries. Lastly, the method by which heavier public and private investing was financed during the war and post-war periods, that is, the inflationary expansion of credit, necessarily led to a redistribution of income.

While it is not proposed to analyse the causes of the credit expansion here, it should be noted that it was mainly due to the deliberate policy of fiscal and monetary authorities and of development institutions directed towards a

[1] See ECLA, *Economic Survey for Latin America, 1951-52*, document E/CN.12/291/Rev.2 (United Nations publication, Sales No. 1953.II.G.3), chapter I and table 65.

Table 6. Latin America: Annual rates of variation

(Percentage of cumulative variation)

Sector	Active population			Gross product			Gross product per worker		
	1945–50	1950–53	1945–53	1945–50	1950–53	1945–53	1945–50	1950–53	1945–53
Agriculture and livestock	1.6	1.7	1.6	6.3	1.3	4.4	4.8	−0.5	2.7
Manufacturing and building	4.4	1.4	3.3	7.2	2.4	5.4	2.6	0.9	2.0
Mining	—	6.2	2.3	15.9	1.6	10.3	15.9	−4.6	7.8
Transport and public utilities	2.4	1.8	2.2	4.0	8.6	5.7	1.6	6.6	3.5
Trade, government and other services	2.7	1.1	2.1	6.9	3.2	5.5	4.1	2.1	3.3
TOTAL	2.3	1.6	2.0	7.0	2.8	5.4	4.6	1.1	3.3

Sources and methods

Based on table IX of the statistical appendix.

fuller utilization of resources; the inability of current tax systems to keep pace with the growth of income and to secure adequate resources to finance public investment was offset by the excessive elasticity of the banking systems. Private investment likewise found therein a more substantial means of financing its activities than existed in the scanty voluntary savings of the community.

Price and wage policy played an insignficant role in the process of income distribution, except to some extent in Argentina, which explains the increased share of wages in the gross product during the 1946-50 period.

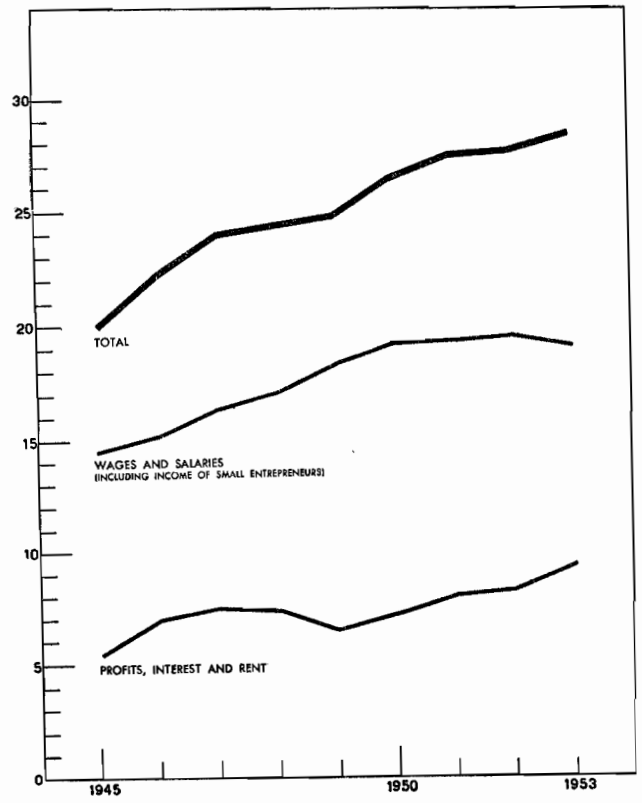
The decline in the proportion of wages for Latin America as a whole during 1953 appears to contradict the general impression that profits and interest are the first to suffer the consequences of a slower rate of growth (See chart XI.) It is true that income distribution trends were more affected than in former years by the freezing of prices and wages which formed part of the restriction and austerity plans and programmes adopted in many countries. The less intense shift of agricultural labour, with its low wages and productivity, towards industry—in turn a result of the maladjustment between demand and productive capacity due to the actual distribution of income —had the same effect. The problem thus arises of the contradictory effects which a given form of income distribution may have on investment. If, on the one hand, the highest proportion is retained by sectors with a large capacity for saving, this should favour investment. On the other, the lower share of the sectors with the highest propensity to consume exerts a depressive influence through a contraction of demand.

Chart XI

LATIN AMERICA: NET INCOME AND ITS COMPOSITION, IN SEVEN COUNTRIES, 1945-53

(Natural scale)

Thousands of millions of dollars at 1950 prices



8. *The slackening rate of industrialization*

The most significant economic trend in 1953 was, without doubt, the clear indication of a slackening in the rate of industrialization. It will be recalled that the relatively important shift of gross product, labour and capital resources to industry was one of the basic elements in Latin America's rapid economic growth during the early postwar years.[2] In contrast, during the 1953 the gross product and industrial output experienced the lowest rate of growth in the entire period, with rises of 1.6 and 1.3 per cent respectively, in comparison with annual rates of growth of 6.5 per cent and 7.7 per cent respectively between 1945 and 1951. (See tables 6 and 7 and chart XII.) As a consequence, the industrial share of the gross product in

Table 7. Latin America: Rates of annual increase in output, by sectors of economic activity, 1945–53

(Percentage of cumulative variation)

Years	Agriculture	Industry	Other activities	Total
1945–51	3.5	7.7	3.7	4.7
1951–53	4.0	2.7	0.1	1.9
1953	9.2	1.3	−2.2	1.6
1945–53	3.6	6.4	2.8	4.0

Sources and methods

Based on table VIII of the statistical appendix.

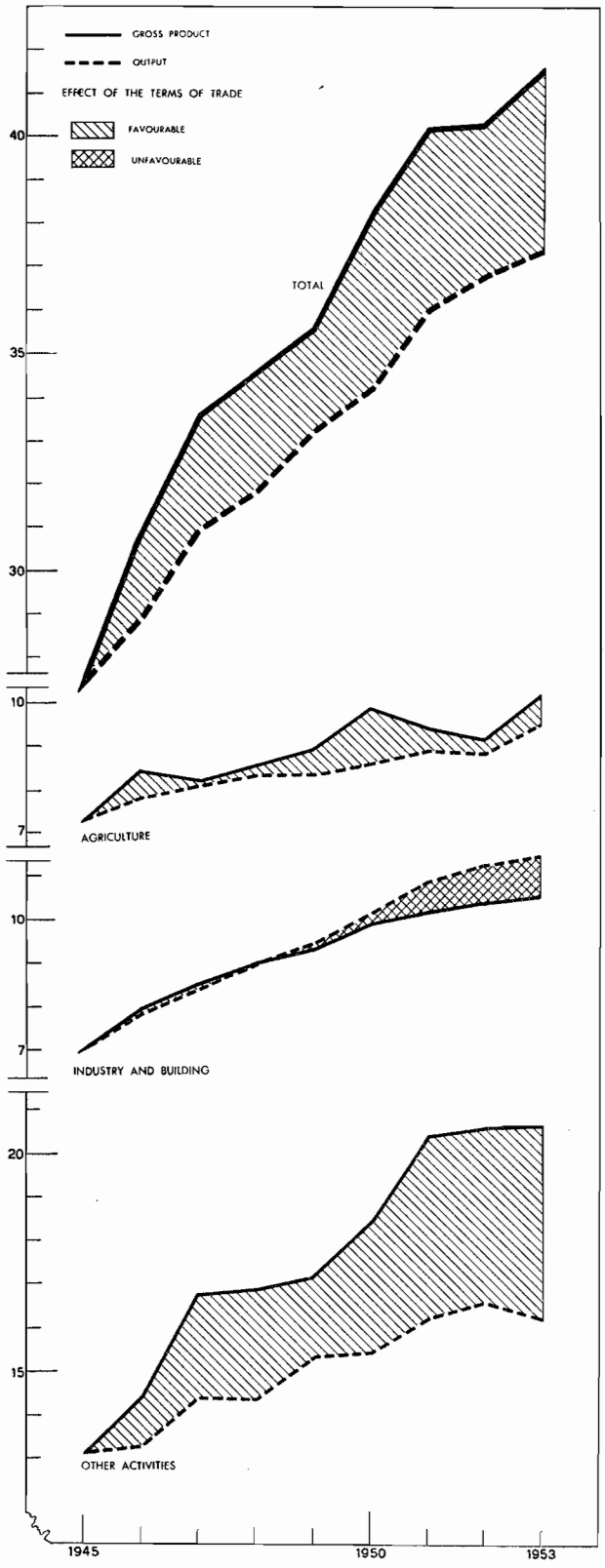
[2] See ECLA, op. cit., chapter I, sections 8, 9 and 10.

Chart XII

LATIN AMERICA: GROSS PRODUCT, OUTPUT AND EFFECT OF THE TERMS OF TRADE, BY ACTIVITIES, 1945-53

(Natural scale)

Thousands of millions of dollars at 1950 prices



1953 was only 25.6 per cent, no greater than in 1945. (It should be noted that one of the factors stabilizing that share was the transfer of production increases to the rest of the economy through changes in relative prices. Over the period 1945-53, relative prices for industry declined by 7.5 per cent. At the same time the share of industrial production in aggregate Latin-American output increased from 25.6 per cent in 1945 to 30.7 per cent in 1953.)

Of even more fundamental importance to Latin America's economic development was the downturn in the rate of growth of the industrial labour force and the rapid shift, in comparison with the early post-war years, of the actively employed population from agriculture to industry. From 1945 to 1950 the region's industrial labour force had risen at an annual rate of 4.4 per cent, while the agricultural labour force had grown at a rate of 1.6 per cent. During the same period the relative size of the industrial labour force, which had been 14.9 per cent in 1945, had risen to 16.6 in 1950, while the agricultural labour force had declined from 60.0 per cent in 1945 to 57.9 in 1950. This shift of labour resources from agriculture to industry had been a basic element in Latin America's economic growth, and it is this element that has recently suffered a substantial setback. It is probable that the industrial labour force increased from 1950 to 1953 at an annual rate of 1.4 per cent, which was less than the rate of growth of the aggregate labour force during this period and represented only one-third of the rate of growth from 1945 to 1950. As a consequence, the industrial labour force as compared with total manpower has not advanced since 1950. (See table 8.)

Table 8. Latin America: Annual rates of variation in industry, 1945–53

(Percentage of cumulative variation)

Years	*Gross product*	*Output*	*Relative prices (1945 = 100)*
1945–51	6.5	7.7	−1.0
1951–53	2.0	2.7	−0.6
1953	1.6	1.3	0.3
1945–53	5.4	6.4	−0.9

Sources and methods

Based on table VIII of the statistical appendix.

The decline in the investment coefficient in 1953 and the partial information available on trends in the different sectors of economic activity seem to suggest that the rate of investment in industry dropped very sharply during 1953.

This fundamental decline in industrialization during 1953 may be attributed to the convergence of several basic factors. Import restrictions reduced the inflow of intermediate materials for industry and of capital goods, both new and for replacement purposes. The decline in the coefficient of total investment contributed to reduce both the rate of growth of available capital in industry and the maintenance and replacement of equipment. The restrictive credit policy tended to reduce industry's working capital. Power production lagged behind the requirements of industry and consumer demand. The fall in public expenditure was not commensurately offset by a rise in private expenditure. Changes in income distribution tended to decrease the share of net income received by salaried

employees, workers and small entrepreneurs, thus causing an adverse effect upon effective demand. In 1953 it was clear that consumer demand was not keeping pace with industrial capacity.

In contrast to industry, Latin America's agricultural production increased 9.2 per cent during 1953. (See table 9.) Even if the spectacular recovery of Argentina's agriculture is eliminated from such a comparison, the progress of aggregate agricultural production in 1953 was exceptional. Output—excluding Argentina—increased by 4.4 per cent in 1953, a rate slightly higher than the annual rate of growth of 4.0 per cent during 1945-51. This increase reflected not only favourable climatic conditions, but also greater official interest in agriculture and a consequent expansion in credit and investment in that field.

Table 9. Latin America: Annual rates of variation in agriculture, 1945–53

(Percentage of cumlative variation)

Years	*Gross product*	*Output*	*Relative prices (1945 = 100)*
1945–51	4.7	3.5	1.2
1951–53	3.6	4.0	−0.4
1953	11.0	9.2	1.7
1945–53	4.4	3.6	0.8

Sources and methods

Based on table VIII of the statistical appendix.

In contrast, output of mining and public services appears to have declined. (See table 10.) The drop in mining production followed the fall in world demand and prices for most metals. Petroleum output in Venezuela was also reduced through the falling off in world demand. Public services were curtailed in many countries as a result of restrictive fiscal expenditure policies.

Table 10. Latin America: Annual rates of variation in activities other than agriculture and industry, 1945–53

(Percentage of cumulative variation)

Years	*Gross product*	*Output*	*Relative prices (1945 = 100)*
1945–51	7.7	3.7	3.9
1951–53	0.4	0.1	0.3
1953	0.2	−2.2	2.4
1945–53	5.9	2.8	3.0

Sources and methods

Based on table VIII of the statistical appendix.

II. Trends in gross product, capacity for external payment and public expenditure in selected countries

In the preceding section the recent trends of Latin America's economic growth were examined as a whole. Owing to the general nature of this analysis, no indication was given of the basic or proportional differences of these trends in individual countries. The brief description which follows for eight selected countries emphasizes the differences. (See table 11.)[3]

1. *Argentina*

A substantial recovery in the gross product and output took place in 1953 as a result of the good harvests which followed the disastrous 1952 drought. Nevertheless, the terms of trade were 27 per cent below the 1948 level and the expansion of production left the gross product substantially under the peak level of 1948. (See chart XIII.) There was an increase in the export volume due to the recovery of agricultural output, but real export values were well below those of the early post-war years owing to the decline in the terms of trade.

The recovery in the levels of activity was not similar in all sectors. Industrial output, which had declined in 1952, dropped even further in 1953 and the production level was thus the lowest since 1946. Some industrial recovery was evident, however, by the end of 1953.

The reduction in the investment coefficient to 13.3 per cent, the lowest level since 1946, was even more serious. (See table 12.) A main reason for this decline was the restrictive policy applied to public investments, credit and imports. The Second Five-Year Plan, which should have begun in 1952 but was postponed until 1954, will be only partially carried out, many of its projects being left in abeyance and others developed less rapidly. Since 1950 public investment has been declining more rapidly than private investment.

Despite the substantial recovery in the gross product and output, goods and services available *per capita* decreased when imports were restricted to their lowest level since 1945 and exports experienced the highest surplus since 1946. This contrasts with the early post-war years, when available goods and services increased faster than the gross product and output owing to the liquidation of foreign exchange reserves and a reduction in remittances of profits and interest abroad. These fluctuations in goods and services available *per capita* favoured consumption more than investment, since the former experienced a

[3] Tables 11-15 inclusive, and charts XIII, XIV, XV and XVI, refer to the countries analysed in this section.

Table 11. Latin America: Annual rates of variation of the gross product in eight countries, 1945–53

(Percentage of cumulative variation)

Years	*Argentina*	*Brazil*	*Chile*	*Colombia*	*Cuba*	*El Salvador*	*Guatemala*	*Mexico*
1945–51	4.5	8.7	1.7	6.5	4.9	11.7	9.5	6.6
1951–53	−0.3	4.3	7.6	6.3	−5.2	9.3	5.6	−1.1
1945–53	3.4	7.6	3.2	6.5	2.2	11.1	8.5	4.6

Sources and methods

Based on table X of the statistical appendix.

Chart XIII

LATIN AMERICA: PER CAPITA GROSS PRODUCT, 1945-53

(Semi-logarithmic scale)
Dollars at 1950 prices

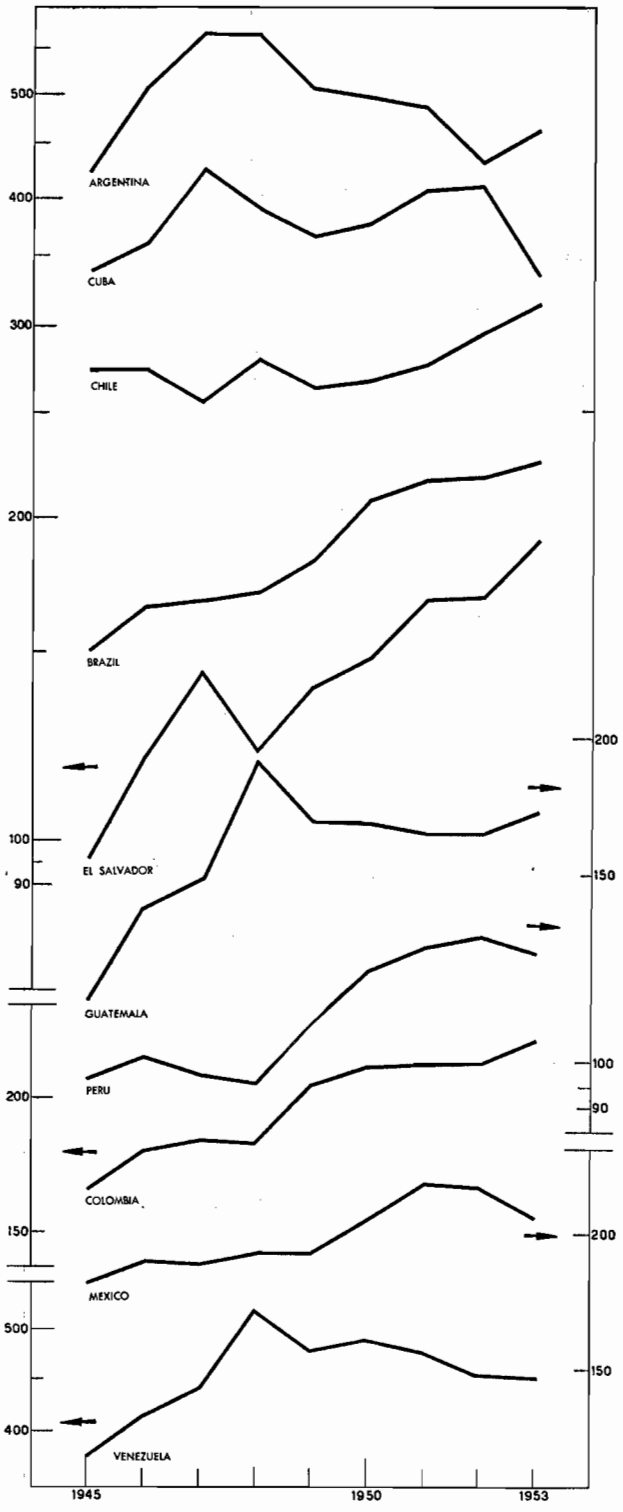
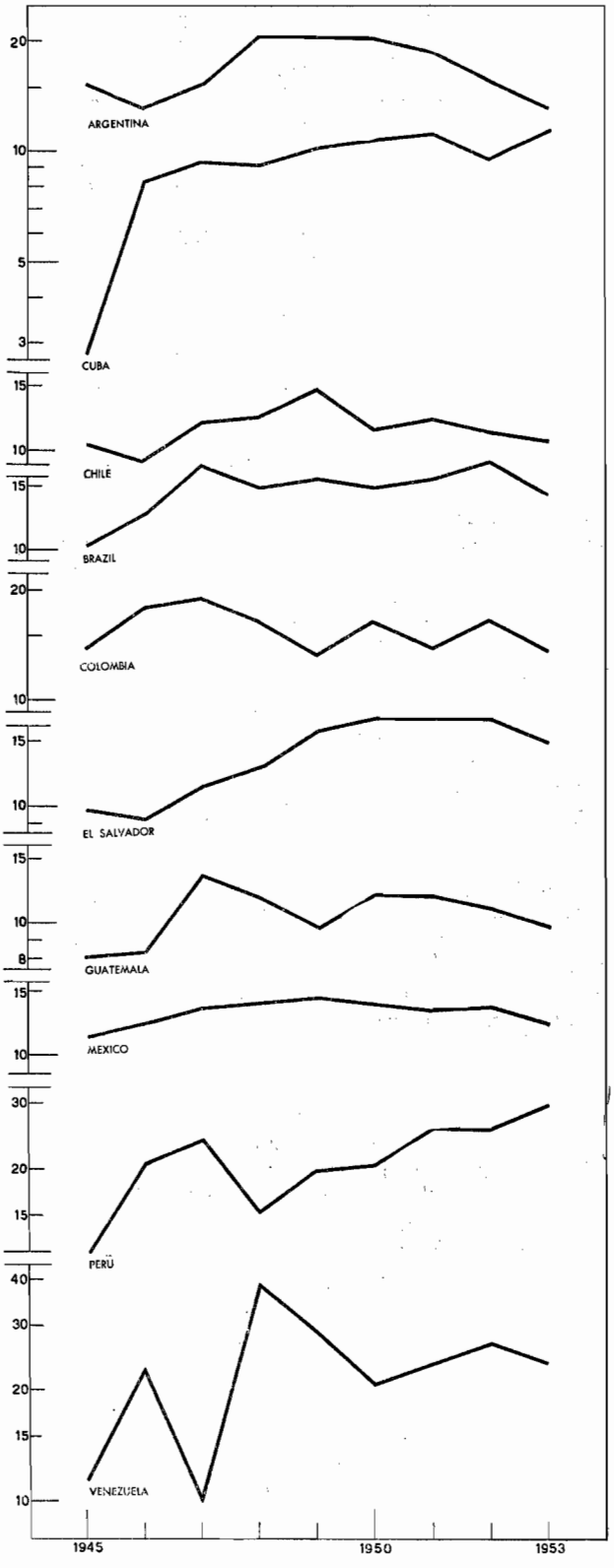


Chart XIV

LATIN AMERICA: INVESTMENT AS A PERCENTAGE OF THE GROSS PRODUCT, 1945-53

(Semi-logarithmic scale)



sharp rise during the early post-war years and has remained at a relatively higher level since 1951.

The main factor determining the rapid growth of consumption was the radical change in income distribution which occurred between 1946 and 1950. During this

Table 12. Latin America: Per capita gross product and investment rate in eight countries, 1945–53

Years	Argentina	Brazil	Chile	Colombia	Cuba	El Salvador	Guatemala	Mexico
			I. *Per capita gross product (dollars at 1950 prices)*					
1945.....	422	150	274	164	338	96	114	182
1946.....	506	164	273	178	359	119	140	190
1947.....	567	167	256	182	424	144	149	190
1948.....	564	170	280	181	389	121	196	194
1949.....	505	183	262	205	364	139	167	194
1950.....	496	208	268	212	372	148	166	208
1951.....	482	216	278	213	401	167	163	224
1952.....	430	217	296	215	406	167	163	222
1953.....	460	224	311	226	334	190	170	208
			II. *Investment (percentage of gross product)*					
1945.....	15.2	10.1	10.5	13.8	2.8	9.8	8.0	11.1
1946.....	13.1	12.4	9.5	17.8	8.3	9.3	8.3	12.1
1947.....	15.3	16.7	12.0	18.8	9.3	11.2	13.4	13.5
1948.....	20.4	14.9	12.5	16.3	9.2	12.8	11.8	13.9
1949.....	20.5	15.6	14.6	13.2	10.2	16.0	9.8	14.4
1950.....	20.1	14.9	11.5	16.2	10.9	17.4	11.9	13.8
1951.....	18.7	15.6	12.1	13.8	11.1	17.4	11.9	13.3
1952.....	15.8	17.4	11.3	16.3	9.5	17.4	11.0	13.6
1953.....	13.3	14.2	10.8	13.5	11.3	15.0	9.9	12.3

Sources and methods

See table X of the statistical appendix.

period, the share of wages and salaries and the earnings of small entrepreneurs in the total net income increased from 58.3 per cent to 77.2 per cent. The real income per worker, in turn, rose by 32.5 per cent. This modification of income distribution arose from various aspects of economic policy and from the favourable effects of the terms of trade. The First Five-Year Plan stimulated the shift of the agricultural labour force towards industry through an economic policy covering prices, credit, foreign trade, exchange control and wages. The favourable effects of the terms of trade were partly absorbed by the Government and provided an ample margin for the application of wage and price policies.

Argentina's productive capital was insufficient to meet the substantial increase in demand caused by the rapid redistribution of income. The heavy increase in industrial output capacity during the post-war period was barely adequate to offset the intense utilization of equipment, which was due to the expansion of production encouraged by lack of access to normal overseas supply sources during the war.

From 1946 to 1950 there was a rise of 43 per cent in wages, salaries, and the earnings of small entrepreneurs, while the quantum of industrial output increased by only 15 per cent. Since the supply of manufactured goods could not expand as fast as consumption, there was a shift of demand towards foodstuffs; *per capita* meat consumption, which was already the highest in the world, rose even further, adversely affecting the surplus exportable tonnages and the capacity for external payment.

After 1951, economic policy aimed at modifying consumption patterns. There was a drop in *per capita* meat consumption after 1950, mainly due to a decrease in the supply. After the 1952 drought, the Government adopted restrictive measures to reduce the demand for domestic foodstuffs and imported goods to a minimum. This policy was continued during 1953.

Other aspects of income distribution trends in Argentina during the post-war period may now be considered. The share of property income in aggregate net income dropped between 1946 and 1950 from 41.7 per cent to 22.8 per cent. In addition, although total net income rose by 8 per cent during these years, there was a fall of 45 per cent in the absolute level of property income. Such a drastic redistribution in so short a period may perhaps have affected incentives to private investment.

After 1951 attempts were made to modify this redistribution by means of wage and price stabilization measures, but the decline in the terms of trade, followed by the 1952 drought, and the effects of the credit and import restriction policy on output and demand, prevented a rise in property income until 1953. During that year it was the agricultural sector that benefited principally from the stabilization policy. In industry, the number of man-hours worked dropped even lower than industrial output from 1951 onwards. This indicates an increase in productivity that was absorbed by profits. There was a rise in profits in 1952 and 1953, although industrial output declined. It appears that, as a consequence of the salary and price stabilization policy and the decline in industrial employment, the share of labour in net income fell during 1953.

For 1945-53, public expenditure in investment and consumption was relatively higher in Argentina than in any other Latin-American country. Public expenditure between 1945 and 1951 comprised more than one-fifth of aggregate available goods and services, while public investment represented more than 40 per cent of all investment, with the exception of 1947 in both cases. See table 13.) This high level of expenditure was due to the fact that fiscal policy was able to take advantage of the favourable terms of trade during the early post-war years.

As was emphasized in the *Economic Survey of Latin America, 1950-52*, almost every aspect of this economic policy altered during 1952, and an over-all restrictive

Table 13. Latin America: Public expenditure and investment in seven countries, 1945–53

(Percentage of the gross product)

Years	Argentina	Brazil	Chile	Colombia	El Salvador	Guatemala	Mexico
			I. Total public expenditure				
1945	19.6	16.8	15.6	14.3	6.1	10.2	11.5
1946	19.7	16.2	15.6	14.3	7.4	11.1	9.5
1947	14.8	15.0	16.3	13.6	8.1	10.6	10.7
1948	21.9	15.4	14.7	15.7	9.2	10.6	10.9
1949	21.8	17.1	15.0	14.3	9.2	11.5	12.1
1950	22.3	17.5	17.0	13.4	10.3	9.7	12.6
1951	22.5	14.9	16.8	14.6	10.1	8.9	12.2
1952	19.1	13.6	19.5	14.9	11.4	10.2	11.8
1953	14.8	13.0	15.7	17.4	..	..	11.6
			II. Public investment				
1945	7.1	4.0	4.1	4.2	1.2	2.6	4.6
1946	6.2	3.6	3.9	4.6	1.9	2.0	4.3
1947	3.9	3.8	3.8	4.8	1.9	3.4	4.5
1948	9.7	4.0	3.1	4.4	2.8	3.3	5.1
1949	7.9	4.1	3.0	2.8	2.4	3.5	5.6
1950	7.8	4.2	3.3	1.9	2.8	3.7	6.1
1951	7.5	4.0	3.9	3.5	2.5	3.8	5.7
1952	6.0	4.0	4.3	3.8	3.0	4.3	5.8
1953	5.3	3.9	3.1	4.7	..	4.4	5.2

Sources and methods

Values in national currency at 1950 prices were expressed in dollars at 1950 prices according to the criteria described in the general note appearing at the end of chapter I of the *Economic Survey of Latin America, 1951–52*, using par exchange rates of purchasing power. Sources and methods for country data appear in table XIII of the statistical appendix.

policy was adopted which covered imports and credit, price and wage stabilization, and a contraction in public expenditure. These measures tended to reduce the pressure of the demand for both domestic foodstuffs and imports.

The restrictive policy continued throughout 1953, although greater freedom was allowed in credit and imports. Public expenditure, which fell substantially in 1952, declined even further during 1953, reaching its lowest ebb for the entire period. Since private investment did not offset the drop in public expenditure, aggregate investment declined to the lowest level since 1946. It would therefore seem that the sustained deflationary policy of 1953 played a part in retarding the recovery of the total output of goods and services. Mention should be made of the firm application of price, credit and import controls and the success achieved in obtaining the desired results, a phenomenon that is perhaps without parallel in Latin America.

Emphasis should be placed upon the decrease in the share of capital goods in 1953 imports to the lowest level since 1945, and on their consequently smaller share in aggregate investment, which share fell from 32.4 per cent in 1952 to 18.2 per cent in 1953. Within the general reduction of imports, priority was given to requirements in fuels, industrial raw materials and essential consumer goods, with a view to maintaining current economic activity. Secondary consideration was given to the future development needs of productive capacity. However, the same results were achieved by the efforts made to substitute imports of certain capital goods by domestic production.

2. *Brazil*

There was a considerable reduction in the rate of growth of Brazilian production as compared with previous years. The decline was particularly marked in the case of industrial production, which scarcely kept pace with the growth of population. The output of capital goods and electric power, however, continued to increase rapidly.

The slower rate of growth in Brazilian output during 1953 was offset to some extent by a new, although very slight, improvement in the terms of trade, which reached the highest level for the entire period (217.8, with 1945 as the base year). In spite of this, goods and services available *per capita* declined as a result of drastic import restrictions adopted to correct the accumulated disequilibrium in the balance of payments during former years.

These corrective measures led to domestic restrictions which, combined with the reduction in imports, caused a decline in the investment coefficient from 17.4 per cent to 14.2 per cent. Import restrictions were so severe that in order to maintain the supply of essential goods it was necessary to sacrifice capital goods imports, the share of which declined both in total imports and in capitalization. (See table 14.) This had, however, the advantage of creating an additional incentive to substitute domestic output for imported capital goods.

A maladjustment between productive capacity and effective demand similar to that in Mexico[4] became evident in Brazil in 1953. In both cases the maladjustment was due to a process of income redistribution resulting from the substantial shift of the agricultural labour force to industry, with a subsequent marked increase in productivity but no corresponding rise in real wages.

The exchange and trade policy reforms accomplished at the close of 1953 favoured the export sector and intensified

[4] See section 8, *Mexico*.

Table 14. Latin America: Capacity for external payment and imports in eight countries, 1945–53

(Percentage of gross product)

Years	Argentina	Brazil	Chile	Colombia	Cuba	El Salvador	Guatemala	Mexico
				I. Capacity for external payment				
1945.....	16.3	13.8	23.1	..	..	..	..	16.7
1946.....	19.1	16.6	21.8	..	..	15.8	20.0	17.0
1947.....	20.4	17.8	25.5	18.7	43.3	19.6	22.4	19.4
1948.....	16.2	16.2	26.2	18.2	39.5	23.4	15.5	16.2
1949.....	12.4	13.7	27.4	17.0	34.9	25.2	16.4	15.1
1950.....	14.5	13.5	22.9	19.4	35.6	26.9	20.0	17.3
1951.....	15.0	15.1	27.8	21.8	37.0	17.4	17.8	17.1
1952.....	9.8	11.7	30.4	21.6	29.3	15.0	17.3	16.9
1953.....	13.8	10.6	20.6	21.7	34.2	14.2	16.9	15.3
				II. Imports				
1945.....	6.5	9.5	17.0	..	..	..	..	14.2
1946.....	10.6	11.4	20.2	..	25.4	13.5	13.1	18.7
1947.....	19.8	18.2	23.9	22.7	31.8	16.9	17.0	19.4
1948.....	16.9	14.4	19.8	19.7	32.6	21.6	14.5	15.1
1949.....	13.4	13.0	22.9	15.1	29.0	18.4	16.6	12.2
1950.....	12.6	11.0	18.4	17.7	30.7	20.9	16.6	13.0
1951.....	16.1	17.2	22.5	19.3	31.8	14.8	17.8	15.7
1952.....	14.4	15.9	22.0	18.0	28.7	13.5	15.5	14.4
1953.....	10.1[a]	10.0[a]	16.8[a]	17.8[a]	28.3	12.7[a]	15.2	14.3[a]

Sources and methods

Based on table XIV of the statistical appendix.

[a] Provisional figures.

the contraction of imports—including capital goods imports—and have therefore adversely affected the investment coefficient and the rate of growth.

3. *Chile*

Chile's gross product, impelled by the copper boom which began in 1951 and did not end until the second half of 1953, continued to expand. The copper crisis had, however, little influence on the rate of economic growth recorded throughout the year. Output growth was particularly marked in agriculture and industry, although the improvement of relative prices in mining enabled this sector's contribution to the gross product to be increased in keeping with that of the other sectors.

Even when a deflationary fiscal policy was attempted, its real effect continued to be inflationary. This was because, although real public expenditure decreased substantially, a far larger drop took place in fiscal income as a result of the paralysation of copper sales. This inflationary pressure from the public sector helped to postpone the adverse effects of external factors. The abolition of exchange subsidies for certain imports caused a rise in costs which producers were able to transfer to consumers through the liberal credit policy and substantial price increases. The highly transitory nature of the situation became evident towards the end of 1953, when public expenditure declined, both absolutely and in its proportion to aggregate income, for the first time since the war. At the same time, the distribution of income shifted in favour of the property-owning group. The share of profits and interest in aggregate net income rose from 23 per cent to 31 per cent during 1953.

The decline in public expenditure mainly affected investment, which fell by over 23 per cent, offsetting a slight rise in private capital outlays. The coefficient of total investment was thus reduced to less than 11 per cent of the gross product. The immediate prospects for public investment appear to be unfavourable, since it is planned to reduce the export duties payable by the large mining companies, which would lead to a drop in income which would have to be made good from other sources. The outlook for private investment and output is also poor, owing to the probable decline in effective demand arising from income redistribution and the adverse tendency of the capacity for external payment, which will probably reduce available goods and services in 1954.

Owing to import restrictions, available goods and services underwent a smaller increase than income. These restrictions were adopted as a result of the difficult balance-of-payments situation. The statistical export surplus is in fact fictitious, since the stocks of unplaced copper accumulated abroad have been included as exports. Consequently, the favourable effect of the terms of trade is also fictitious, since a price for copper higher than the world market quotation was used in its calculation.

4. *Colombia*

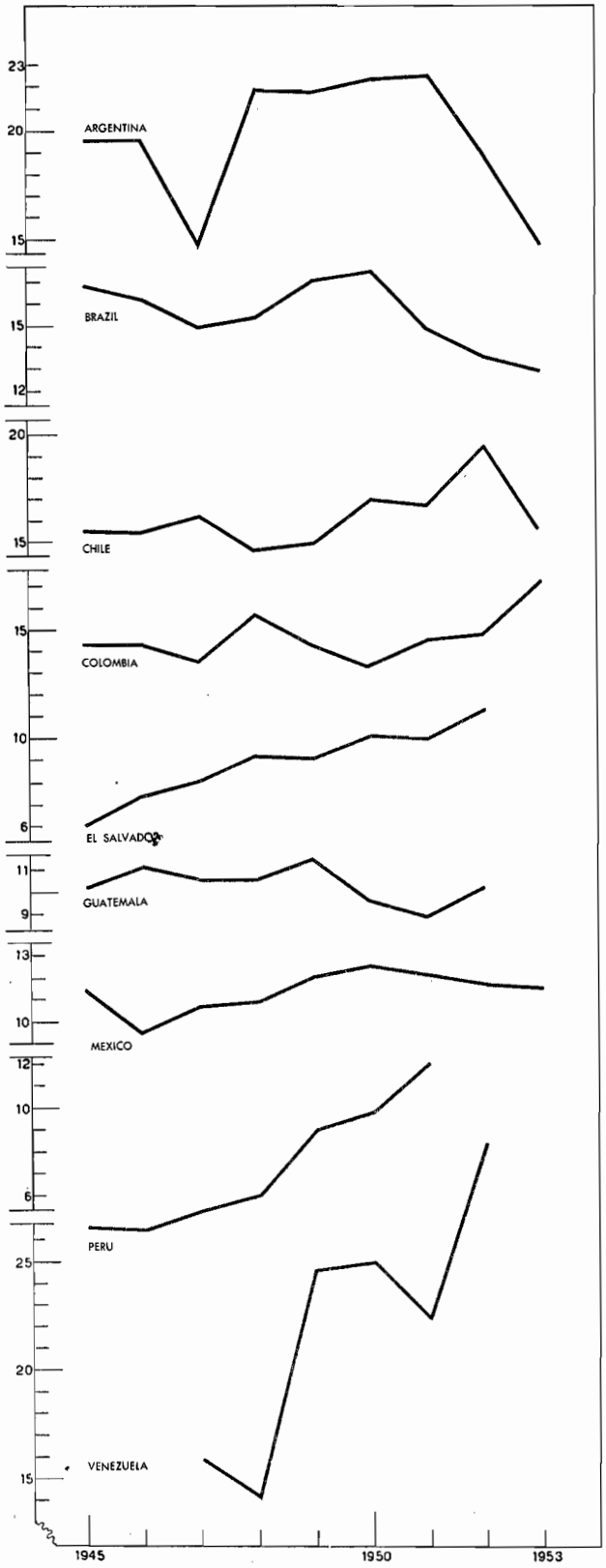
Colombia's gross product rose more rapidly in 1953 than during 1952. This trend was mainly due to the effects of favourable terms of trade, caused by the recent upsurge in the coffee prices despite the decline in the rate of growth of output.

Available goods and services increased at a lower rate than the gross product, owing to the fact that the excess of exports over imports was four times as great as in 1952. Nevertheless, the rise in consumption was greater than that of the gross product, since investment declined absolutely and in relation to both available goods and services

Chart XV

LATIN AMERICA: PUBLIC EXPENDITURE AS A PERCENTAGE OF THE GROSS PRODUCT, IN NINE COUNTRIES, 1945-53

(Natural scale)



and to the gross product. This drop in aggregate investment was not influenced by Government investments. On the contrary, these latter increased substantially, and in 1953 accounted for the first time for over one-third of all investment. Nor was there any shortage of imported capital goods, which achieved a larger share in both total imports and aggregate investment. The decrease in both investment and output may be temporary, since several large projects, such as the iron and steel works at Paz de Río, were practically terminated during the year, a fact which may have a stimulating effect upon private activities.

The rise in the importance of the public sector in Colombia's economy has been outstanding. This does not apply to investment only; Government expenditure on consumption also increased, by 18 per cent. The drop in private investment and the rate of output growth does not, therefore, seem to be due to any official deflationary policy. Nor would it appear to be due to a shortage of imported raw materials and capital goods, since the level of imports was maintained and a substantial proportion of the capacity for external payment remained idle. The explanation of this phenomenon may lie in a contraction of effective demand, since the share of wages and salaries within aggregate net income declined in 1952 to its lowest level since the war; the slight drop in productivity per unit of capital and per worker might indicate the existence of some surplus in productive capacity. It should be noted in this respect that tax reforms may have caused retrenchment on the part of the companies affected by them.

5. *Cuba*

In 1953, Cuba's economy suffered the most severe relapse among the countries analysed here. *Per capita* income fell by 18 per cent in relation to 1952, as a result of the drop in production and the deterioration in the terms of trade. The decline in available goods and services was even greater than that in income, and was caused more by a reduction in effective demand than by import restrictions, since Cuba has no balance-of-payments problems and possesses substantial foreign exchange reserves.

In contrast to the position elsewhere in the region, consumption contracted more than investment. At all events, Cuba's investment coefficient continued to be one of the lowest in Latin America.

The relapse in 1953 almost neutralized the rather slow growth of the postwar period. *Per capita* income was practically the same as in 1945. The somewhat stationary character of Cuba's economy during the past twenty-five years has thus continued. Some impression of this stagnation is given by the fact that the stock of productive capital appears to have declined in absolute terms between 1927 and 1945.

Internal factors actively conditioned the 1953 decline in other countries, but in Cuba the determining force was the fall in the terms of trade. This reveals the extent to which Cuba's economy is dependent upon external markets. The special position occupied by Cuba in the United States sugar market, and the lack of diversification in domestic production, have so far precluded the finding of any domestic substitutes for the stimulus of overseas demand, and have determined the low investment coefficients and the consequent slow rate of growth.

6. *El Salvador*

Per capita income in El Salvador doubled between 1945 and 1953, giving this country the highest rate of growth among the countries analysed here. The factors contributing to this intense development were the substantial rise in output and the favourable situation of the coffee market, which has enabled the terms of trade to reach more than double their 1945 level.

In contrast to other countries, although the rate of growth in El Salvador fell off somewhat in 1952, it recovered substantially in 1953. However, aggregate investment declined, causing the investment coefficient to fall from 17 to 15 per cent. This decrease originated in the private sector and could not be offset by the expansion of government investment. Although the volume of these latter investments had increased to six times its 1945 level, they continued to represent barely 21 per cent of the total. The decline of investment during 1953 permitted a 14 per cent increase in *per capita* consumption.

7. *Guatemala*

The economic development of Guatemala between 1945 and 1951 was also among the most rapid in Latin America. As a result of the substantial increase in output and of the favourable coffee prices, there was a rise of 46 per cent in *per capita* income during that period.

As elsewhere, there was a pause in the rapid rate of growth in 1952. *Per capita* output declined during that year by 4.5 per cent, although the favourable effect of the terms of trade enabled the level of *per capita* income to be maintained. A recovery in output took place in 1953, but the rate of growth was much slower than that experienced in the preceding phase.

Aggregate investment and the investment coefficient likewise dropped in 1952, and they continued to decline in 1953 in spite of the considerable expansion of public investment from 32 to 44 per cent of aggregate investment between 1951 and 1953. Thus the reduction has taken place exclusively in private investment. Since foreign demand continues at a high level, and economic policy has followed expansionist trends, the drop in private investment appears to be accounted for by other than purely economic factors.

Because available goods and services increased during 1953 at a rate parallel to income, the reduction of investment was able to provide a higher rise in *per capita* consumption than in any other postwar year.

8. *Mexico*

In 1953 Mexico's gross product declined 3.7 per cent, thus departing from the tendency of previous years. *Per capita* income, which had dropped in 1952, continued to decline in 1953 to a level 7 per cent below the maximum reached in 1951, which had been the peak level.

All sectors except agriculture, which experienced a 3.5 per cent rise in output, participated in the decline. There was a 5 per cent drop in industrial production. A further relapse occurred in consumer industries, and a decrease became evident in some branches of capital goods production, such as steel and glass. In turn, there was a downward trend in the rate of growth of cement production, although

Chart XVI

LATIN AMERICA: PUBLIC INVESTMENT AS A PERCENTAGE OF THE GROSS PRODUCT, IN NINE COUNTRIES, 1945-53

(Natural scale)

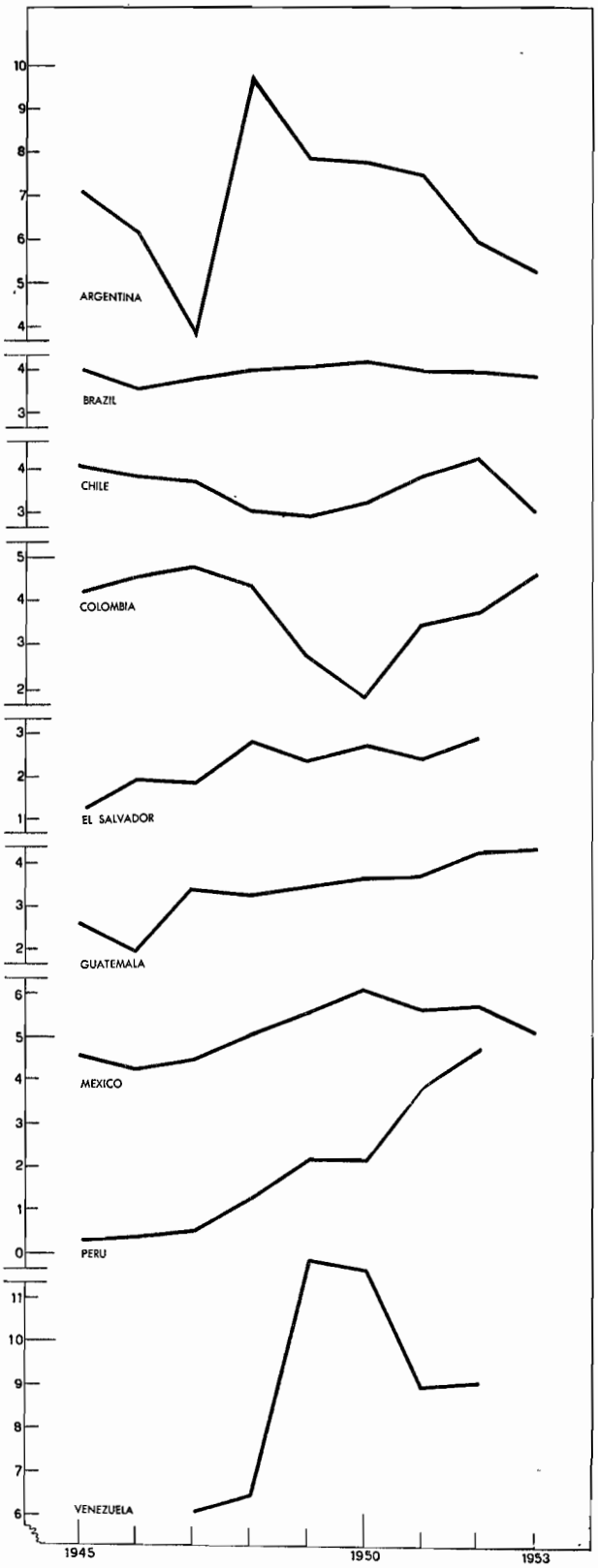


Table 15. Latin America: Salaries, wages and other wage earning income in six countries, 1945–53

(Percentage of net income)

Years	*Argentina*	*Brazil*	*Chile*	*Colombia*	*Cuba*	*Mexico*
1945	66.6	87.0	72.3	83.7	80.1	52.1
1946	58.3	82.0	75.0	84.8	79.3	48.6
1947	59.8	81.4	74.6	85.3	78.1	49.1
1948	63.9	80.0	73.5	85.4	78.9	50.7
1949	74.4	79.3	74.5	85.9	81.1	52.0
1950	77.2	73.7	75.2	85.8	79.9	52.8
1951	75.0	70.9	76.5	86.2	78.6	49.9
1952	78.2	69.3	76.6	80.5	86.0	47.6
1953	69.6	64.8	69.0	..	..	49.0

Sources and methods

See table XII of the statistical appendix.

this did not prevent the accumulation of stocks, which is all the more significant when it is recalled that there has been no such accumulation since 1939. Mining output declined only slightly, but, in contrast, there was a drop of over 25 per cent in relative prices. There was a reduction in petroleum production and a curtailment of the rapid rate of increase in the generation of electric power.

Among the factors causing the decrease of *per capita* income, mention must be made first and foremost of the decline in the output-capital ratio which began in 1952. The decline was largely the result of a continuing decrease in the utilization of productive capacity in a number of popular consumer goods industries which were faced with an insufficient demand. In this way the influence of unequal income distribution, caused by the inflationary movements of the wartime and postwar periods, became evident.[5] (See table 15.) The imbalance between demand and productive capacity became increasingly acute during 1953, and there was in consequence a further drop in the output-capital ratio.

A further impediment to development appeared in 1953. This was the fall of almost 10 per cent in investment, which brought its coefficient to 12.3 per cent of the gross product, the lowest level during the past seven years. The decline in investment began in the public sector, where there was a drop of 15 per cent in relation to the preceding year. This decrease adversely affected the prospects of entrepreneurs and levelled out the decline to private investment.

During the second half of 1953 the fall in export prices for various commodities was added to the adverse internal factors, thus causing a drop of 8 per cent in the terms of trade. The quantum of exports remained stable, but income derived from the tourist trade decreased substantially.

It is of interest to attempt an explanation of the causes determining the reduction in public investment, which was the principal reason for the 1953 income decline. On the one hand, it was manifestly impossible for the inflationary development of preceding years to continue. A point had been reached where the expansion of the margins of profit of entrepreneurs led to absolute reductions in real wages, and not merely in the wage-earners' share of national income, as in the period 1939-50. The economic consequences of a continuation of this process would have been an aggravation of the maladjustment between demand and productive capacity, and a consequent curb on growth. The social and political consequences would probably have been far more serious. It is therefore understandable why efforts were made to eliminate one of the main sources of inflationary pressure—public expenditure in investment.

On the other hand, it would have been possible to continue the rate of growth on two conditions: firstly, the financing of the same level of investment in a non-inflationary manner and, secondly, the recovery of the high output-capital ratio of the twelve preceding years. To finance a 13-15 per cent rate of investment in a non-inflationary manner might have required substantially higher taxation, since it was impossible to rely either on changes in the saving habits of the private sector or on an inflow of foreign capital greater than that registered to date, whose role in financing development had been entirely secondary. In order to avoid an adverse effect on incentives to save or to invest, it might have been necessary to reform the tax system, which has lagged behind the important structural changes which have taken place in Mexico's economy since 1939.

On the other hand, the recovery of the preceding ten years' high level of output-capital ratio would have involved both a correction of the maladjustment between demand and productive capacity and the adoption of a long-term public and private investment programme. This programme has not yet been drawn up, although there are indications that progress is being made in this direction. The correction of the imbalance between demand and productive capacity would, in turn, necessitate an income redistribution of such magnitude as to be impossible of achievement without institutional changes, which appear unlikely in the near future.

Mexico's experience over the last few years shows that it is possible to arrest inflation within the institutional framework of the Latin-American countries. At the same time, however, it demonstrates that the curbing of the inflationary process may sometimes have very unfavourable effects upon investment, employment and the rate of development.

[5] See ECLA, op. cit., (*d*) *Mexico*, section 6.

STATISTICAL APPENDIX

Table I. Latin America: Population, gross product, output, capital and productivity, 1951–53

(Dollars at 1950 prices)

Years	Population (millions) (A)	Gross product (millions of dollars) (B)	Effect of the terms of trade since 1945 (Millions of dollars) (C)	Effect of the terms of trade since 1945 (Percentage of gross product) (D)	Output (Millions of dollars) (E)	Capital (millions of dollars) (F)	Output: Output capital ratio (G)	Output: Output per worker (dollars) (H)	Percentage of investment to gross product (I)
1951	158.5	40,274	4,187	10.4	36,087	83,809	0.43	635	15.9
1952	162.5	40,351	3,486	8.6	36,685	87,327	0.42	635	16.0
1953[a]	166.9	41,577	4,120	9.9	37,457	90,446	0.41	627	14.3

Sources and methods

For figures prior to 1951, see *Economic Survey of Latin America, 1951–52*, table 1.

[a] Provisional data.

Table II. Latin America: Movement of external payments tending to increase or decrease available goods and services, 1951–53

(Millions of dollars at 1950 prices)

I. Factors tending to increase available goods and services

Years	Inflow of foreign capital: Direct long-term (A)	Other long-term private capital (B)	Short-term (C)	Special official financing (D)	Total (E)	Decrease in official monetary reserves (F)	Official short-term credit (G)	Total (H)
1951	262	129	67	230	688	133	101	922
1952	..	..	..	..	592	364	509	1,465
1953[a]	..	..	..	..	539	..	..	539

II. Factors tending to decrease available goods and services

	Outflow of foreign capital: Repurchase of foreign investment (I)	Cancelling of official loans (J)	Other short-term capital (K)	Long-term capital (L)	Total (M)	Remittances of profits and interest (N)	Increase in official monetary reserves (O)	Decrease in official short-term credit (P)	Total (Q)
1951	27	115	—	—	142	875	—	—	1,017
1952	..	..	..	..	192	682	..	..	874
1953[a]	..	..	..	..	225	674	364	180	1,393

III. Net result

	Factors of increase (R)	Factors of decrease (S)	Errors and omissions (T)	Geographic balance of payments covering excess of imports or exports(—) (U)
1951	922	1,017	— 69	—164
1952	1,465	874	—302	289
1953[a]	539	1,393	—367	—1,221

Sources and methods

For figures prior to 1951, see *Economic Survey of Latin America, 1951–52*, table 2.

[a] Estimates based on partial data.

Table III. Latin America: Exports and imports of goods and services, 1951–53

(Millions of dollars at 1950 prices)

Years	Imports			Exports			Excess of imports or exports (−)
	Goods (A)	Freight, insurance and other charges (net) (B)	Total (C)	Goods (D)	Tourist expenditures, freight and insurance (net) (E)	Total (F)	(G)
1951	5,907	1,003	6,910	6,702	373	7,075	−165
1952	5,702	922	6,624	5,897	438	6,335	289
1953[a]	4,672	809	5,481	6,298	404	6,702	−1,221

Sources and methods

For figures prior to 1951, see *Economic Survey of Latin America, 1951–52*, table 3.

[a] Estimates based on partial data.

Table IV. Latin America: Gross product and available goods and services for consumption and investment, 1951–53

(Millions of dollars at 1950 prices)

Years	Gross product (A)	Excess imports or exports (−) (B)	Available goods and services (C)
1951	40,274	−165	40,109
1952	40,351	289	40,640
1953	41,577	−1,221	40,336

Sources and methods

For figures prior to 1951, see *Economic Survey of Latin America, 1951–52*, table 4.

Table V. Latin America: Available goods and services for consumption and investment, 1951–53

(Dollars at 1950 prices)

Years	Total	Consumption	Investment	Relation of col. (B) to col. (A)	Relation of col. (C) to col. (A)	Per capita		
						Total availability	Consumption	Investment
	(millions of dollars)			(percentages)		(dollars)		
	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)
1951	40,109	33,705	6,404	84.0	16.0	253	213	40
1952	40,640	34,186	6,454	84.1	15.9	250	210	40
1953	40,336	34,382	5,954	85.2	14.8	242	206	36

Sources and methods

For figures prior to 1951, see *Economic Survey of Latin America, 1951–52*, table 5.

Table VI. Latin America: Capacity for external payment, imports and capacity to import, 1945–53

(Millions of dollars at 1950 prices)

I. Total capacity for external payment

Years	Exports (A)	Inflow of foreign capital (B)	Total payments capacity (C)	Effect of the terms of trade since 1945 (D)	Effect of the terms of trade in percentage of total capacity (E)
1945	4,213	333	4,546	—	—
1946	5,308	356	5,664	1,879	33.2
1947	6,262	702	6,964	2,637	37.9
1948	6,561	549	7,110	2,755	38.8
1949	5,664	664	6,328	2,406	38.0
1950	6,550	268	6,818	4,109	60.3
1951	7,048	691	7,739	4,187	54.1
1952	6,346	593	6,939	3,486	50.2
1953	6,702	539	7,242	4,120	56.9

II. Capacity to import

Years	Total external payments capacity (F)	Remittance of profits and interest (G)	Outflow of foreign capital (H)	Capacity to import (F) − (G+H) Absolute figures (I)	Capacity to import (F) − (G+H) Percentage of total capacity (J)	Imports of goods and services (K)
1945	4,546	543	81	3,922	86.3	2,782
1946	5,664	697	592	4,375	77.2	3,964
1947	6,964	770	339	5,856	84.1	6,304
1948	6,110	841	853	5,416	76.2	5,834
1949	6,328	610	231	5,487	86.7	5,345
1950	6,818	755	210	5,853	85.8	5,293
1951	7,739	878	142	6,719	86.8	6,884
1952	5,939	681	192	6,066	87.4	6,637
1953	7,242	674	225	6,343	87.6	5,481

Sources and methods

Col. (A): Table III, col. (F).
Col. (B): Table II, col. (E).
Col. (C): Col. (A) plus col. (B).
Col. (D): Table I, col. (C).
Col. (E): Percentage of col. (D) to col. (C).
Col. (F): Col. (C).
Col. (G): Table II, col. (N).
Col. (H): Table II, col. (M).
Col. (I): Col. (F) minus cols. (G) and (H).
Col. (J): Percentage of col. (I) to col. (F).
Col. (K): Table III, col. (C).

Table VII. Latin America: Composition of imports, 1951–53

Years	Aggregate imports (millions of dollars at 1950 prices) (A)	Consumer goods (millions of dollars at 1950 prices) (B)	Raw materials (millions of dollars at 1950 prices) (C)	Fuels (millions of dollars at 1950 prices) (D)	Capital goods (millions of dollars at 1950 prices) (E)	Consumer goods (percentages of total) (F)	Raw materials (percentages of total) (G)	Fuels (percentages of total) (H)	Capital goods (percentages of total) (I)
1951	6,910	2,502	1,271	622	2,515	36.2	18.4	9.0	36.4
1952	6,624	2,418	1,053	702	2,451	36.5	15.9	10.6	37.0
1953	5,481	2,094	850	685	1,853	38.2	15.5	12.5	33.8

Sources and methods

For figures prior to 1951, see *Economic Survey of Latin America, 1951–52*, table 10.

Table VIII. Latin America: Gross product, output and relative prices, by activities, 1949–53

Years	Gross product (millions of dollars at 1950 prices) (A)	Output (millions of dollars at 1950 prices) (B)	Indices of relative prices (1945 = 100) (C)
I Agriculture			
1949	8,972	8,483	105.8
1950	9,904	8,661	114.4
1951	9,577	8,929	107.3
1952	9,260	8,849	104.6
1953	10,284	9,663	106.4
II. Industry and Building			
1949	9,409	9,425	99.8
1950	9,921	10,155	97.7
1951	10,217	10,911	93.6
1952	10,470	11,360	92.2
1953	10,639	11,506	92.5
III. Other activities			
1949	17,281	15,348	112.6
1950	18,495	15,395	120.1
1951	20,480	16,247	126.1
1952	20,621	16,656	123.8
1953	20,654	16,288	126.8
IV. All activities			
1949	35,662	33,256	143.3
1950	38,320	34,211	166.7
1951	40,274	36,087	168.6
1952	40,351	36,865	165.2
1953	41,577	37,457	167.5

Sources and methods

For figures prior to 1949, see *Economic Survey of Latin America, 1951–52*, table 12. The calculation for agricultural output involves a change in method from that described in table 12 of the above-mentioned *Survey*. In the present table, and index of agricultural output for the whole region was used, calculated by the Economic Commission for Latin America on the basis of more countries. Data for other activities were obtained as in the above-mentioned *Survey*.

Table IX. Latin America: Gross product, active population, and gross product per worker, by sectors, in 1945, 1950 and 1953

Sectors	Active population (millions of persons) 1945 (A)	1950 (B)	1953 (C)	Gross product (millions of dollars at 1950 prices) 1945 (D)	1950 (E)	1953 (F)	Gross product per active person (dollars at 1950 prices) 1945 (G)	1950 (H)	1953 (I)
Agriculture	29.8	32.2	33.9	7,283	9,904	10,284	244	308	303
Industry and building	7.4	9.2	9.6	7,007	9,921	10,639	947	1,078	1,108
Mining	0.5	0.5	0.6	767	1,603	1,680	1,534	3,206	2,800
Transport and public utilities	1.6	1.8	1.9	1,861	2,268	2,903	1,163	1,260	1,528
Trade, government and other services	10.4	11.9	12.3	10,472	14,624	16,071	1,007	1,229	1,307
TOTAL	49.7	55.6	58.3	27,390	38,320	41,577	551	689	713

Sectors	Active population (percentage of total) 1945	1950	1953	Gross product (percentage of total) 1945	1950	1953	Indices of gross product per worker (all activities = 100) 1945	1950	1953
Agriculture	60.0	57.9	58.1	26.6	25.8	24.7	44.3	44.7	42.5
Industry and building	14.9	16.6	16.5	25.6	25.9	25.6	171.9	156.5	155.4
Mining	1.0	0.9	1.0	2.8	4.2	4.0	278.4	465.3	392.7
Transport and public utilities	3.2	3.2	3.3	6.8	5.9	7.0	211.1	182.9	214.3
Trade, government and other services	20.9	21.4	21.1	38.2	38.2	38.7	182.8	178.4	183.3
TOTAL	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Sources and methods

Figures for active population were calculated by the Economic Commission for Latin America on the basis of data for 10 countries whose population censuses were made in or near 1940 and 1950.

Col. (A): Interpolation between census data for 1940 and 1950.

Col. (B): Census data.

Col. (C): Preliminary extrapolation.

Cols. (D) and (E): See *Economic Survey of Latin America, 1951–52*, table 17, col. (1).

Col. (F): Preliminary estimate based on data for Argentina, Brazil, Colombia and Mexico.

Col. (G): Col. (D) divided by col. (A).

Col. (H): Col. (E) divided by col. (B).

Col. (I): Col. (F) divided by col. (C).

Table X. Latin America: Gross product in selected countries, 1945–53

Years	Argentina	Brazil	Chile	Colombia	Cuba	El Salvador	Guatemala	Mexico	Peru	Venezuela
I. Gross product (millions of dollars at 1950 prices)										
1945.....	6,492	6,936	1,478	1,657	1,655	163	274	4,038	735	1,606
1946.....	7,889	7,760	1,475	1,836	1,797	215	350	4,338	791	1,807
1947.....	9,016	8,084	1,406	1,915	2,160	260	388	4,450	774	1,973
1948.....	9,190	8,464	1,571	1,951	2,021	218	510	4,688	775	2,387
1949.....	8,429	9,308	1,494	2,258	1,893	250	451	4,862	892	2,270
1950.....	8,524	10,836	1,552	2,383	2,010	282	464	5,375	1,016	2,388
1951.....	8,471	11,488	1,639	2,409	2,206	317	472	5,938	1,129	2,409
1952.....	7,743	11,836	1,773	2,527	2,273	334	490	6,025	1,176	2,387
1953.....	8,459	12,508	1,900	2,722	1,969	379	526	5,800	1,166	2,416
II. Annual rate of change (percentage)										
1946.....	21.5	11.9	−0.2	10.8	8.6	31.9	27.7	7.4	7.6	12.5
1947.....	14.3	4.2	−4.7	4.3	20.2	20.9	10.9	2.6	−2.2	9.2
1948.....	1.9	4.7	11.7	1.9	−6.4	−16.2	31.4	5.4	—	21.0
1949.....	−8.3	10.0	−4.9	15.7	−6.3	14.7	−11.6	3.7	15.1	−4.9
1950.....	1.1	16.4	3.9	5.5	6.2	12.8	2.9	9.0	13.9	5.2
1951.....	−0.4	6.0	5.6	1.1	9.8	12.4	1.7	11.0	11.1	0.9
1952.....	−8.2	3.0	8.2	4.9	3.0	5.4	3.8	1.0	4.2	−0.9
1953.....	10.9	5.7	7.2	7.7	−13.4	13.5	7.3	−3.7	−0.9	1.2
III. Distribution of gross product in relation to total (percentage)										
1945.....	23.7	25.3	5.4	6.0	6.0	0.6	1.0	14.7	2.7	5.9
1946.....	25.6	25.1	4.8	6.0	5.8	0.7	1.1	14.1	2.6	5.8
1947.....	26.8	24.1	4.2	5.7	6.4	0.8	1.2	13.2	2.3	5.9
1948.....	26.6	24.5	4.5	5.6	5.8	0.6	1.5	13.5	2.2	6.9
1949.....	23.6	26.1	4.2	6.3	5.3	0.7	1.3	13.6	2.5	6.4
1950.....	22.2	28.3	4.0	6.2	5.2	0.7	1.2	14.0	2.6	6.2
1951.....	21.1	28.5	4.1	6.0	5.5	0.8	1.2	14.7	2.8	6.0
1952.....	19.2	29.3	4.4	6.3	5.6	0.8	1.2	14.9	2.9	5.9
1953.....	20.3	30.1	4.6	6.5	4.7	0.9	1.3	14.0	2.8	5.8

Sources and methods

Estimates of the gross product at 1950 prices are based on estimates of the gross product at current values, converted to 1950 prices in accordance with the method described in the general note at the end of chapter I of the *Economic Survey of Latin America, 1951–52*. The gross product of each country, in national currency at 1950 prices, is expressed in dollars at 1950 prices, according to the criteria and purchasing power parity exchange rates described in the above-mentioned source, *op. cit.*

Sources and methods for country data were as follows:

Argentina: The basic source for gross product data was an unpublished, unofficial study which continued for the years 1946–51 the gross product estimates for 1935–45 published by the central bank and entitled *La Renta Nacional de la República Argentina* (Buenos Aires, 1946). Figures for 1952 and 1953 were based on recent unpublished estimates.

Brazil: For the period 1945–50, see *Economic Survey of Latin America, 1951–52*, table 33, col. (2). For 1951–52, estimates were based on data from the Fundação Getulio Vargas, received in December 1953 from the Banco do Desenvolvimento Económico.

Chile: For 1952–52, figures were based on the preliminary unpublished study of the Corporación de Fomento de la Producción entitled *The Gross Product of Chile, 1940–52*. In the interests of uniformity, see the adjustments introduced into table 44, col. (2) of the Economic Survey of Latin America, 1951–52. For 1953, figures were based on projections of the gross product carried out by the Institute of Economics of the University of Chile, published in the review, *Panorama Económico*, No. 92, Santiago. The Institute's figures were expressed in pesos at 1950 prices, using as a deflator a joint index of the cost of living and wholesale prices. These figures were adjusted accordingly: (*a*) balance of payments figures calculated by the Economic Commission for Latin America were used, and (*b*) the figure for public investment was replaced by a more comprehensive figure based on real data and estimated by the Dirección de Estudios of the Ministry of Finance.

Colombia: For 1945–49, unpublished data from the Banco de la República. For 1950–53, estimates of Jacques Torfs of the International Bank for Reconstruction and Development. Current values were expressed at 1950 prices, deflated by the cost of living index for lower-income brackets in Bogotá.

Cuba: For 1945–52, *Memoria Anual 1951–52* of the Banco Nacional de Cuba, Havana, December 1952. Figures for 1953 were based on calculations of the ECLA Mexico City office. Current values were expressed at 1950 prices, using the implicit deflator of the United States' gross product.

El Salvador: For 1945–46, *Proyecciones Económicas de las Finanzas Públicas: un Estudio Experimental en El Salvador*, by Henry C. Wallich and John H. Adler, Mexico, Fondo de Cultura Económica, 1949. For 1947–49, *Recent Developments and Trends in the Economy of El Salvador* (E/CN.12/217/Add.6), Economic Commission for Latin America, document presented at the 4th Session, Mexico City, 28 May 1951. For 1950, *Estimate of the Gross National Product of El Salvador, 1950* (unpublished). For 1951–53, estimates of the Economic Commission for Latin America.

Guatemala: For 1945–51, *Producto Nacional Bruto de Guatemala en los Ultimos 24 Años*, by José Antonio Palarios G. of the Banco de Guatemala, December 1952. For 1952–53, estimates of the Economic Commission for Latin America, based on movements of agricultural and industrial output and changes in the terms of trade.

Mexico: For 1945–49, see *Economic Survey of Latin America, 1951–1952*, table 55, col. (2). For 1950–53, figures estimated in February 1954.

Peru: For 1945–51, *La Renta Nacional del Perú*, Banco Central de Reserva, 1952. Figures for 1952 and 1953 are estimates of the Economic Commission for Latin America.

Venezuela: For 1945–46, estimates of the Economic Commission for Latin America. For 1947–51, *Memoria Correspondiente al Ejercicio Anual, 1951*, Banco Central de Venezuela, Caracas. For 1952–53, estimates of the Economic Commission for Latin America.

Table XI. Latin America: Investment in ten countries, 1945–53

(Millions of dollars at 1950 prices)

Years	*Argentina*	*Brazil*	*Chile*	*Colombia*	*Cuba*	*El Salvador*	*Guatemala*	*Mexico*	*Peru*	*Venezuela*
1945.....	984	700	155	228	46	16	22	450	86	182
1946.....	1,032	960	140	326	149	20	29	525	162	408
1947.....	1,381	1,352	168	358	201	29	52	600	184	199
1948.....	1,873	1,264	196	317	186	28	60	650	117	918
1949.....	1,730	1,448	218	297	193	40	44	700	175	649
1950.....	1,714	1,616	178	386	220	49	55	738	207	498
1951.....	1,587	1,796	199	333	245	55	56	788	289	561
1952.....	1,222	2,056	200	344	215	58	54	788	300	628
1953.....	1,127	1,772	206	367	222	57	52	712	345	565

Sources and methods

See table X.

Table XII. Latin America: Salaries, wages and other labour income in six countries, 1945–53

Years	*Argentina*	*Brazil*	*Chile*	*Colombia*	*Cuba*	*Mexico*
	I. Salaries, wages and other labour income					
	(Millions of dollars at 1950 prices)					
1945.....	3,902	5,040	925	1,265	1,160	1,836
1946.....	4,140	5,200	973	1,422	1,236	1,746
1947.....	4,862	5,400	912	1,485	1,474	1,825
1948.....	5,290	5,400	989	1,515	1,393	1,992
1949.....	5,656	5,808	963	1,766	1,322	2,167
1950	5,926	6,236	978	1,860	1,359	2,330
1951.....	5,727	6,212	1,057	1,843	1,466	2,403
1952.....	5,458	6,484	1,166	1,907	1,657	2,266
1953.....	5,407	6,248	1,236	..	..	2,275
	II. Salaries, wages and other labour income per worker					
	(Dollars at 1950 prices)					
1945.....	709	348	578	275	725	296
1946.....	739	359	608	303	727	273
1947.....	853	367	536	303	867	277
1948.....	912	360	582	303	819	293
1949.....	962	382	535	353	778	305
1950.....	988	405	543	365	755	315
1951.....	939	398	587	354	814	316
1952.....	853	410	614	360	872	291
1953.....	832	388	650	..	..	281

Sources and methods

Values in national currency at 1950 prices are expressed in dollars at 1950 prices, according to the criteria described in the general note at the end of chapter I of the *Economic Survey of Latin America, 1951–52*, and using the same exchange rates.

The sources for each country were the following:

Argentina: In the absence of official data on net income by distributive shares, an estimate was made by the Economic Commission for Latin America, based on several sources. The method consisted in determining the net income of workers, employees and small entrepreneurs in the following sectors: agriculture and livestock, industry and building, and other activities.

(a) *Agriculture and livestock.* A series of monthly rural wages on small farms for the period 1935–50 appeared in an unpublished study of Francisco García Olano and César H.Belaúnde, Buenos Aires, entitled *Ciclos Económicos en la Argentina.* Monthly data were converted into annual data and expressed in 1950 constant values using the implicit deflator of the gross product.

On the other hand, the number of workers, employees and small entrepreneurs were estimated as 90 per cent of the aggregate actively employed population in agriculture and stock raising. (The last series was estimated by the Economic Commission for Latin America on the basis of census data.)

Finally, the rural wages series was multiplied by the number of workers, employees and small entrepreneurs engaged in agricultural activities.

(b) *Industry and building.* An index of aggregate nominal wages for electric power and gas industries was calculated with data from *Síntesis Estadística Mensual de la República Argentina.* When this index is divided by the implicit deflator of the gross product, an index of aggregate real wages is produced. This was divided by an index of man-hours worked (averages), obtained from *Síntesis Estadística Mensual,* in order to determine the index of real wages per worker. The result was multiplied by the index of workers engaged in industry, thus providing an index of total real wages paid in industry (1950=100).

Also available was the average wage per industrial worker for 1950 (obtained from *Anuario Estadístico de la República Argentina*). This figure was multiplied by the number of workers, employees and small entrepreneurs engaged in industry during 1950, thus providing a total of industrial wages for that year. This sum was multiplied by the index of total real wages—the calculation of which was described in the preceding paragraph—in order to obtain an estimate of aggregate salaries, wages and other labour income for the period 1945–53, at 1950 constant prices.

(c) *Other activities.* Salaries, wages and labour income were obtained by multiplying the actively employed population in this sector by average wages calculated in the same way as for industry.

The net income for the whole economy was estimated by deducting 10 per cent for depreciation and indirect taxation from the gross product.

Finally, income from property was estimated in residual form by deducting the aggregate salaries, wages of workers and employees and income of small entrepreneurs from the total net income.

Brazil: The basic series were taken from the general data received in December 1953 from the Banco Nacional do Desenvolvimento Económico. This information corresponds to estimates made by research workers on the gross product of the Instituto Brasileiro do Economía, an organ of the Fundação Getulio Vargas. Among the material appears a table showing net income by distributive shares in all activities, except agriculture, and for which a global figure is given. In order to estimate what share of the net income generated by agriculture corresponds to wages and salaries and which to property, an estimate was made of the population actively employed in agriculture during 1940–50 on the basis of census data. It was assumed that 95 per cent of this total consists of employees, workers, and small entrepreneurs.

Further data was available showing that agricultural wages per worker fluctuated between 5 thousand cruzeiros annually for employees and workers and 4 thousand cruzeiros a year for owner-workers. (See Brovedani's unpublished study, *The Gross National Product of Brazil, 1940–49*, page 11.) Expressed at 1950 prices, the average gives a sum of 4,530 cruzeiros. To obtain an estimate for agricultural wages for other years, an index of real wages was used, calculated by the Economic Commission for Latin America on the basis of the index of nominal industrial wages, which appears in the review, *Conjuntura Económica*.

By multiplying the series of annual wages by that of agricultural workers, a total of salaries, wages and income of independent farmers was obtained. When this total is subtracted from net agricultural income, the income derived from property is obtained in residual form. For other activities, the current values are expressed at 1950 prices, by means of the implicit deflator index of Brazil's gross product.

Chile: Estimates for net income are based on a preliminary unpublished study of the Corporación de Fomento de la Producción entitled *The Gross Product of Chile, 1940–52*. Current values were expressed in pesos at 1950 prices using the implicit deflator of the gross product taken from the same source.

Colombia: For 1945–51, unpublished data from the Banco de la República, deflated by the cost of living index for lower-income brackets in Bogotá. For 1952–53, estimates of the Economic Commission for Latin America.

Cuba: See *Memoria Anual, 1951–52*, of the Banco Nacional de Cuba, page 169, table 30. Figures for 1952 and 1953 are estimates. Current values were reduced to constant 1950 values, through dividing by the implicit deflator of the United States' gross product.

Mexico: For 1945–50, data were obtained from *Desarrollo Económico de México y su Capacidad para Absorber Capital del Exterior*, Nacional Financiera, Mexico, 1953. Data for 1951 and 1952 are based on preliminary figures of the Banco de México and the Nacional Financiera's *Informe Anual*, 1953. Data for 1953 are estimates of the Economic Commission for Latin America.

Figures are expressed in pesos at 1950 prices, using the implicit deflator of the gross product.

Table XIII. Latin America: Public expenditure and investment in nine countries, 1945–53

(Millions of dollars at 1950 prices)

Years	Argentina	Brazil	Chile	Colombia	El Salvador	Guatemala	Mexico	Peru	Venezuela
				I. Aggregate public expenditure					
1945.....	1,271	1,168	230	236	10	28	463	34	..
1946.....	1,557	1,260	231	231	16	39	413	38	..
1947.....	1,335	1,212	229	229	21	41	475	44	313
1948.....	2,018	1,308	230	230	20	54	513	48	338
1949.....	1,844	1,596	224	224	23	52	587	83	561
1950.....	1,907	1,896	263	263	29	45	675	101	596
1951.....	1,955	1,717	275	275	32	42	725	136	540
1952.....	1,557	1,614	346	346	38	50	712	..	729
1953.....	1,318	1,622	298	298	..	..	675	..	..
				II. Public investment					
1945.....	460	280	60	70	2	7	188	2	..
1946.....	492	276	58	84	4	7	188	3	..
1947.....	349	312	54	92	5	13	200	5	121
1948.....	889	340	48	86	6	17	238	10	155
1949.....	667	380	45	62	6	16	275	20	270
1950.....	667	456	52	45	8	17	325	22	280
1951.....	635	465	63	85	8	18	338	44	218
1952.....	460	482	77	96	10	21	350	57	..
1953.....	444	490	59	127	12	23	300	..	..

Sources and methods

In general, figures for public expenditure were obtained from official sources. When this was impossible, the United Nations *Statistical Yearbook, 1952*, was used. Total public expenditure was calculated by adding current investment expenditure and excluding transfers. Current values were converted to 1950 prices by the use of deflator indices of the gross product for each country. Values at 1950 prices, in national currency, are expressed in dollars at 1950 prices, according to the criteria and purchasing power parity exchange rates cited in the general note at the end of Chapter I of the *Economic Survey of Latin America, 1951–52*.

The sources for each country were as follows:

Argentina: (*a*) Aggregate public expenditure: for 1945–50, the same source as public investment (see below); for 1951–53, estimates of the Economic Commission for Latin America, based on data for public expenditure, appearing in the *Review of the River Plate*, Buenos Aires.

(*b*) Public investment: 1945–52, figures appearing in tabular form in the unofficial, unpublished study on Argentina's gross product for 1935–50, and extrapolations made on the same basis as this study. The figure for 1953 is an estimate made by the Economic Commission for Latin America.

Brazil: For 1945–50, estimates of the Economic Commission for Latin America, based on figures of the *Relatorio do Banco do Brasil, 1952;* for 1951–52, estimates based on figures of the United Nations *Statistical Yearbook, 1952;* for 1953, estimates of the Economic Commission for Latin America.

Chile: For 1945–52, *Análisis de la Política Fiscal de Chile, 1940–53. Tendencias a Largo Plazo, Estructura Actual y Problemas con Relación al Desarrollo Económico*, an unpublished study of Carlos Oyarzún on behalf of the Economic Commission for Latin America; for 1953, estimates of the Economic Commission for Latin America.

Colombia: For 1945–53, estimates of the Economic Commission for Latin America on the basis of information received from the Banco de la República and estimates of Jacques Torfs.

El Salvador: For 1949–52, the United Nations *Statistical Yearbook, 1952.*

Guatemala: (*a*) Aggregate public expenditure was calculated by the Economic Commission for Latin America on the basis of figures published in the United Nations *Statistical Yearbook, 1952.*

(*b*) Data on public investment were taken from the study of José Antonio Palacios.

Mexico: For 1945–51, *Desarrollo Económico de México y su Capacidad para Absorber Capitales Extranjeros*, table 116. Public expenditure for 1952 was based on figures published in the United Nations *Statistical Yearbook, 1952*, and for 1953 was estimated by the Economic Commission for Latin America.

Peru: (*a*) Public expenditure for 1945–46, estimated by the Economic Commission for Latin America; for 1947–49, *La Renta Nacional del Perú, 1950–51*, page 132; for 1950–51, *La Renta Nacional del Perú, 1952*, page 82.

(*b*) Public investment for 1945–46, estimated by the Economic Commission for Latin America on the basis of movements of aggregate gross investment; for 1947–52, *La Renta Nacional del Perú, 1952*, page 22.

Venezuela: (*a*) Public expenditure for 1947–48, the United Nations *Statistical Yearbook, 1952*, page 495; for 1949–50, *Memoria del Banco Central de Venezuela, 1950*, page 34; for 1951, *Memoria del Banco Central de Venezuela, 1951*, page 82; for 1952, the United Nations *Statistical Yearbook, 1952*, page 455.

(*b*) Public investment for 1947–50, *Memoria del Banco Central de Venezuela, 1950*, page 34; for 1951, *Memoria del Banco Central de Venezuela, 1951*, page 82.

Table XIV. Latin America: Capacity for external payment and imports in ten selected countries, 1945–53

(Millions of dollars at 1950 prices)

Years	*Argentina*	*Brazil*	*Chile*	*Colombia*	*Cuba*	*El Salvador*	*Guatemala*	*Mexico*	*Peru*	*Venezuela*
					I. Capacity for external payment					
1945.....	1,056	960	341	..	..	..	..	676	..	..
1946.....	1,509	1,291	321	..	..	34	70	737	199	..
1947.....	1,842	1,441	358	359	936	51	87	864	225	1,040
1948.....	1,488	1,375	411	356	798	51	79	761	207	1,523
1949.....	1,042	1,277	410	385	661	63	74	734	207	1,351
1950.....	1,233	1,468	356	462	716	76	93	928	233	1,225
1951.....	1,276	1,739	455	525	816	55	84	1,018	296	1,314
1952.....	762	1,390	540	545	666	50	85	1,021	316	1,477
1953.....	1,169	1,330	398	548	674	54	89	809	..	..
					II. Imports					
1945.....	423	661	251	..	..	..	..	572	..	..
1946.....	834	888	298	..	457	29	46	812	186	..
1947.....	1,784	1,473	336	434	686	44	66	865	205	725
1948.....	1,557	1,220	312	385	658	47	74	710	186	869
1949.....	1,132	1,212	342	341	549	46	75	594	182	940
1950.....	1,070	1,188	286	422	617	59	77	694	209	767
1951.....	1,368	1,974	369	466	701	47	84	932	270	855
1952.....	1,118	1,886	390	456	652	45	76	867	297	950
1953.....	854	1,258	323	485	557	48	80	831	298	930

Sources and methods

Total capacity for external payment is the sum of exports plus inflow of foreign capital. For conversion of current values to dollars at 1950 prices, see *Economic Survey of Latin America, 1951–52*, the section concerned with the balance of payments in the general note at the end of chapter I.

The principal source for the capacity for external payment, as well as for imports, was the International Monetary Fund's *Balance of Payments Yearbook*. Figures for 1953 are estimates made by the Economic Commission for Latin America on the basis of data obtained partly from the latest issues of *International Financial Statistics*. For more comprehensive information on sources and methods for Argentina, Brazil, Chile and Mexico, see *Economic Survey of Latin America, 1951–52*, tables 23, 29, 35, 39, 45, 50, 57 and 59.

Chapter II

THE BALANCE OF PAYMENTS AND INTERNATIONAL CAPITAL MOVEMENTS

I. General considerations

In 1952, the balance of payments deficit in Latin-American countries was the highest ever recorded in the post-war period. This deficit was followed in 1953 by a surplus which will probably constitute another record. But the cost of this achievement was high, since the import value of goods and services was 16 per cent lower than the 1952 figure and 18 per cent below 1951. (See table 16.) The 1953 level, although higher than import values before 1951, was the lowest in relation to the region's gross product during the post-war period.

In 1951, Latin America's balance of payments deficit was due to an exceptional 40 per cent rise in the import value of goods and services; this increase was almost twice as great as the increase in the net balance available for imports. In 1952 there was a slight fall in imports, but the situation deteriorated since the region's net balance available for imports declined even more. (See chart XVII.) Since mid-1952, however, an improvement has been noted, and while imports have continued to decline, exports have substantially recovered.

These over-all tendencies do not reflect the differences which may be observed if the countries are considered individually. In this connexion, the distinction made in the *Economic Survey of Latin America, 1951-52*, between the countries of the dollar and the non-dollar areas,[1] may well be retained. The countries in the second group were those in which the payments crisis of 1951-52 occurred; they accounted for almost the entire reduction in imports, and also for most of the export recovery. Conversely, the dollar area countries have enjoyed a favourable balance of payments since 1948 and maintained relatively stable trade surpluses, during 1952-53, despite minor seasonal variations. (See table 17.)

[1] The countries in this zone, hereinafter referred to as the "non-dollar zone", are Argentina, Brazil, Chile, Paraguay, Peru and Uruguay. All the other Latin-American republics are considered as belonging to the dollar zone. To simplify procedure, the conventional classification of the International Monetary Fund has been adopted.

Table 16. Latin America: Balance of payments

(Millions of dollars)

		1948	1949	1950	1951[a]	1952[a]	1953[a]
I.	*Net balance available for imports:*						
	(A) *Exports:*						
	Of goods	6,072	5,137	6,160	7,211	6,500	6,970
	Of services[b]	397	408	390	401	480	450
	Total	6,469	5,545	6,550	7,612	6,980	7,420
	(B) *Net capital investment:*						
	Inflow	541	650	268	743	850	..
	Outflow	−841	−226	−210	−153	−150	..
	Net total	−300	424	58	590	700	−400
	(C) *Earnings and interest on foreign investment*	−829	−597	−755	−945	−845	
	Total of I	5,340	5,372	5,853	7,257	6,835	7,020
II.	*Imports of goods and services:*						
	(A) Goods	4,911	4,469	4,495	6,356	6,284	5,200
	(B) Services[c]	841	764	798	1,079	1,016	900
	Total of II	5,752	5,233	5,293	7,435	7,300	6,060
III.	*Difference in the net balance available for imports and imports of goods and services*	−412	139	560	−178	−415	960
IV.	*Methods of compensating this difference:*						
	(A) Variation in gold and foreign exchange reserves	−552	−38	346	−144	−50	..
	(B) Short-term official credits (increase −)[d]	−38	95	50	−109	−500	..
	(C) Errors and omissions	178	82	164	75	135	..

Source: 1948–51, International Monetary Fund; 1952–53, estimated by the Economic Commission for Latin America.

[a] Preliminary.

[b] Net travel account plus gross transport and insurance receipts.

[c] Net services, excluding travel, plus gross transport and insurance payments.

[d] Includes deferred payments on imports as well as changes in short-term official and banking liabilities.

Table 17. Latin America: Quarterly trade balances at annual rates

(Millions of dollars)

	1952				1953			
	I	*II*	*III*	*IV*	*I*	*II*	*III*	*IV*[a]
Dollar area:								
Exports	4,176	4,167	3,884	3,837	4,064	3,938	3,795	4,014
Imports[b]	3,337	3,209	3,197	3,336	3,113	3,221	3,306	3,405
Balance	839	675	687	501	951	717	489	609
Non-dollar area:								
Exports	3,046	2,647	2,915	3,439	3,330	3,592	4,034	4,164
Imports[b]	4,565	4,212	3,377	3,080	2,528	3,020	3,223	3,739
Balance	−1,519	−1,565	−462	359	802	572	811	425
Total Latin America:								
Exports	7,222	6,814	6,799	7,276	7,394	7,510	7,829	8,178
Imports[b]	7,902	7,610	6,586	6,416	5,641	6,241	6,529	7,146
Balance	−680	−796	213	860	1,753	1,289	1,300	1,034

Source: International Monetary Fund, *International Financial Statistics.*

[a] Partially estimated by the Economic Commission for Latin America.

[b] Imports are on a c.i.f. basis, thus giving balances a negative bias compared to balance of payments figures, in which imports are on an f.o.b. basis.

The relatively weak balance of payments position of the non-dollar area countries was largely responsible for the recent change in the direction of their trade and for the relatively slight use of international monetary reserves to offset the difference between imports and the net balance available for imports during 1952. The payments problems of these countries have been further aggravated by the fact that the gross product of some of them has been increasing with great rapidity, with a corresponding rise in import demand.

II. Net balance available for imports and imports of goods and services

In 1947-48 and 1951-52, the balance of payments deficits of the non-dollar area occurred when the net balance available for imports was moving rapidly upwards, while surpluses were accumulated during periods of decline. There can be no doubt that fluctuations of this nature have an adverse effect on balanced economic development and the adequate availability of goods and services.

This situation is related to income fluctuations. The gross product of the non-dollar area (excluding Argentina) has grown almost continuously during the last seven years. This growth, in countries with a high capacity to import, tends to exert a constant pressure upon the payments capacity of the area and leads to rising imports. These cannot be financed by the net balance available to pay for them, and can only be held in check by strict quantitative controls. Moreover, during an upward swing in the cycle, the pressure of deferred demand for imports created by rising income is accentuated by a relaxation of controls, and the payments position tends to become critical. The disequilibrium is therefore increased and tends to perpetuate itself.

Imports of goods and services into the non-dollar area represented 18.5 per cent of the gross product in 1947 and 1951, declining to between 12.5 and 12.0 per cent in 1950 and 1953. But the surpluses created by these sharp reductions in imports were insufficient to offset the cumulative

Chart XVII

LATIN AMERICA: NET BALANCE AVAILABLE FOR IMPORTS AND IMPORTS OF GOODS AND SERVICES

(Natural scale)

Thousands of millions of dollars

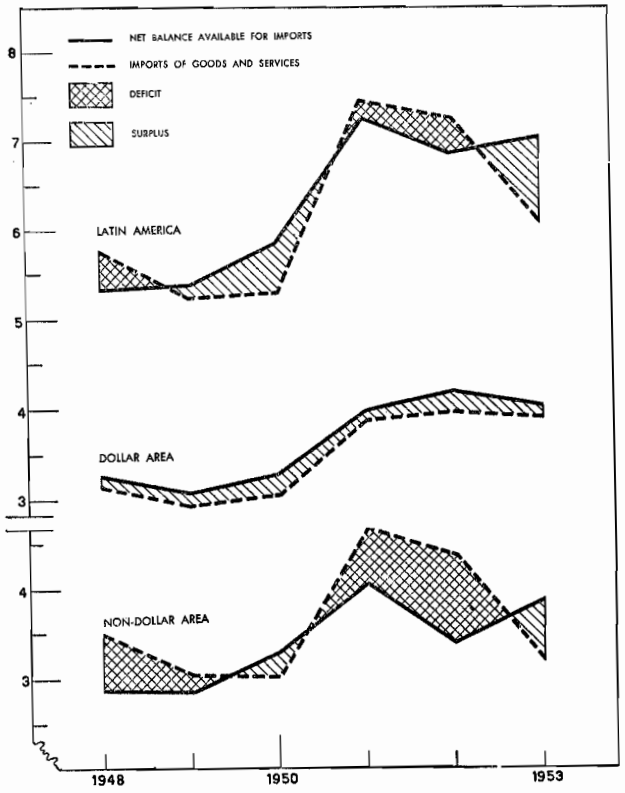


Table 18. Latin America: Gross product, net balance available for imports, external means of payment and imports of goods and services, 1948–53

	1948 (millions of dollars)	1949	1950	1951	1952	1953
		(1948 = 100)				
Latin America (excluding Argentina):						
Gross product	25,056	106	119	137	143	147
Net balance available for imports	4,314	101	107	137	139	134
External means of payment	7,202	102	109	128	130	129
External means of payment as percentage of gross product	29	28	26	27	26	25
Imports as percentage of gross product	17	16	14	17	17	14
Dollar area:[a]						
Gross product	11,610	101	111	128	133	132
Net balance available for imports	2,826	91	100	120	126	122
External means of payment	4,334	97	108	126	131	131
External means of payment as percentage of gross product	37	36	36	37	37	37
Imports as percentage of gross product	23	21	20	22	22	21
Non-dollar area (excluding Argentina):[b]						
Gross product	10,658	107	126	144	153	163
Net balance available for imports	1,602	100	109	150	141	144
External means of payment	2,528	99	104	127	119	123
External means of payment as percentage of gross product	24	22	20	21	18	18
Imports as percentage of gross product	16	15	13	18	17	12
Argentina:						
Gross product	9,061	91	94	101	94	104
Net balance available for imports	1,026	98	120	131	81	122
External means of payment	1,966	88	102	106	67	86
External means of payment as percentage of gross product	22	21	24	23	15	18
Imports as percentage of gross product	17	11	11	16	15	9

Source: Economic Commission for Latin America, based on data from the International Monetary Fund and official sources.

Note: Figures are not available for all the countries of each area, nor have adjustments been made to exclude intra-area transactions, etc., in the monetary area groupings. For these reasons the figures in this table should be considered provisional.

[a] Colombia, Cuba, El Salvador, Guatemala, Mexico and Venezuela only.

[b] Brazil, Chile and Peru only.

deficits in boom periods. As a result, monetary reserves have been reduced and external means of payment[2] have lagged behind the rapid growth of the gross product; by 1953 they had fallen to only 18 per cent of the gross product. (See table 18.)

On the other hand, the balance of payments experience of the dollar area has been entirely different. While in the non-dollar area (excluding Argentina) there was a rise in the gross product despite the violent fluctuations in the net balance available for imports, the growth of the gross product in the dollar area was slower and far more sensitive to such fluctuations. At no time since 1947 has there been a payments deficit, and the value of imports has only varied between 20 and 23 per cent of the gross product. External means of payment have also fluctuated within narrow limits (36 and 37 per cent of the gross product). The margin between external means of payment and any probable level of imports may be considered more than adequate.

Argentina's balance of payments position conforms to neither of the general trends described above. Fluctuations in the net balance available for imports have been even more pronounced than in the other countries of the non-dollar area, while the gross product has remained relatively stable during the past few year. Imports dropped to a mere 9 per cent of the gross product in 1953, against 20 per cent in 1947, while external means of payment fell from more than one-third of the gross product to only 18 per cent during the same period. This was the result of the intensive utilization of reserves by Argentina at the beginning of the post-war period in order to finance the repurchase of foreign investments, involving approximately 900 million dollars, and the substantial imports of 1947, which have not since been equalled. Subsequently, climatic factors intervened to reduce exportable output.

The explanation of the divergent trends in the balance of payments is most complex and far exceeds the scope of this chapter. Perhaps the most satisfactory explanation is that the economies of the non-dollar countries as a whole are less sensitive to external fluctuations. This is due to their lesser degree of dependence on foreign trade and the rigid controls to which they have been subjected, as well as to policies designed to maintain full employment and the rate of development.[3] Price variations on the world market have also played an important role in the fluctuations of the net balance available for imports.

The general balance of payments crisis in 1951-52 obscured a significant favourable trend in Latin America's distribution of payments. Imports of goods and services from the United States, which in 1947 represented 69.4

[2] The external means of payment in any year are equal to the net balance available for imports, plus the average gold and foreign exchange holdings at the beginning and at the end of the year.

[3] This generalization applies principally to Argentina and Brazil and to a considerably lesser degree to Chile and Uruguay. It is not particularly applicable to Paraguay or Peru.

Table 19. Latin America: The net balance available for imports and imports of goods and services, by regions[a], 1947–52

	1947	1948	1949	1950	1951[b]	1952[b]
	(millions of dollars)	(1947 = 100)				
I. Indices						
With the United States:						
Net balance available for imports	2,110	113	123	126	152	167
Imports of goods and services	3,870	86	72	72	101	94
With the rest of the world:						
Net balance available for imports	3,056	87	82	96	124	98
Imports of goods and services	1,709	124	127	131	191	194
II. Percentages of total						
With the United States:						
Net balance available for imports	40.8	47.4	51.0	47.5	45.9	54.2
Imports of goods and services	69.4	61.0	56.1	55.4	54.6	52.3
With the rest of the world:						
Net balance available for imports	59.2	52.6	49.0	52.5	54.1	45.8
Imports of goods and services	30.6	39.0	43.9	44.6	45.4	47.7

Sources: 1947–51, International Monetary Fund; 1952, estimated by the Economic Commission for Latin America.
[a] From the point of view of Latin America.
[b] Preliminary.

per cent of all Latin America's imports, have proportionally declined, registering only 52.3 per cent in 1952. At the same time, the net balance available for payment of imports from the United States, increased from 40.8 per cent to 54.2 per cent of the total balance, and thus exceeded the percentage figure for imports of goods and services for the first time since the end of the war. (See table 19.) A deficit in the balance of payments with the United States still existed owing to the high absolute level of imports, while, also for the first time since the war, the region was in deficit with the rest of the world. Nevertheless, the final figures for 1953 may well reveal that Latin America as a whole was no longer dependent upon a surplus with the rest of the world, or on dollar transfers from the same source, to balance its payments with the United States.

This favourable modification in the distribution of payments reflected two main trends. Firstly, since 1947—the first year for which complete data are available—there was a 67 per cent increase in Latin America's net balance available for purchases from the United States, while imports from that country remained relatively stable. Secondly, while the net balance available for imports from the rest of the world remained unchanged, there was a 94 per cent rise in imports from this source. The reasons for these trends include such diverse factors as Europe's post-war economic revival and exchange controls favouring non-dollar imports. Many of these factors have been discussed in previous studies or in other chapters of this Survey.

It would be an over-simplification to state that Latin America finances imports from the United States from its balance of exports and net capital transactions with that country. Latin-American countries earn appreciable quantities of dollars by selling dollar goods to the rest of the world. In fact, the dollar area normally has a balance of payments deficit with the United States which is offset by other hard currency income. The non-dollar area, however, receives relatively little dollar income from third parties, whereas it must make substantial dollar outlays for goods and services to the rest of the world. These outlays must be financed by a balance of payments surplus with the United States. The absence of such a surplus with the United States during the second half of 1951 and the first half of 1952 was the principal factor in the payments crisis during those years.

Trade balance figures, in the absence of recent balance of payments data, indicate that the payments surplus of the non-dollar area with the United States has been more than fully restored, while the deficit of the dollar area was even converted into a surplus during the first quarter of 1953. (See table 21.) At the same time, the non-dollar countries were building up a favourable trade balance with western Europe during the first three quarters of 1953. The weaker position of the hard-currency countries *vis-à-vis* European countries during the first part of the year was not of great significance, since trade deficits with the United States were substantially reduced, although towards the end of the year they again increased.

III. Means of compensating the difference between the net balance available for imports and imports of goods and services

Although Latin America's balance of payments deficit in 1952 was more than twice as great as in the previous year, the loss in the region's gold and foreign exchange reserves was reduced to only one-third of the 1951 figure. Most of the 1952 deficit was offset by short-term official and private credit, which amounted to an estimated 500 million dollars.[4]

Practically all of these credits were received by the non-dollar area and took the form mainly of adverse balances in trade and payments agreements as well as deferred import payments. The greater part of Brazil's cumulative payments deficit during 1951 and 1952, amounting to a

[4] The situation is more confusing if examined in the light of the relatively high figure for errors and omissions, which could include large and unregistered short and long-term capital movements. In any case, this figure was substantial and positive for the entire period under analysis. (See table 16.)

Table 20. Latin America: Balance of payments, by regions[a]

(Millions of dollars)

	1951[b]			1952[b]		
	United States	Rest of the world	Total[c]	United States	Rest of the world	Total[c]
I. *Net balance available for imports:*						
(A) *Exports:*						
Of goods	3,533	3,678	7,211	3,591	2,909	6,500
Of services[d]	144	11	155	137	30	167
Total	3,677	3,689	7,366	3,728	2,939	6,667
(B) *Net capital investment:*[d]						
Inflow	588	269	857	726	124	850
Outflow	−138	−129	−267	−120	−30	−150
Net total	450	140	590	390	51	441
(C) *Earnings and interest on foreign investment*	−906	−39	−945	−800	−45	−845
Total of I	3,221	3,790	7,011	3,534	2,988	6,522
II. *Imports of goods and services:*						
(A) Goods	3,733	2,623	6,356	3,470	2,760	6,230
(B) Services[d]	192	641	833	156	551	707
Total of II	3,925	3,264	7,189	3,626	3,311	6,937
III. *Difference in the net balance available for imports and imports of goods and services*	−704	526	−178	−92	−323	−415
IV. *Methods of compensating this difference:*						
(A) Variation in gold and foreign exchange reserves	−63	−81	−144	159	−209	−50
(B) Short-term official credits (increase −)[e]	−108	−1	−109	−150	−350	−500
(C) Errors and omissions and transfers of dollars to other regions	−533	608	75	−101	236	135

Sources: 1951, International Monetary Fund; 1952, estimated by the Economic Commission for Latin America.

[a] From the point of view of Latin America.

[b] Preliminary.

[c] The totals of individual groups do not correspond to the totals which appear in table 16, owing to differences in "grossing". Net totals are nevertheless equal.

[d] Partly net figures.

[e] Includes deferred payments on imports as well as changes in short-term official and banking liabilities.

Table 21. Latin America: Trade balances[a] with the United States and Western Europe, 1948–53

(Millions of dollars)

	1948	1949	1950	1951	1952	1952[b]				1953[b]			
						I	II	III	IV	I	II	III	IV[c]
Dollar area:													
With the U. S.	−548	−392	−229	−502	−259	−225	−360	−228	−221	232	−86	−104	−674
With Western Europe	310	211	196	305	151	..	..	..	..	−108	90	168	..
Non-dollar area:													
With the U. S.	−111	146	524	236	326	−43	−20	665	703	845	670	724	529
With Western Europe	848	204	341	210	23	..	..	..	..	633	554	588	..
Latin America:													
With the U. S.	−814	−420	187	−259	68	−268	−380	437	482	1,074	584	614	−147
With Western Europe	1,158	415	537	515	174	406	96	119	112	525	644	756	..

Sources: United Nations Statistical Office, International Monetary Fund and International Bank for Reconstruction and Development, *Direction of International Trade* (Statistical Papers series); U. S. Department of Commerce, *Survey of Current Business* and *Foreign Commerce Weekly*.

[a] These trade balances are not comparable with each other or with those given in table 17, in that different sources and different methods of valuation have been used.

[b] Quarterly balances at annual rates.

[c] Estimated.

little over 1,000 million dollars, was of this kind. The central bank in Uruguay had a 75 million dollars net debit in foreign exchange, apart from a loss in gold reserves of 84 million dollars during the 12 months ending March 1952. The drop of 1,000 million pesos in the gross reserves of Argentina's central bank was also matched by a similar increase in liabilities to correspondents abroad.

By far the largest share of credits granted to the region was made available to Brazil, although it is believed that large credits were also furnished to Argentina. In Uruguay during 1951, and probably in Chile during the latter part of 1953, credits were also an important factor in financing deficits. On the other hand, they played a far less important role in Paraguay and Peru.

Apart from the credits mentioned above, short-term funds were also available from the International Monetary Fund, the U.S. Stabilization Fund, the Export-Import Bank and certain export credit institutions in other countries. Institutions of the latter type do not normally extend credit for balance of payments purposes, although during the payments crisis their loans indirectly assisted overseas exporters to recover their credits with Latin-American importers. Among more recent transactions of the Fund have been a 12.5 million dollar loan to Chile to counter the effects of devaluation, a 2.5 million dollar credit to Bolivia, and the sale of 10 million pounds to Brazil in connexion with the sterling settlement. Chile and Bolivia have also received additional aid from the United States in the form of contracts for the purchase of surplus export products. The most recent activity of the U.S. Stabilization Fund was the agreement with Peru to make available 12.5 million dollars, matched by a standby agreement with the International Monetary Fund for the same amount, and a 5 million dollar commercial bank loan, to aid the convertibility of the sol during the present balance of payments difficulty of the country.

Although the greater part of the 1951-52 deficit of the non-dollar area was offset by short-term credits, gold and foreign exchange holdings of this area fell by an estimated 30 per cent or about 550 million dollars, between March 1951 and mid-1952. (See table 22 and chart XIX.)[5] Some 450 million dollars of this loss was accounted for by Argentina and Brazil in almost equal proportions. Reserves of the other non-dollar countries, excluding Uruguay, declined by substantially smaller amounts during the same period. At the close of 1953, approximately half these losses had been restored.

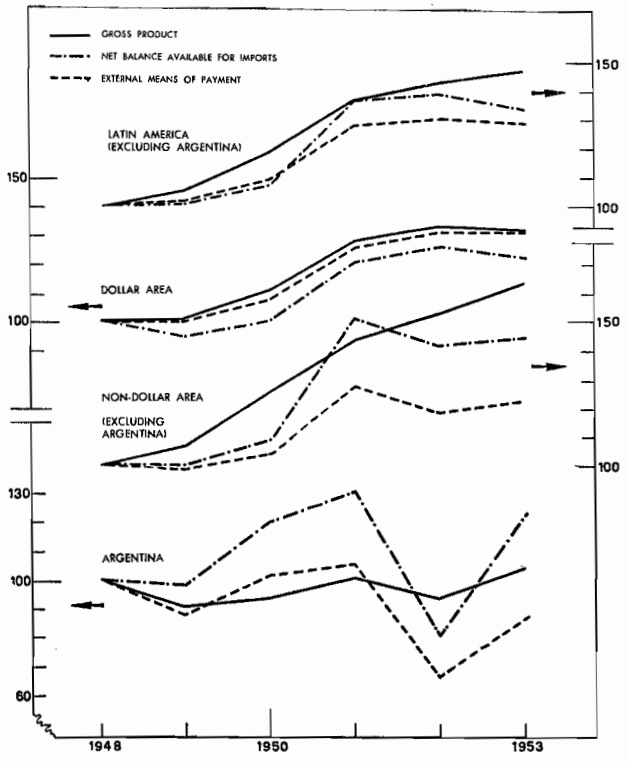
During 1951-52, the experience of the dollar area countries was quite different. Except in Mexico and Cuba, international monetary reserves increased steadily until mid-1953, when falling world market prices and reduced demand began to affect the reserves of certain dollar countries. A small decline in reserves was also experienced from mid-1952 onwards by the sugar exporting countries (Cuba and the Dominican Republic) and Bolivia. This reflected the general adverse trend in the principal exports of these countries. In 1951, the balance of payments situation in Mexico was fairly similar to that of the non-dollar area. A sudden rise in imports led to a deficit, principally financed by a drawing down of reserves, which declined by over 100 million dollars between March 1951 and June 1952. By the first quarter of 1953, almost the entire loss had been made good, although since that date reserves have once more declined.

Chart XVIII

LATIN AMERICA: GROSS PRODUCT, NET BALANCE AVAILABLE FOR IMPORTS AND EXTERNAL MEANS OF PAYMENT

(Natural scale)

Unit value indices: 1948=100



It is somewhat difficult to judge the adequacy of Latin America's present international monetary reserve level. Although the reserves held by every country in the region at the end of 1953 were higher than at the beginning of the Korean War, world prices have risen by over 10 per cent and import requirements are greater. Furthermore, a considerable proportion of reserves is not in practice available for balance of payments purposes. This is illustrated by the fact that about 36 per cent of the region's official gold holdings are frozen in legally established gold reserves in Brazil and Venezuela and have not been used during the last five years.

In general, however, it is safe to say that the reserve position of the whole dollar area in Latin America is sound, since reserves have risen more rapidly than the net balance available for imports, while external means of payment closely followed the curve of the gross product. (See chart XVIII.) In contrast, the external means of payment of the non-dollar area have fallen considerably behind the net balance available for imports, not to mention the gross product and imports of goods and services. In 1953, Brazil's total external means of payment were insufficient to meet the 1951-52 import level, although the situation

[5] These figures refer to both official and bank holdings, contrary to the Fund's practice of considering only official gold and foreign exchange as a country's monetary reserve. In this chapter it has been considered that bank reserves are also generally available for balance of payments purposes. For some countries, however, it has been necessary to include only gold and dollar holdings in U.S. banks, in the absence of up-to-date figures on other official and bank exchange reserves.

Table 22. Latin America: Official and bank reserves of gold and foreign exchange, 1950–53[a]

(Millions of dollars)

	1950	1951		1952				1953			
	II	I	IV	I	II	III	IV	I	II	III	IV[b]
Cuba	989	1,042	1,141	1,191	1,239	1,223	1,170	1,186[c]	1,292[c]	1,296[c]	1,219[c]
Mexico	128	358	314	295	193	250	320	338	279	260	285[c]
Other dollar countries:[d]											
Bolivia	32	46	40	42	47	38	33	29	36	33	33[c]
Colombia	113	94	126	129	116	129	156	176	177	173	196
Costa Rica	15	11	11	20	22	18	18	26	27	23	21
Dominican Republic[e]	30	36	42	48	48	44	42	40	40	37	35
Ecuador	27	35	31	32	34	39	44	44	39	38	39
El Salvador	51	64	44	57	55	44	46	68	63	52	46
Guatemala	37	46	42	55	48	42	45	56	53	40	43
Honduras	17	19	24	24	27	27	24	26	29	27	24[f]
Nicaragua	5	10	10	14	16	17	15	23	29	24	17
Panama	24	15	26	28	26	26	29	41	44	48	28
Venezuela	418	390	391	392	445	464	452	414	471	459	442
Total	769	766	788	842	884	888	901	947	1,012	954	924
Non-dollar countries:											
Argentina[b] [e]	413	594	482	420	379	360	388	448	480	477	459
Brazil	669	808	587	573	526	545	567	545	599	681[c]	700[c]
Chile	76	88	78	82	72	71	96	115	110	104	103[c]
Paraguay	6	16	19	16	16	16	18	17	17	15	15[f]
Peru	55	82	72	73	72	70	69	75	67	63	68[f]
Uruguay	211	324	248	231	238	234	235	249	257	259	291
Total	1,430	1,912	1,486	1,395	1,303	1,296	1,373	1,449	1,530	1,604	1,636
Total Latin America	3,316	4,078	3,729	3,723	3,619	3,657	3,764	3,920	4,113	4,114	4,064

Source: International Monetary Fund, *International Financial Statistics.*

[a] Figures refer to end of period.

[b] Partially estimated by the Economic Commission for Latin America.

[c] Provisional figures.

[d] Excluding Haiti, for which no data are available.

[e] Gold reserves, plus official dollar exchange in U. S. banks.

[f] November.

[g] Official dollar exchange in U. S. banks only.

has greatly improved during recent months. It should be recalled that reserves are of less balance of payments significance to the countries of the non-dollar area since a large part of their trade is conducted by means of bilateral payments and clearing agreements in which adverse or favourable balances are subject to special arrangements. Any attempt to assess the adequacy of such reserves by means of reserve-import ratios or other formulae must take into consideration the whole payments system including compensation arrangements in commercial treaties.

Two other recent developments in Latin America's reserve situation are worthy of note. The first was the appearance of an acute sterling shortage in 1952, which was generally visible in the non-dollar area. Figures from the Fund refer only to official reserves, but they indicate that the drop in reserves was entirely due to the virtual disappearance of sterling. Apart from sterling and dollars, holdings of other currencies actually increased between 1951 and 1952.[6] (See table 23.) There was later a sharp increase in sterling reserves up to mid-1953, and by the end of the year the United Kingdom was becoming concerned over the size of the holdings and the low level of its own exports to the region, particularly to Argentina.

The second development of importance concerns dollar transfers to Latin America from other sources than the United States; before 1952, these exceeded 500 millions annually, but in 1952, they fell to 175 millions and declined even further during 1953. This dollar income originated mainly from offshore payments to Europe under the Marshall Plan and sales of dollar goods to the rest of the world. The disappearance of this dollar source illustrates the fact that so long as world currency convertibility is not attained, the region as a whole cannot rely upon third area earnings to finance balance of payments deficits with the dollar area.

The immediate effects of this trend were less keenly felt since in 1952 a proportionate balance was achieved in the region's dollar payments with the United States.[7] Thus it is probable that the region as a whole did not require third area dollar transfers to balance its 1953 payments with the United States. Nevertheless, to appreciate the real significance of this development it would be necssary to establish which countries have been accustomed to receiving third area dollars and whether such countries still require such transfers to balance their dollar payments.

[6] No separate data are available on Latin America's holdings of West German marks, but they would undoubtedly have shown a decline between 1951 and 1952.

[7] See section II of this chapter.

Table 23. Latin America: Foreign exchange assets and liabilities[a]

(Millions of dollars)

	1949	1950	1951	1952	1953 (June)
Dollar countries:					
Total gross assets	290	365	460	680	770
Dollars	317	348	447	644	754
Other currencies, errors and omissions	−27	17	13	36	16
Non-dollar countries:					
Total gross assets	820	825	545	425	510
Dollars	352	428	256	209	289
Sterling	224	126	160	17	98
Other currencies, errors and omissions	224	271	129	199	123

Source: International Monetary Fund, *International Financial Statistics.*

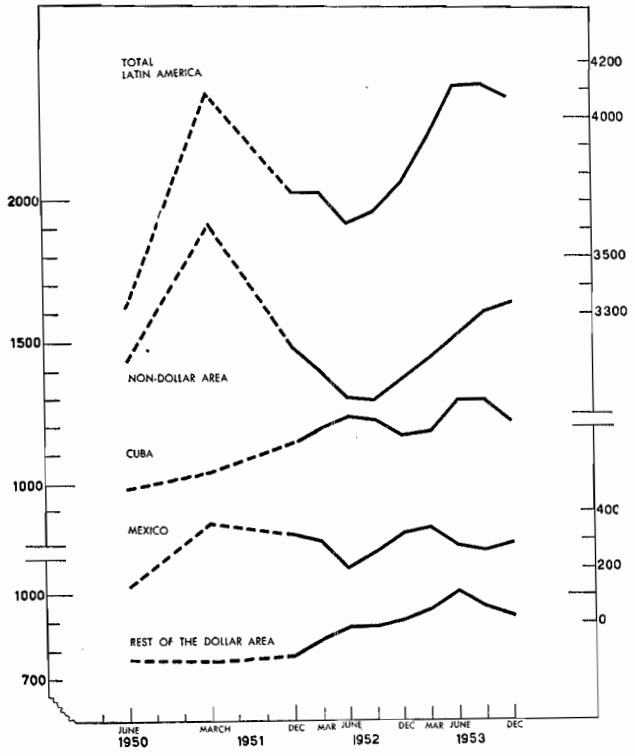
[a] Official reserves only, at end of year.

Chart XIX

TOTAL OFFICIAL AND BANK HOLDINGS OF GOLD AND FOREIGN EXCHANGE

(Natural scale)

Millions of dollars



Note: The broken line indicates reserves at end of June 1950 and March 1951, whereas the continuous line shows reserves by quarters beginning December 1951.

IV. Foreign capital movements in the balance of payments

1. *General features*

The year 1953 may be said to mark the third stage in the post-war development of foreign capital activity in Latin America. The first stage, from 1946-49, was a period of heavy U.S. investment, although mainly in the Venezuelan petroleum industry, while there was a substantial capital outflow to Europe due to repurchases of foreign investments in the region. The inflow from international credit institutions and technical assistance programmes was only beginning. 1950 was a year of transition, when U.S. capital movements to Latin America declined to their lowest post-war level and economic aid was initially losing ground to military aid.

During the second brief stage of foreign investment activity from 1951-52, U.S. private investment revived and began to move mainly into manufacturing and mining, while there was an actual net disinvestment in the region's petroleum industry. Capital receipts from Europe also began to exceed outflows to that region and investment of international agencies reached its peak. In short, the net inflow of foreign capital into Latin America during these years was the greatest during the post-war period.

In 1953, however, U.S. private investment appears to have contracted sharply, perhaps as a reaction to the region's balance of payments crisis and increased uncertainties or restrictions on remittances of interest and profits. Investment by international agencies also showed signs of slackening. Disbursements to the region by the International Bank for Reconstruction and Development were below the level of the previous year and the long-term investment activity of the Export-Import Bank was threatened by curtailment. No information is available on European investment during 1953.

In 1951-52, the net outflow of foreign exchange as a result of foreign investment activities declined to an average of only 250 million dollars annually, after having reached 700 millions in 1950 and an average of 600 millions in 1947-49. This was due mainly to the increase in the net inflow of capital—650 million dollars annually as against 100 millions in 1947-49—which was considerably higher than the rise in investment profits (900 million dollars against 700 millions.)

These figures on the current net movement of foreign exchange arising from foreign investment activity are of balance of payments significance, but they should not be regarded as indicating that the effect of foreign investment in Latin America necessarily causes a net outflow of foreign exchange. Obviously this type of investment generates additional foreign exchange income, especially since it is directed mainly toward basic export industries. Whether

Table 24. Latin America: Import of long-term dollar capital

(Millions of dollars)

	1950	1951	1952	1953
U. S. private long-term capital:				
Direct capital movement[a]	47	209	324	150[b]
Portfolio investment	−27	−29	−34	−47[b]
Net movement	20	180	290	103[b]
Export-Import Bank:				
Disbursements for development purposes[c]	50	37	97	98
Amortization of these loans	−46	−39	−43	−46
Net movement	4	−2	54	52
Other U. S. grants and credits (net)[d]	23	4	9[e]	14[e]
International Bank for Reconstruction and Development:				
Disbursements	39	57	66	50
Amortization	—	—	−1	−2
Net movement	39	57	65	48
Net movement of Latin American long-term capital to the United States	−31	−9	−8	−21
TOTAL NET MOVEMENT	55	230	410	196

Sources: U. S. Department of Commerce, *Foreign Investments of the United States*, 1950; *Foreign Aid by the United States Government, 1940–51;* and *Survey of Current Business*. Export-Import Bank, Semi-Annual Reports. International Monetary Fund, *International Financial Statistics*.

[a] Reinvested or undistributed profits of branches are included and those of subsidiaries excluded. Also excluded are transactions of Panamanian petroleum interests, which are mostly composed of U. S.-controlled tanker fleets.

[b] Estimates based on 1953 balance of payments data.

[c] Excludes the following disbursements for balance of payments purposes: 24 million dollars to Chile in 1950; 92 and 5 million dollars to Argentina in 1951 and 1952 respectively; 300 million dollars to Brazil in 1953.

[d] Fiscal years (1 June to 30 May).

[e] Excludes military aid in 1952 and 1953 amounting to 114 and 23 million dollars respectively.

the initial flow of capital, plus the exchange receipts earned or saved by the newly created enterprise are sufficient to offset both investment income remittances (in the same currency as the investment) and essential purchases of machinery, fuel and raw materials is a highly complex but interesting question.

It is even more difficult to assess the share of foreign capital in aggregate gross capital formation in any given year. Balance of payments data are incomplete and in many cases include some short-term capital movements. Only incomplete information is available on reinvested earnings.

As noted above, the direction, though not the nature, of foreign capital movements changed considerably during 1951-52. The bulk of private foreign investment still took the form of direct investments, private portfolio capital providing a small outflow of funds. The rise in official institutional lending was largely offset by government amortization charges and debt repayments, which reached the rather high figure of some 125 million dollars annually. Very little inormation is available on private short-term capital movements, many of which are probably unrecorded in balance of payments statistics. Owing to lack of data it is difficult to analyse the rise in European investments in Latin America, but the participation of French interests in the iron and steel industries of Colombia and Peru and the activities of German firms in Brazil may be cited as evidence that the increase did in fact occur.

Dollar funds continue to form the major part of foreign capital movements to Latin America, in spite of the apparent reverse in 1953 and the increased activity of European investors. The recent decline in the flow of investment was mainly due to the reduction in United States private direct investment, which may have declined to more than 50 per cent below the 1952 level. Export-Import Bank and International Bank[8] disbursements, on the other hand, were only a little less than in the previous year, while the repatriation of U.S. portfolio capital from the region increased very little. In 1953, the net result was a probable flow of investment dollars only slightly below the 1951 level. (See table 24.)

2. *United States private investment*

In 1952, total net direct capital movements to Latin America almost equalled the average for the peak years 1947-49, but there was a very significant difference in the direction of this investment. Whereas prior to 1950 the petroleum industry (principally in Venezuela) received about two-thirds of all U.S. direct capital movements to the region, there was a disinvestment in this industry during the period 1950-52.[9] In contrast, manufacturing, mining and smelting, which received an average of only

[8] International Bank transactions are included with U.S. capital, since most of the Bank's loans have been made in dollars.

[9] Petroleum investment revived in 1952 and may have continued to increase in 1953.

50 million dollars annually before 1950, attracted an average of over 150 millions annually during the years 1950-52, representing over three-quarters of total net direct capital receipts from the United States during this period. (See table 25.)

Manufacturing investments have been concentrated in the two Latin-American countries with the largest domestic markets, Brazil and Mexico. Mining and smelting investments have mainly benefited a few countries rich in mineral wealth such as Chile, Peru and, from 1952 onwards, Venezuela. Excluding Colombia, which has recently enjoyed a rise in capital inflow, the remaining investment has been widely dispersed throughout the region. Most of the capital not directed towards the two industries already mentioned has been invested in firms engaged in trade or miscellaneous activities. Agriculture and public utilities received barely 7 million dollars annually during 1950-52.

Income on U.S. investments in Latin America has grown steadily in recent years, mainly as a result of the expansion of petroleum and manufacturing interests. The rate of return on the book value of U.S. direct investments has remained relatively steady at between 11 and 12 per cent.

Table 25. Latin America: Net direct United States private investments[a]—Capital movements to selected countries by major industries, 1947–52

(Millions of dollars)

Countries and years[b]	*Manufacturing*	*Mining and smelting*	*Petroleum*	*Others*[c]	*Total*
Venezuela:					
1947–49	..	..	..	..	185
1950	4	[d]	−68	7	−39
1951	3	[d]	−39	5	−16
1952	4	[d]	48	3	115
Brazil:					
1947–49	..	..	..	..	44
1950	17	[d]	4	1	20
1951	61	[d]	17	8	92
1952	65	[d]	34	9	125
Chile:					
1947–49	..	..	..	..	8
1950	–	17	..	4	22
1951	3	30	[d]	1	40
1952	−2	35	[d]	−3	37
Mexico:					
1947–49	..	..	..	..	11
1950	23	−8	5	5	25
1951	42	−5	−2	−11	24
1952	−3	−4	1	−4	−10
Colombia:					
1947–49	..	..	..	..	6
1950	7	[d]	−13	−2	−7
1951	2	[d]	4	2	11
1952	8	[d]	5	7	20
Peru:					
1947–49	..	..	..	..	−2
1950	3	3	[d]	2	−9
1951	3	24	[d]	2	17
1952	−6	29	[d]	3	28
Total Latin America:[e]					
1947–49	25	26	215	64	329
1950	64	29	−62	15	47
1951	116	60	−31	64	209
1952	80	120	79	46	324

Source: U. S. Department of Commerce, *Survey of Current Business.*

[a] Includes earnings of U. S. branches retained in Latin America.

[b] 1947–49 figures are annual averages and are unadjusted by the 1950 census of foreign investments.

[c] Only partial figures appear under this heading for all countries except Mexico, for the reason given in note [d] below.

[d] Included in the total only to avoid revealing figures for a single company.

[e] Transactions of Panamanian petroleum interests during the years 1950–52 and ship sales to such interests in 1947–49 are excluded, since almost all such transactions pertain to U. S.-controlled tanker fleets.

Table 26. Latin America: Remittances of income from United States direct and portfolio investments, 1947–52[a]

(Millions of dollars)

Countries and years[b]	*Manufacturing*	*Petroleum*	*Other direct*	*Private portfolio*	*Total*
Venezuela:					
1947–49	..	..	..	..	181
1950	4	226	6	..	236
1951	5	266	7	..	278
1953	5	239	11	..	256
Brazil:					
1947–49	..	..	..	..	42
1950	22	25	15	..	61
1951	39	23	14	..	75
1952	32	18	15	..	65
Chile:					
1947–49	..	..	..	..	45
1950	[c]	[c]	38	..	41
1951	[c]	[c]	51	..	54
1952	[c]	[c]	49	..	51
Mexico:					
1947–49	..	..	..	..	31
1950	8	—	20	..	29
1951	8	1	21	..	31
1952	7	—	24	..	32
Cuba:					
1947–49	..	..	..	..	50
1950	5	2	36	..	43
1951	4	1	44	..	49
1952	5	1	39	..	44
Peru:					
1947–49	..	..	..	..	11
1950	[c]	[c]	10	..	15
1951	[c]	[c]	23	..	33
1952	[c]	[c]	14	..	25
Central America:[d] [e]					
1947–49	..	..	..	..	[f]
1950	[c]	[c]	51	..	51
1951	[c]	[c]	48	..	48
1952	[c]	[c]	45	..	45
Others:					
1947–49	..	..	..	..	103[f]
1950	10	1	31	..	41
1951	11	6	43	..	61
1952	10	4	36	..	50
Total Latin America:[e] [g]					
1947–49	48	211	211	18	481
1950	55	257	206	18	535
1951	72	305	252	17	647
1952	64	273	232	20	589

Source: U. S. Department of Commerce, *Survey of Current Business.*

[a] Includes earnings of U. S. branches retained in Latin America.

[b] 1947–49 figures are annual averages and are unadjusted by the 1950 census of U. S. foreign investments.

[c] Included in the totals only, to avoid revealing figures for a single company.

[d] Costa Rica, Guatemala, Honduras and Panama; the rest of the Central American countries are included in "Others".

[e] Figures for 1950–52 are adjusted to exclude transactions of Panamanian petroleum interests, which are mainly composed of U. S.-controlled tanker fleets.

[f] Investment income of Central American countries, for 1947–49, is included in "Others".

[g] Royalties and fees received by the United States from direct investments in Latin America are excluded. This item (excluding film rentals) amounted to about 45 million dollars in 1950.

In 1951, however, it exceeded 13 per cent, principally as a result of the increased profitability of petroleum production, which yielded dividends of about 23 per cent.[10] The majority of petroleum investment income remittances are of course provided by Venezuela, which accounts for over 40 per cent of all profits remitted by the region to the United States. Although most investment payments are made by countries which have simultaneously been receiving new capital, an exception must be made in the case of the Central American and Caribbean republics, where the inflow of capital has been small in recent years, while the servicing of investments stood at well over 100 million dollars annually. In 1952, the tightening of exchange restrictions and less favourable terms of trade for Latin America's raw materials resulted in a small decline in profit remittances to the United States, a decrease which may have become more pronounced in 1953. (See table 26.)

It would be interesting to present figures on the net impact of private U.S. investment transactions on the region's balance of payments during this period. Unfortunately no data are available by countries, and the figures for the whole region cover only the years 1951-52. These data do show, however, that the increase in investment during 1952 was due as much to a reduction in the outflow of capital as to an increase in the inflow, while a greater proportion of subsidiary earnings was retained.[11] The retention of a more substantial proportion of profits was partly involuntary, since in some cases, foreign exchange was not released for remittances owing to balance of payments difficulties. The outflow of dollar exchange connected with capital transactions was reduced by over 200 million dollars in 1952, but the decline in investment activity during 1953 probably brought the outflow nearer to the 1951 level. (See table 27.)

[10] Figures on the rate of return must be interpreted with a considerable degree of caution. In addition to certain statistical problems concerning valuation methods and accounting procedures, such as the allotment of joint overhead costs between parent and branch companies, it should be remembered that undistributed branch profits are included in income remittances. This mainly affects the profit ratio for extractive industries, where the branch form of organization predominates. It is considered, however, that this upward bias is to a great extent offset by the practice in extractive industries of writing off, as a charge to current profit, major types of exploration and exploitation expenses.

[11] It should be noted that undistributed branch earnings are included both in the outflow of profits and the inflow of capital; the increase in the inflow of private capital might therefore have been due more to the retention of a greater proportion of total branch profits in 1952 than to an increase in new capital receipts.

Table 27. Latin America: Gross private United States capital transactions, 1951–52

(Millions of dollars)

	Manufacturing	*Mining and smelting*	*Petroleum*	*Other direct*	*Private portfolio*	*Total*
Inflow:						
Gross inflow of private capital:[a]						
1951	136	84	54	140	4	418
1952	120	140	112	97	—	469
Undistributed subsidiary earnings:						
1951	96	16	82	55	—	249
1952	94	15	135	59	—	303
Total:[b]						
1951	232	100	136	195	4	667
1952	214	155	247	156	—	772
Outflow:						
Gross outflow of private capital:						
1951	20	24	129	76	33	282
1952	40	20	81	51	34	226
Subsidiary dividends paid to U. S.:						
1951	26	11	77	65	—	179
1952	21	11	44	51	—	127
Branch profits:[a]						
1951	46	76	250	101	—	473
1952	43	70	259	100	—	472
Interest on portfolio investments:						
1951	—	—	—	—	17	17
1952	—	—	—	—	20	20
Total:[b]						
1951	92	111	456	242	50	951
1952	104	101	384	202	54	845
Net U. S. private capital movement:[b]						
1951	140	−11	−320	−47	−46	−284
1952	110	54	−137	−46	−54	−73

Source: U. S. Department of Commerce, *Survey of Current Business.*

[a] Includes earnings of U. S. branches retained in Latin America.

[b] Unadjusted for transactions of U. S.-controlled tanker fleets under the Panamanian flag.

The substantial net capital movement towards the manufacturing industries in 1951-52 entirely offset the net outflow arising from non-petroleum activities. This trend was due not only to the relatively large amount of capital received by this industry, but also to the major share of earnings retained for reinvestment and other purposes. It thus appears that U.S. foreign investments in production for domestic markets are not yet having repercussions on the region's balance of payments, as was feared by some authorities, particularly if the foreign exchange savings resulting from import substitution are taken into account.

Although very little space can be devoted to the subject in a survey of current trends, the census of U.S. foreign investments carried out in 1950 reveals many interesting facts, not hitherto supported by statistics, concerning the financial structure and composition of investments in Latin America. For example, the foreign equity interest in U.S. direct investments has increased in recent years, reflecting greater joint participation by Latin American and other foreign investors. Foreign equity still represented only about 10 per cent of the value of direct U.S. capital in the region, in contrast to a world average of about 22 per cent. Again, the importance of reinvested profits of U.S. subsidiaries operating in the region is demonstrated by the fact that about 30 per cent of all assets appear in the surplus accounts, reflecting re-invested earnings. Finally, it is interesting to note that considerably less than half all U.S. direct investments since the war have been applied to the establishment of new firms. Most of the capital has been devoted to expanding companies already in existence.

Capital importers and exporters have been showing increasing appreciation of the importance of encouraging private international capital movements. Prospective recipient countries have endeavoured to provide additional incentives and a more congenial climate for investment by renewing the servicing of outstanding foreign debts and by special stimulative legislation. The United States Government, on the other hand, has formulated plans for insuring private investments against inconvertibility and confiscation and for granting additional tax exemptions on investment income earned abroad. The investment insurance programme under the U.S. Mutual Security Agency has made little progress in Latin America, except in Haiti. Tax exemption proposals contained in the presidential tax programme to the U.S. Congress, however, have been highly praised by private investors.[12]

3. *Official capital movements*

The recent growth in official lending has already been mentioned. Most funds come from the International Bank for Reconstruction and Development, the Export-Import Bank and United States economic aid and technical assistance. Official capital outflows arise mostly from amortization and other repayments, which have been given considerable impetus since the war by foreign investment repurchases and the resumption of foreign debt servicing. In this connexion, the settlement of the Costa Rican debt leaves only two Latin-American countries which still have not made formal proposals, although both have entered into negotiations with bond holders.

(a) *The International Bank for Reconstruction and Development*

After a period of relatively modest activity in Latin America during the first half of 1953, lending operations of the Bank recovered in the second half of the year. Fifty million dollars were disbursed and an equal amount included in new authorizations during the whole year. This figure was lower than the corresponding figure for 1952 but more or less equivalent to that for 1951. Up to the end of 1953, a little less than a quarter of the Bank's aggregate loans had been absorbed by Latin America.

Although half the countries of the region have now received assistance from the Bank, the most important authorizations during the year were made to three of the largest recipients: 10 million dollars to Brazil for electric power and highway improvements; 20 million dollars to Chile for a pulp and paper industry; and 14 million dollars to Colombia for highway rehabilitation. Nicaragua and Panama was also granted loans, amounting to 4 and 1.5 million dollars respectively, during 1953. Electric power received less emphasis than previously, while the loan to Chile is the first earmarked by the Bank for industrial development in Latin America. Amortization payments on the Bank's loans have not yet attained any importance.

(b) *Export-Import Bank*

The official re-examination of Export-Import Bank credit policy led to a sharp drop in new loan authorizations during 1953, if the 300-million-dollar credit to Brazil to aid in liquidating commercial arrears is excluded. New authorizations, plus increases in previous credits, amounted to only 17 million dollars. In spite of large amortization payments, which have attained almost 48 millions annually, net disbursements for development purposes in Latin America were maintained at almost exactly the 1952 level.

The importance of the activities of the Export-Import Bank is well illustrated by an analysis of all credit authorized during the past five years; this indicates that for every dollar loaned more than $1.50 of private United States capital and private and public capital from other sources has been invested as a direct result of the Bank's loans.

(c) *Other economic aid to Latin America*

Net economic aid from the United States, other than Export-Import Bank funds, has not been of great significance in recent years, while receipts from other governmental and international agencies have been of little quantitative significance in the region's capital account.

Most of Latin America's aid under this heading has come from the U.S. programme for the eradication of foot-and-mouth disease in Mexico, the Institute of Inter-American Affairs and the UN Technical Assistance Administration. Part of this aid has been offset by payments arising from Lend-Lease and surplus property settlements. Since the beginning of the Korean War, economic assistance has

[12] The following points from these proposals may be emphasized: (1) The reduction of 14 per cent in the rate to be applied to foreign earnings is already available to certain western hemisphere trade corporations and thus is not a new factor for Latin America; (2) The definition of foreign tax credits which may be used to offset U.S. income tax payments would be broadened to include taxes other than foreign income taxes; (3) The over-all limitation on foreign tax credits would be removed, encouraging companies operating profitably in one foreign country to start businesses in other countries, even though initial losses are expected; and (4) So-called investment trusts would be allowed to pass on to their shareholders foreign tax credits, thereby facilitating foreign outlets for this growing source of investment funds.

received less emphasis than net military aid, which amounted to 114 and 23 million dollars in the fiscal years 1952 and 1953 respectively.

V. Service receipts and payments[13]

Net service payments have been a constant factor tending to diminish Latin America's net balance available for imports and no trends have yet appeared which might reduce these payments. The increase during the last few years in Mexico's net tourist receipts has been offset by a parallel rise in the region's miscellaneous service outlays. Net transport and insurance payments have followed the fluctuations in the level of imports. The situation differs widely between individual countries, but, with the exception of Mexico and Panama, none enjoys net service receipts.

Data in table 16 on Latin America's service payments and receipts are partially net figures, and an attempt has thus been made to "gross up" the services account. (See table 28.) During the last five years, service outlays have consistently exceeded 1,000 million dollars annually, representing about 25 per cent of total merchandise imports, while service receipts have fluctuated between 700 and 900 million dollars, or about 13 per cent of the value of merchandise exports. In 1951, service payments increased by 30 per cent over the previous year, exceeding 1.5 thousand million dollars and causing a service account deficit of almost 700 million dollars. By 1953, however, the net deficit had probably been restored to the prevailing postwar level of between 400 and 500 millions.

[13] In the following analysis, investment income remittances are excluded, since they were included in section IV.

The most important item in the services account is transport and insurance, which provides about one-third of gross service receipts, while requiring over one half of gross payments. Latin America's transport and insurance receipts have remained almost constant since 1947 at about 300 million dollars in spite of the recent growth of some national merchant fleets and airlines. Most receipts come from port fees and sources other than freight, the latter representing only some 40 per cent of total gross receipts, according to a sample check of a recent year.

Latin America's merchant fleets have not contributed greatly to a reduction in the region's service account deficit for two main reasons. Firstly, with but few exceptions, the relative importance of the fleets and recent growth in tonnage have not been very impressive. Secondly, it has been estimated that about 75 per cent of all gross freight revenue is absorbed by shipping expenditures incurred abroad. Of the countries given in *Lloyd's Register of Shipping*,[14] only Mexico, Venezuela and Argentina have increased their merchant fleets to any significant extent in recent years.[15] Nevertheless, during the first eight months of 1953, the Argentine merchant fleet, which is the largest in Latin America and is increasing most rapidly in tonnage, continued to account for the same proportion of the country's foreign trade as in 1951 (about 20 per cent).

[14] In this analysis, the fleets of Panama and Honduras are not considered as Latin-American, since the majority of ships registered under these flags are foreign controlled.

[15] No information is given for Colombia in the Lloyd's data published in the *United Nations Statistical Yearbook*, 1953, on which the accompanying analysis is based.

Table 28. Latin America: Gross service payments and receipts, 1947–52

(Millions of dollars)

	1947	1948	1949	1950	1951	1952[a]
Gross receipts:						
Transport and insurance	296	325	304	290	287	290
Mexican travel	147	195	183	239	272	291
Other travel	73	72[b]	67	104	360	289
Miscellaneous	215	208	241	179		
Total	731	800	795	812	919	870
Gross payments:						
Transport and insurance	712	775	628	630	894	785
Mexican travel	65	91	49	83	99	113
Other travel	137	105[b]	97	135	[c]	[c]
Venezuelan donations and miscellaneous services	21	24	71	77	72	82
Miscellaneous and residual adjustment	257	249	306	295	532	430
Total	1,192	1,244	1,151	1,220	1,597	1,412
Net services:						
Transport and insurance	−416	−450	−324	−340	−607	−495
Mexican travel	82	104	134	156	173	178
Other travel	−64	−33	−30	−31	−244	−223
Miscellaneous	−63	−65	−136	−193		
Total	−461	−444	−356	−408	−678	−540

Source: International Monetary Fund.
Note: All figures in this table are tentative pending completion of a revision of balance of payments data.
[a] Partially estimated by the Economic Commission for Latin America.
[b] Excluding Venezuela, for which data are not available.
[c] "Other travel" included in "Miscellaneous" for these years.

Argentina's freight and port receipts[16] have been declining in recent years, but recovered in 1952 to somewhat below the 1946-47 level.

Another factor which is having serious repercussions on Latin America's shipping revenues is the recent depression in world freight rates. Although operating costs have increased, tanker and tramp ship rates have fallen to the pre-Korea level, or even lower. Many of the region's ships operate on fixed schedules at rates which were established by freight conferences and have not declined in recent months. But competition from ships without a fixed schedule still has its effect, as may be seen from the recent decision of the oldest shipping company in Cuba to lay up three of its ships and pay off their crews. The decline in tramp and tanker rates represents no great advantage to regional transport payments, since an estimated 75 per cent of the area's imports are normally carried by ships with a fixed schedule, the rates of which are well above the pre-Korea level.

The travel account provides Latin America with net service receipts, but only because of the large surplus shown by Mexico. Revenue from this source for the rest of the region suffices merely to offset a large proportion of similar expenditure abroad, leaving a small net annual deficit of some 30 million dollars. (See table 28.)

Although the increase in net Mexican tourist receipts up to 1951 was fairly large, there has been no appreciable change since that date. Tourist entries into the country during the first half of 1953 declined below those of the same period in 1952. This does not necessarily mean that over-all tourist expenditures declined in 1953, since *per capita* expenditures may have been greater. But it does appear that the post-war tourist boom in Mexico may have come to an end, since further increases are much slower to appear. The immediate importance of this trend for Latin America is not great, but for Mexico, where gross tourist receipts are about half as large as merchandise exports, it may have serious consequences for the net balance available for imports.

Net outlays on miscellaneous services have increased sharply during the last few years, reaching about 200 million dollars in 1951 and 1952. This rise has offset the increase in net tourist receipts of Mexico in the region's balance of payments. It is somewhat difficult to analyse the causes of this trend, since miscellaneous services include a wide variety of items such as film rents, diplomatic and consular services, expenditure on military missions, commercial and professional fees and private donations and remittances. Venezuelan donations and miscellaneous services, which are mostly connected with the transactions of the foreign petroleum companies and their employees, are considered separately to show the sharp rise which has taken place. (See table 28.) But miscellaneous payments for other countries have also increased as much or even more as a group, although it should be recalled that these figures include an adjustment for errors and omissions to give the net total for the services account appearing in table 16.

[16] The *Memoria Anual* of Argentina's central bank does not specify whether transport data represent net or gross receipts or a combination of the two.

Chapter III

FOREIGN TRADE

I. General characteristics of trade in 1953

For some years Latin America has experienced a difficult phase in its foreign trade, the most evident symptom of which is the stationary trend of the export quantum. Practically no progress was achieved between 1947 and 1953, although during this period exports increased elsewhere in the world and the highest export value ever recorded was attained.[1] However, in 1953, there was some improvement in relation to the previous year since the quantum increased by 14 per cent. But this did not imply a return to 1950 levels, still less to those of 1947-48. In 1953, the efforts of Latin-American countries to increase their exports are worthy of note since they enabled the region to offset the price decline of most exported products. However, when both countries and commodities are considered as a whole, it is seen that in several cases lower prices coincided with a smaller quantum, so that efforts to increase exports did not always meet with success.

Another circumtance has caused export figures for 1953 to be somewhat higher than they might otherwise have been. In several countries, exports were increased by the sale of surpluses which, for varying reasons, had not been sold in previous years. This was the case with wool, cotton, sugar and coffee, and it is therefore possible that statistics will record smaller tonnages in 1954.

The recovery in Argentina's agriculture, which in 1952 had experienced one of its worst harvest years, also exerted a substantial influence. If Argentine exports are excluded from the total, it may be noted that the increase of the 1953 volume in relation to 1952 amounted to only 3 per cent, instead of 14 per cent if they are included.

The position for the immediate future remains fairly serious, since there is a tendency for producing countries to accumulate surpluses with few possibilities of placing them. There is a lack of balance between the supply of minerals, cereals, sugar, cotton and hides and the demand for these commodities, while competition between producing countries both within and outside the region is becoming more intense. This indicates that even at the cost of new price cuts, Latin America has few immediate prospects of stimulating exports.

In 1953, the value of all shipments was sufficient to meet import payments, since instead of the 534 million dollar negative balance recorded in 1952, Latin America obtained a trade surplus of 1,486 millions. But this trend must be interpreted as reflecting the need in several countries to restrict imports more severely, since no further growth of exports occurred. Import capacity was not fully utilized in 1953, in marked contrast to 1952 and 1951. Some countries were concerned either with preventing their international reserves from falling below a prudent level, or with reconstituting them, as was the case in Argentina. Others exhausted external credit facilities or were obliged to devote part of their export proceeds to the liquidation of former loans.

Therefore if the evolution of import volume is analysed, notable reductions become visible during the last two years. The quantum of imported goods entering Latin America in 1953 was very similar to that of 1950; in relation to the peak reached in 1951, when the countries of the region attempted to protect themselves against a possible scarcity due to the Korean war, the decline amounted to some 20 per cent. The following figures adequately reveal the situation. The 1953 import volume was almost equal to the annual average for the period 1947-49, and was 12 per cent below average imports during the three years 1950-52.

	Imports at constant-values (In millions of dollars at 1948 prices)
Average 1947-49	6,053
Average 1950-52	6,812
1953	6,023

In 1951, the aggregate import value was 1,389 million dollars above the annual average for 1947-49. In part, these higher purchases have increased stocks of imported goods, enabling entries in 1953 to be limited to the pre-Korea level. But it is very probable that, for Latin America as a whole, and for all imported commodities, these emergency stocks have already been entirely exhausted. The pressure of deferred demand for imports will probably again be felt, and more sharply than before hostilities in Korea.

Latin America's foreign trade has followed a truly zigzag course over the last seven years. (See table 29 and chart XX). The slowness of this movement in relation to the growth of population must be emphasized, and is best illustrated by the *per capita* volume of exports and imports.

An unfavourable impression is inevitably given by the fact that in 1947-48 Latin America exported at the rate of 45 dollars *per capita* and imported at a rate of 43 dollars (1948 prices), while in 1952-53 the region sold only 37 dollars' worth of goods *per capita* and bought 40 dollars' worth. There has been a loss on both sides: 17.8 per cent in exports and 7.0 per cent in imports.

II. Price movements of export commodities

1. *General causes for price declines*

During 1953, the depressive forces, which determined the sharp price decline for the majority of raw materials and for some foodstuffs since the Korean truce, continued to weaken the economic situation of individual producer countries in the region, although, broadly speaking, to a less intense degree.

It would be difficult to assess with accuracy in each case the exact causes for the present decline, and whether it is

[1] Latin America's share of world exports, which amounted to 14 per cent in 1948, had fallen to 11.2 per cent in 1952. During the first nine months of 1953, there was a slight improvement, since this proportion rose to 12.1 per cent. (*Monthly Bulletin of Statistics*, Vol. III, No. 2, Feb. 1954, Statistical Office of the United Nations.)

due to over-supply or to an abnormal contraction in demand. But, in reality, it may be generally accepted that when supply increased, it did so under the influence of favourable world market prospects, additionally stimulated by substantial activity in most of the productive branches which are also consumers.

The rapid changes in the trend of markets purchasing raw materials and foodstuffs are due precisely to the difficulty of adjusting primary production to a demand which fluctuated in time and space. All types of production require a definite period of time for their expansion. It may be a year, as in the case of agricultural crop harvests, or may amount to five or seven years in the case of coffee, cocoa, rubber or beef, for example. By the time a greater volume of commodities reaches the market the trend has already changed and some saturation, or difficulties of absorption by the market, become evident. The disequilibrium immediately becomes more pronounced and prices fall at a sharper rate.

Morever, most countries producing raw materials work primarily, and sometimes almost exclusively, for export. They have not the ability of the developed manufacturing countries to rely upon a domestic consumption which is less exposed to fluctuations in demand. Moreover, the export surplus of the industrial centre is generally of small proportions and very diversified.

Nor are the producers of raw materials or foodstuffs for the world market in a position to build up stocks in order to curb fluctuations in supply or to regulate them over the long term. Even when this has been attempted—as in the case of copper in Chile and cotton in Brazil—the objective has not been attained and, after a period during which their economies suffered serious disruption, such countries are obliged to accept the lower world market prices.

Within the general framework of the events determining market conditions during 1953, which have contributed to the introduction of depressive factors in the demand for raw materials and foodstuffs, there are two of outstanding importance. They are the elimination of price controls and the end of purchases to build up strategic reserves in the United States.

Price controls were not in themselves a depressive influence. It may appear that their termination would normally have tended to allow a rise above the fixed level. In fact, the prices for two important primary commodities, coffee and copper, show that the results were very different in the respective exporter countries.

Coffee prices registered sustained increases from the date controls lapsed. A few weeks later, these rises were reinforced by the loss of much of the crop in Brazil owing to frost. Thus, during 1953, coffee producing countries

Chart XX

LATIN AMERICA: EXPORTS AND IMPORTS

(Semi-logarithmic scale)

Thousands of millions of dollars

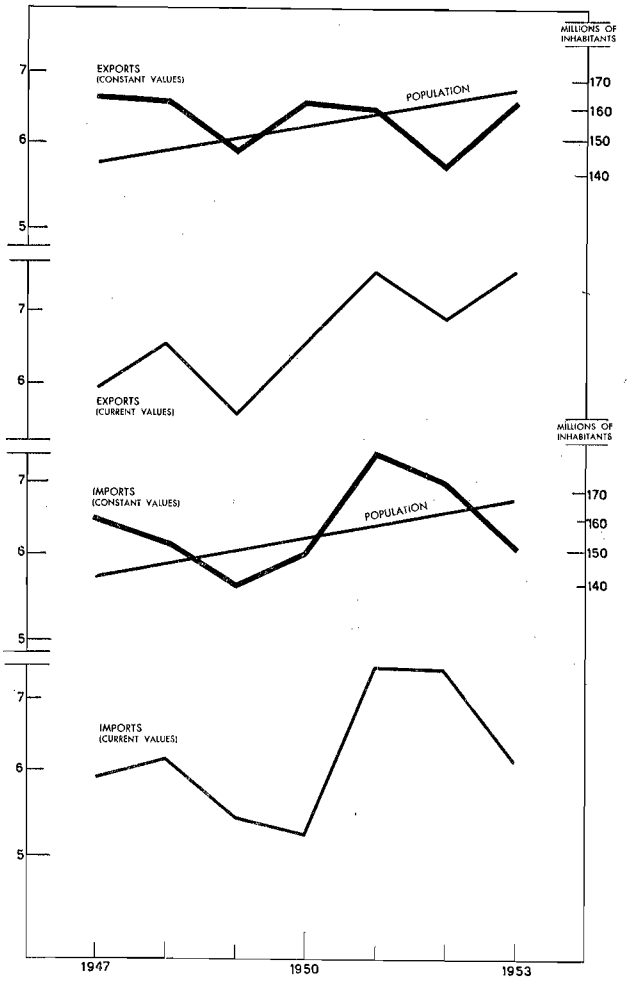


Table 29. Latin America: Foreign trade

Years	Exports			Imports		
	Totals		Per capita (dollars)	Totals		Per capita (dollars)
	Current values (millions of dollars)	Constant values (millions of dollars)		Current values (millions of dollars)	Constant values (millions of dollars)	
1947.....	5,939	6,606	46	5,919	6,438	45
1948.....	6,564	6,564	44	6,124	6,124	41
1949.....	5,627	5,890	40	5,400	5,596	37
1950.....	6,504	6,526	42	5,230	6,020	39
1951.....	7,596	6,468	41	7,484	7,442	47
1952[a].....	6,889	5,664	35	7,423	6,975	43
1953[b].....	7,600	6,463	39	6,114	6,023	36

Source: Economic Commission for Latin America, based on official statistics.

[a] Provisional figures.

[b] Preliminary figures.

were able to place their exports in the United States and Europe at prices even higher than those obtained in 1952, which had in fact been the highest during the postwar period.

On the other hand, although the removal of price controls on copper led to an early price increase, it did not provide the same beneficial results for Chile, the principal Latin-American producer and exporter. When the United States lifted restrictions on the use of domestic copper, Chilean sales began to decline from March 1953 and fell still further by the beginning of July, so that by the end of the year a stockpile of 150,000 tons (more than a third of the total output for 1952) had been accumulated. Negotiations to place the entire unsold surplus in the United States, without overloading the market, had not been concluded by the end of 1953.[2]

The second outstanding factor mentioned earlier—the end of purchases to build up strategic reserves—has undoubtedly been a major factor in the depression, particularly in the case of metals. Tin was the most affected. Until April 1953, prices were maintained at almost the same levels as those for the two previous years, but since that date they began to fall both in the United States and the United Kingdom, the principal consumers. Between the beginning and end of 1953, tin prices on the New York market fell by as much as 33 per cent. Recent fluctuations in the consumption of tin are reviewed in the chapter dealing with mining.[3] But the effects of such a decline on the economy of a country whose income basically depends upon the output volume and prices of this commodity may be immediately appreciated.

A further depressive factor is the growth of supply, that is to say, the rise in production of the principal Latin-American primary commodities. This has coincided with analogous increases elsewhere in the world, causing the formation of surpluses which are not easily disposable.

The 1953 harvests through the whole world were excellent. Wheat, sugar, rice, cotton and, to a lesser extent, maize, were in the position of a "buyers' market". For wheat and sugar, present international agreements act as a partial brake against too sharp a fall. But the situation is still delicate; in the case of sugar, for example, we need merely mention the economic, financial and social problems facing Cuba in its attemps to decrease the cultivated area and sugar-cane labourers' wages, while searching for new markets for surplus stocks.

Rice also suffered the consequences of increased production in consequence of efforts by several Latin-American countries (Colombia, Ecuador, Peru and Uruguay) to develop rice for domestic consumption, which have led to its appearance as an export crop.

In cotton-growing countries, other factors were present. Amongst them may be mentioned, firstly, the influence of United States' agrarian policy, the parity price constituting an incentive which found echoes in other producer countries. Secondly, competition from synthetic fibres reduced cotton consumption. Thirdly, stockpiles had to be created when all hope was lost of higher prices, as occurred in the case of Brazil.

[2] Negotiations finally resulted in the purchase of 100,000 tons in March 1954.

[3] See chapter II of the second Part of this *Survey*.

Industrial centres, such as the United States, Canada and some European countries, also possess surplus stocks which could compete with those of Latin America. This is a further element which depressed prices for Latin-American agricultural commodities and will probably continue to do so throughout 1954.

2. *Nature of the fall in prices*

The over-all situation for the main primary commodities which constitute Latin America's exports is reflected by the fact that the average decline from one year to the next has been 4.2 per cent. This is lower than the decrease between 1952 and 1951 which stood at 10.1 per cent. But it should be noted that in 1951 the highest level had been reached owing to the effect of the Korean war on production and prices.

In fact, to group price movements for all Latin-American commodities which have some export importance in a general index does not accurately express the variability of most of them. It is clear that the general index appears entirely different if coffee and petroleum are excluded, and that not only are the fluctuations greater, but a sharp fall becomes evident in 1953. (See table 30 and chart XXI).

Table 30. Latin America: Unit value indices of seventeen primary commodities[a] on foreign markets

(1948 = 100)

Years and quarters	*Total*	*Total, excluding coffee and petroleum*
1947	97.8	95.2
1948	100.0	100.0
1949	99.1	92.8
1950	114.0	104.7
1951	125.7	124.6
1952:		
I	113.9	103.8
II	112.7	102.5
III	113.9	103.9
IV	111.4	99.6
Total	113.0	102.5
1953:		
I	103.7	92.2
II	105.1	95.2
III	113.8	95.1
IV	110.1	89.9
Total	108.2	93.1

Source: Economic Commission for Latin America, based on statistics of the International Monetary Fund, published in *International Financial Statistics.*

[a] Coffee, cocoa, sugar, bananas, meat, wheat, maize, cotton, hides, wool, linseed oil, copper, tin, lead, zinc, nitrate and petroleum. For weighting, current export values for these commodities were used for the respective years, with the exception of 1953, when 1952 weighting was adopted, with some adjustments for wheat and linseed oil.

It may be noted that the prices of Latin-American commodities prevailing at the end of 1953—excluding coffee and petroleum—reached their lowest recorded level during the last six years. The violence of the fluctuations is even more apparent if compared both with the 25 per cent rise between 1949 and 1951 and the rapid drop, by almost the same percentage, experienced between 1951 and the end of 1953. Nothing has remained of the high prices for the brief peak period between mid-1950 and mid-1951.

Table 31. Latin America: Prices of selected commodities on foreign markets

Commodities	Pre-Korea level (June 1950) (A)	Maximum prices (B)	Date of maximum price (C)	December 1953 (D)	Increase or decrease of col. (D)	
					In relation to col. (A) (E)	In relation to col. (B) (F)
Coffee[a]	47.7	61.8	Mar. 1953	61.3	28.5	— 0.8
Cocoa[a]	26.4	46.8	Dec. 1953	46.8	77.3	—
Sugar[a]	4.4	7.4	June 1951	3.3	−25.0	−55.4
Bananas[b]	1.08	1.37	May 1953	1.32[c]	22.2	−3.4
Meat[a]	16.3	21.8	Aug. 1953	21.8[c]	33.7	—
Wheat[d]	2.1	2.34	1952	2.19[c]	4.3	−6.4
Maize[d]	1.49	1.91	Jan. 1952	1.58	6.0	−17.3
Cotton[a]	41.6	61.8	May 1951	36.7	−11.8	−40.5
Hides[a]	19.8	27.7	Jan. 1951	12.3	−37.9	−67.4
Wool[a]	66.2	192.6	Feb. 1951	71.7[c]	8.3	−62.8
Linseed oil[a]	16.6	23.8	Feb. 1952	22.5	35.5	−5.5
Copper[a]	19.1	35.5	May 1952	29.8	56.0	−16.1
Tin[a]	76.3	182.7	Feb. 1951	86.0	12.7	−52.9
Lead[a]	11.5	19.0	Oct. 1951	13.5	17.4	28.9
Zinc[a]	11.9	20.3	Oct. 1951	10.5	−11.8	−48.3
Nitrate[e]	51.5	57.0	1952	53.0	2.9	−7.0
Petroleum[f]	1.88	1.95	July 1953	1.95	3.7	—

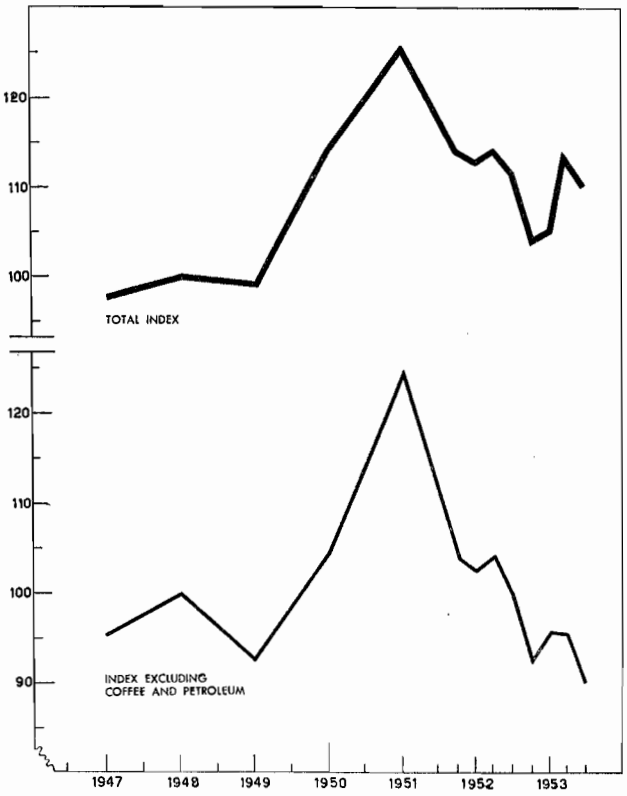
Source: International Monetary Fund, *International Financial Statistics*, and other official publications.

[a] U. S. cents per pound.
[b] Dollars per bunch.
[c] November.
[d] Dollars per bushel.
[e] Dollars per ton.
[f] Dollars per drum.

Chart XXI

LATIN AMERICA: UNIT VALUE INDICES OF THE PRINCIPAL COMMODITIES

Index 1948=100
(Natural scale)



There is a considerable difference between the individual situation of each commodity, but with three exceptions, the quotations for all of them at the end of 1953 were below the top prices reached during this period. Sugar, cotton, zinc, and hides and skins were lower than pre-Korea prices. Cocoa, copper and coffee remained more than 20 per cent above their prices prior to the Korean war. (See table 31).

3. *The terms of trade*

The role of prices in their relative evolution should now be examined. The situation is far more favourable from this aspect, since it has helped to attenuate the depressive effect of smaller exports. The terms of trade have proved advantageous to Latin-America during almost the entire post-war period, reaching a peak in 1951. (See table 32).

Table 32. Latin America: Unit value indices and the terms of trade

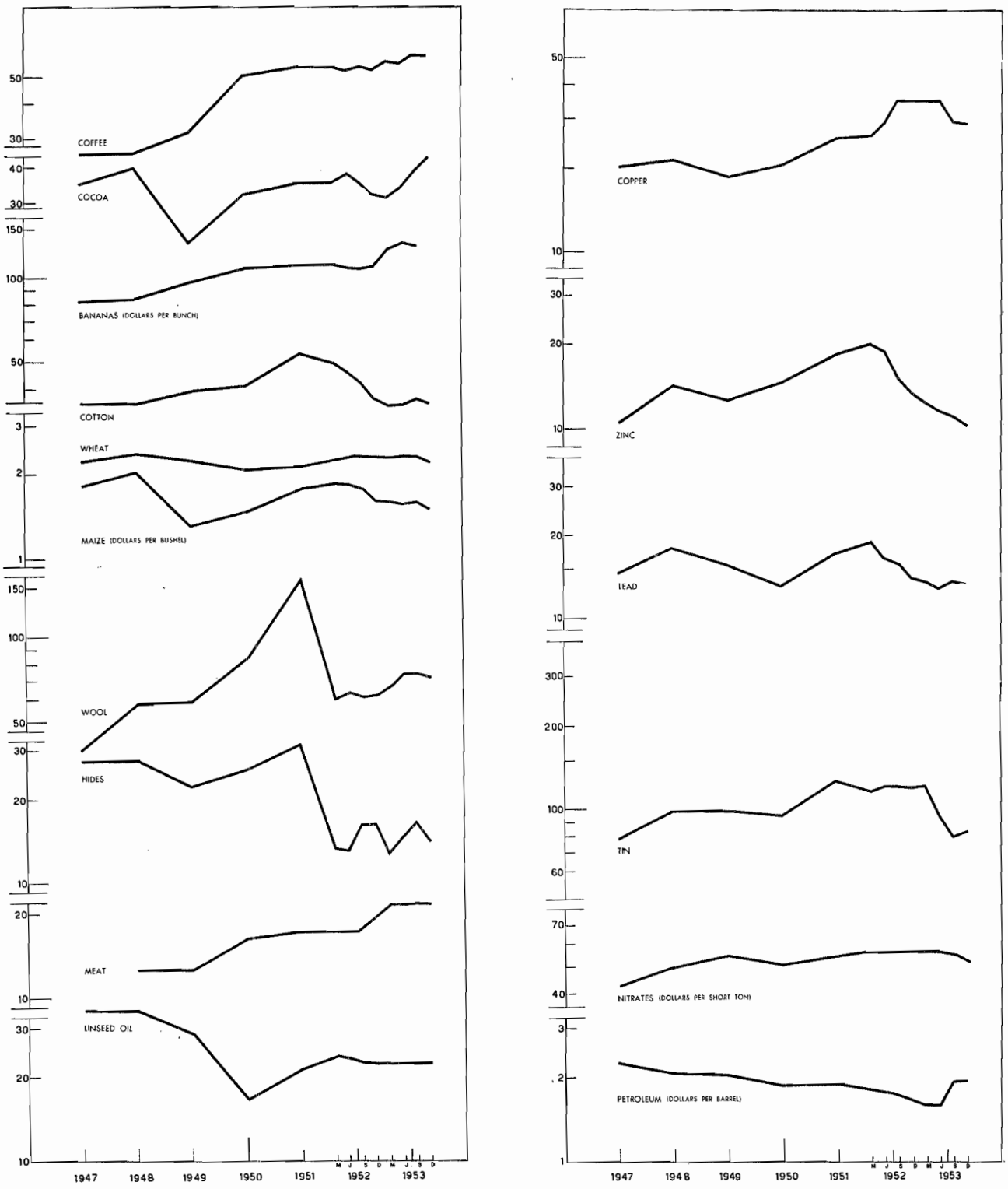
(1948=100)

Years	Export unit value index	Import unit value index	Terms of trade
1947	89.9	91.9	97.8
1948	100.0	100.0	100.0
1949	95.5	96.5	99.0
1950	99.7	86.9	114.7
1951	117.4	100.6	116.7
1952	121.6	106.4	114.3
1953[a]	117.6	101.5	115.9

Source: Economic Commission for Latin America, based on official statistics.

[a] Preliminary figures.

Chart XXII
LATIN AMERICA: PRICES OF EXPORT COMMODITIES
(Semi-logarithmic scale)



There are two outstanding facts. Firstly, the sharp upswing of the terms of trade in 1950, which, after three years of relative stability, rose 15 per cent as compared with the previous year. Secondly, the different susceptibility of export and import prices, for, while the former increased 35 per cent between 1947 and 1952, the latter rose by only 12 per cent.

Another conspicuous feature is that during 1952 export prices appear in these indices as having increased in relation to the previous year. This is due to one special circumstance, that during 1952 there were no Argentine cereal exports. Cereal prices had been very much lower than in the previous year, and normally would have depressed the general index due to their large share of the total. In fact, if Argentina is excluded from the export price index, it may be seen that prices had fallen 7 per cent between 1951 and 1952, instead of rising 3 per cent as in the index for the whole of Latin America.

This leads to a more detailed analysis of price movements and the terms of trade by countries, since there was no over-all uniform tendency. There is a substantial gap between those favoured by high coffee prices and those seriously affected by the sharp drop in mineral prices, and within which there are several countries having intermediate positions.

In 1953, among the republics to improve their terms of trade were Brazil, Colombia, Ecuador, Uruguay, Venezuela and all the Central American countries. In the opposite sector were, firstly, the mineral exporters, Bolivia, Mexico and Peru, and, secondly, the large sugar producers, Cuba, Haiti and the Dominican Republic. (See table 33 and chart XXIII).

A further feature tends to lessen the value of the over-all index, which shows very abrupt and dissimilar movements that either blend together or tend to be complementary. It is sufficient to establish the variations between the maxima and minima recorded over the last six years to understand the full significance of this phenomenon and the distortions it causes in income and the capacity to import. (See table 34). Peak and trough years do not coincide for all countries, although some grouping is possible. Thus, for example, in 1953 the Central American republics and Brazil showed the most favourable terms of trade for the period, undoubtedly influenced by coffee prices. Chile belongs to this group but for other reasons, such as the reserves accumulated by refusing to lower copper prices, although this was done at the cost of building up substantial stocks. Most of the remaining countries experienced their most favourable terms of trade in 1951, when world demand also reached very high levels due to the Korean War. In contrast, 1950 witnessed the most propitious terms of trade for Cuba and Venezuela, a year when sugar and petroleum reached high prices. But the most unusual example is that of Argentina, which reached a peak in 1947—when almost all other countries had unfavourable terms of trade—and a minimum in 1951, also in marked contrast to the rest of the region. For both years, the influence of Argentina, which weighs heavily on the whole because of its substantial volume of trade, has contributed to a levelling off in the index for Latin America.

But, regarding the impact on Latin-American economies of modifications in their purchasing power, the outstanding phenomenon is the wide range of such changes. Between the maximum and minimum, fluctuations amounted to 51.4 per cent (El Salvador) and 18.0 per cent for Mexico, the country least affected. Even allowing for the greater fluctuation from year to year, there are seven countries whose terms of trade have fluctuated by over 40 per cent annually. The least susceptible to these phenomena still show annual variations of from 15 to 20 per cent. It is easy to imagine the imbalance which the rapidity and intensity of these movements produce in all spheres of the domestic econ-

Table 33. Latin America: Unit value indices of the terms of trade, by countries

(1948 = 100)

Countries	*1947*	*1949*	*1950*	*1951*	*1952*	*1953*[a]
Argentina	97.6	82.6	72.8	68.5	73.0	72.6
Bolivia	89.2	89.3	86.8	133.6	124.0	110.2
Brazil	106.3	108.8	178.9	176.6	178.7	198.6
Chile	95.6	100.2	113.2	123.6	132.8	133.0
Colombia	97.7	118.8	169.7	149.3	154.6	165.6
Costa Rica	99.5	121.8	156.5	172.2	176.7	185.0
Cuba	115.2	107.0	124.2	122.9	100.9	93.1
Dominican Republic	96.0	87.7	107.6	133.3	115.3	113.7
Ecuador	109.8	94.1	144.4	153.0	133.9	142.2
El Salvador	99.4	112.6	160.6	178.3	189.8	204.4
Guatemala	107.0	118.3	168.1	160.1	180.0	190.4
Haiti	98.4	107.9	143.1	173.2	182.6	175.5
Honduras	107.1	108.2	112.6	131.3	143.6	146.4
Mexico	96.8	89.1	92.2	107.4	108.5	100.0
Nicaragua	100.1	104.9	149.3	169.2	162.8	169.5
Panama	91.2	116.2	107.4	112.4	102.1	106.2
Peru	112.7	112.5	131.8	144.9	120.1	97.1
Uruguay	101.3	94.5	140.5	155.7	90.5	112.4
Venezuela	77.3	101.1	106.1	98.9	94.7	97.4
TOTAL, Latin America	97.8	99.0	114.7	116.7	114.3	115.9

Source: Economic Commission for Latin America, based on official statistics.

[a] Preliminary figures.

omy, through the fluctuations in export receipts. It is thus understandable that monetary parities are difficult to maintain. With relative frequency, the alternative is faced either of sacrificing the currency to adjust the costs of export products to world market prices, or of ceasing to export for what may be a prolonged period. This is a typical weakness of raw material producers, whose economy is principally based on a few primary export products. Broadly speaking, such producers are not equipped with the means to form buffer stocks. When they do so, they run serious risks, either through inflation caused by financing unsold stocks, through losses they may incur because of a steady price decline, or through a continuous deterioration in the terms of trade.

As a result of these factors, the year 1953 caused serious problems for all Latin-American countries producing commodities for which supply is in excess of demand. The natural protection against a fall in prices, which is a voluntary contraction of supply, can be implemented only with great caution, and with due regard for the resistance it may encounter (the case of sugar in Cuba, for example), and the subsequent monetary or social consequences.

Chart XXXIII

LATIN AMERICA: THE TERMS OF TRADE, BY COUNTRIES

Index 1948=100

(Semi-logarithmic scale)

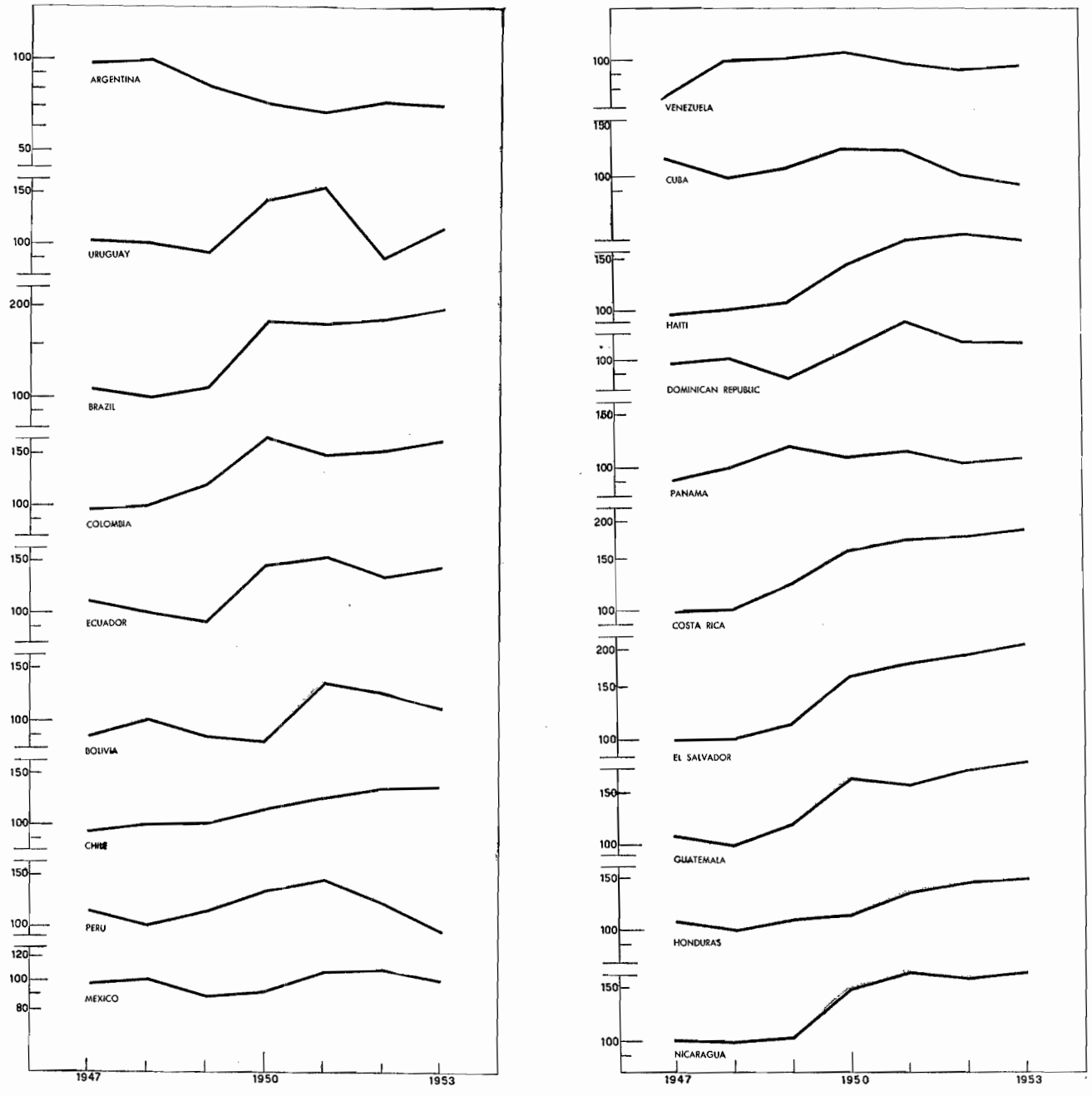


Table 34. Latin America: Variations in the terms of trade, 1947–53
(1948 = 100)

Countries	Maximum	Years	Minimum	Years	Percentage		
					Total difference	Maximum annual variation	
						Increase	Decrease
Argentina	97.6	1947	68.5	1951	30.0	12.0	17.4
Bolivia	133.6	1951	86.8	1950	35.0	53.9	11.1
Brazil	198.6	1953	106.3	1947	46.5	64.4	5.9
Chile	133.0	1953	95.6	1947	28.1	13.0	—
Colombia	169.7	1950	97.7	1947	42.4	42.8	12.0
Costa Rica	185.0	1953	99.5	1947	46.2	28.5	—
Cuba	124.2	1950	93.1	1953	25.0	16.1	17.9
Dominican Republic	133.3	1951	87.7	1949	34.2	23.9	13.5
Ecuador	153.0	1951	94.1	1949	38.5	53.5	12.5
El Salvador	204.4	1953	99.4	1947	51.4	42.6	—
Guatemala	190.4	1953	107.0	1947	43.8	42.1	6.5
Haiti	182.6	1952	98.4	1947	46.1	32.6	3.9
Honduras	146.4	1953	107.1	1947	26.8	16.6	6.6
Mexico	108.5	1952	89.1	1949	17.9	16.5	10.9
Nicaragua	169.5	1953	100.1	1947	40.9	42.3	3.8
Panama	116.2	1949	91.2	1947	21.5	16.2	9.2
Peru	144.9	1951	97.1	1953	33.0	17.2	19.2
Uruguay	155.7	1951	90.5	1952	41.9	48.7	41.9
Venezuela	106.1	1950	77.3	1947	27.1	29.4	6.8

Source: Economic Commission for Latin America, based on official statistics.

Table 35. Latin America: Composition of exports
(Percentage of total)

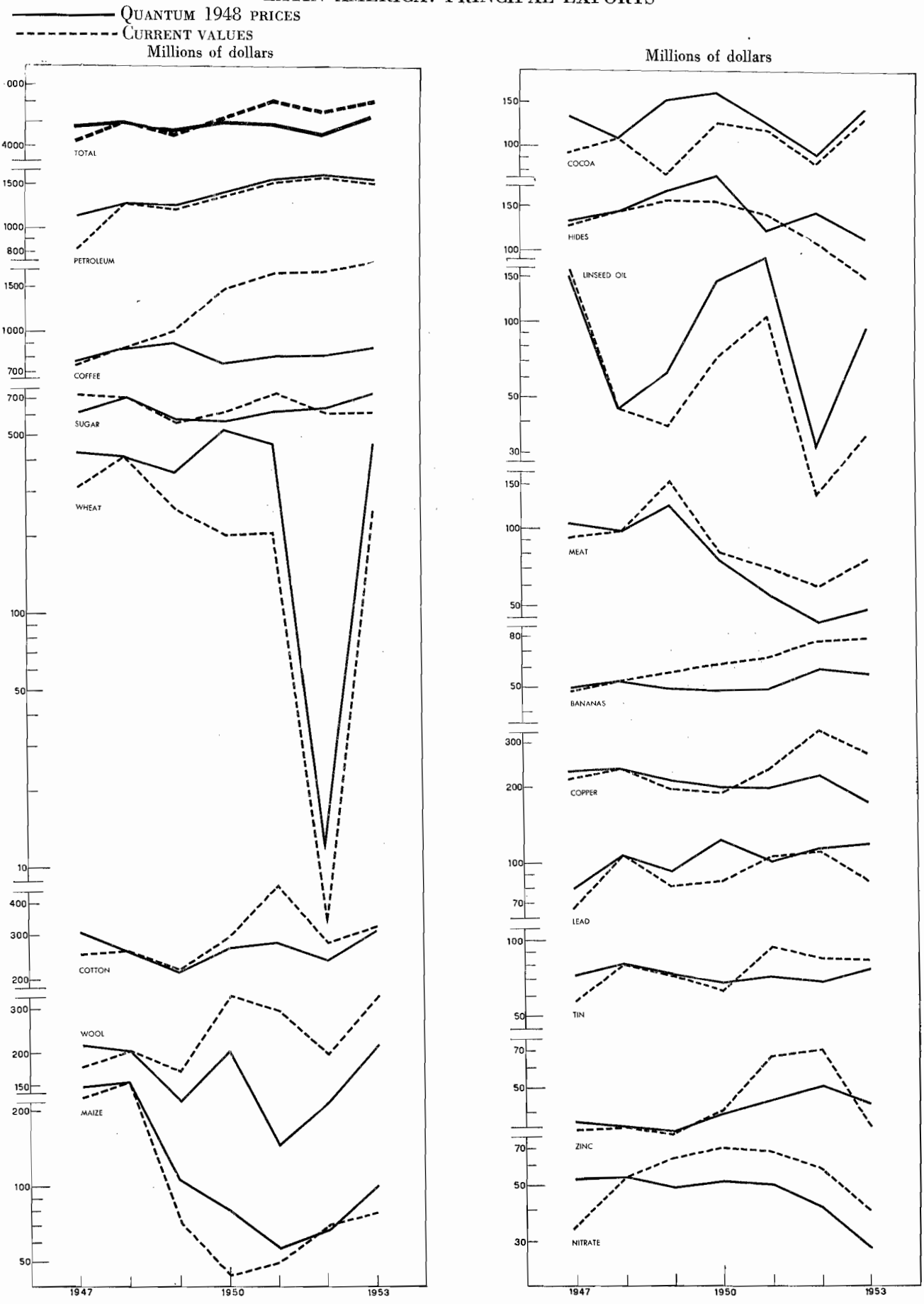
Commodities	1947		1950		1953[a]	
	(A)	(B)	(A)	(B)	(A)	(B)
Coffee	12.6	11.7	21.9	11.6	24.8	13.5
Cocoa	1.6	2.0	1.9	2.5	1.7	2.2
Sugar	12.2	9.4	9.7	8.8	8.2	11.4
Bananas	0.8	0.7	0.9	0.7	1.0	0.9
Wheat	5.2	6.5	3.1	8.0	3.2	7.1
Maize	3.7	3.7	0.7	1.2	1.1	1.6
Beef	1.6	1.6	1.2	1.1	1.0	0.7
Hides	2.1	1.9	2.4	3.1	1.0	1.7
Wool	3.0	3.3	5.2	3.2	4.4	3.3
Cotton	4.2	4.6	4.6	4.1	4.2	4.7
Linseed oil	2.6	2.3	1.1	2.2	0.5	1.5
Copper	3.7	3.5	2.9	3.1	3.5	2.7
Tin	1.0	1.1	1.0	1.0	1.1	1.2
Lead	1.1	1.2	1.3	1.9	1.1	1.8
Zinc	0.6	0.5	0.6	0.6	0.5	0.7
Nitrate	0.6	0.8	1.1	0.8	0.5	0.4
Petroleum	13.8	17.1	20.4	21.5	20.4	24.6
Sub-total	70.4	71.9	80.0	75.4	78.2	80.1
Other commodities	29.6	28.1	20.0	24.6	21.8	19.9
TOTAL	100.0	100.0	100.0	100.0	100.0	100.0

Source: Economic Commission for Latin America, based on official statistics.
(A): Current values.
(B): Constant values at 1948 prices.
[a] Preliminary data.

III. Changes in the composition of exports

The quantum and composition of Latin-American exports showed a stationary trend. Indeed, very few changes were observed between 1947 and 1953, but the most remarkable was that the Latin-American export trade, far from diversifying, was tending to concentrate on a few primary products. In 1953, petroleum, coffee, sugar and wheat accounted for 57 per cent of all exports, in comparison with only 45 per cent in 1947. Petroleum was the commodity which showed the greatest increase both in absolute and relative terms; the export volume increased by 30 per cent in 1947-53 and the proportion to all exports rose from 17 to 25 per cent. The other three commodities also improved their relative positions, but not as sharply. In contrast, the only modification of importance among the other products was the decrease in maize, hides, meat and linseed oil exports. (See table 35).

Chart XXIV
LATIN AMERICA: PRINCIPAL EXPORTS



The picture is quite different if, instead of the quantum, the value is considered. The impact of prices caused a much more pronounced transformation and a still greater concentration, since two commodities alone—coffee and petroleum—were sufficient to account for almost half the aggregate export value in 1953, contrasting with 26 per cent six years ago.

In chart XXIV a comparison is made between the evolution of the current value and quantum of the 17 principal commodities exported by Latin America. The discrepancy in the movement of the two curves is very apparent for many of these exports. In the case of coffee, bananas, wool, meat and copper, the value curve has tended to rise above that of quantum. For petroleum, wheat, nitrates, cocoa, maize and linseed oil, both curves remain roughly parallel, which is indicative of relative price stability.

The year 1953 may be considered as a crucial year, because movements occurred in one direction or another, while simultaneously for some products—lead, zinc, sugar and maize—the trend was reversed, as a consequence of the price declines, and the quantum rose above the value.

The result of these unequal movements has caused very pronounced percentage differences. (See again table 35).

IV. The recent evolution of exports in selected countries

Latin America's general trade characteristics during 1953 have so far been discussed, underlining the more important developments in relation to 1952 and previous periods. Likewise, the role played by the terms of trade has been analysed, contrasting the favourable situation during the post-war period with other factors of foreign trade. It is now appropriate to review the evolution of exports[4] in some countries of the region.

1. *Argentina*

In 1953, the remarkable recovery of Argentina's agricultural production was widely reflected in its exports, the quantum of which, although doubling in relation to the previous year, did not quite reach the 1948 or 1950 levels. (See table 36 and chart XXV).

Table 36. Argentina: Quantum of exports

Years	*Millions of dollars*[a]	*Indices*
1948	1,629	100.0
1949	1,183	72.6
1950	1,710	105.0
1951	1,414	86.8
1952	640	39.3
1953[b]	1,379	84.7

Source: Economic Commission for Latin America, based on official statistics.

[a] At 1948 prices.
[b] Provisional estimate.

The larger harvests, and the consequent reappearance of Argentina's cereals on the world market, have revived the usual pattern of the export composition. Indeed, agricultural crops, which in 1952 had for the first time fallen in their relative importance to livestock products, again recovered their 1953 position, accounting for 60 per cent of all exports. (See table 37).

Among the agricultural crops, cereals play the major part in determining the volume of exports.[5] After two years of drought, the excellent 1953 harvest has revived the export trade, although it was not possible to obtain such high prices as formerly. The problem which has reappeared was rather one of placing the exportable surpluses, since

Table 37. Argentina: Composition of the quantum of exports

(Percentage of total)

Commodities	*1948–50*[a]	*1951*	*1952*	*1953*[b]
Agricultural produce	58.6	68.5	33.6	60.9
Livestock	38.2	26.5	58.9	34.8
All others	3.2	5.0	7.5	4.3
	100.0	100.0	100.0	100.0

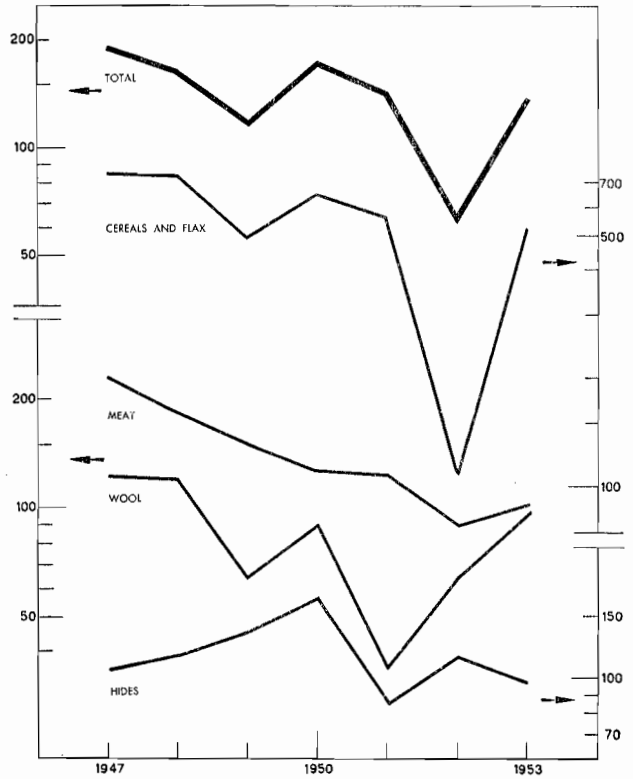
Source: Economic Commission for Latin America, based on official statistics.

[a] Average.
[b] Preliminary estimates.

Chart XXV

ARGENTINA: QUANTUM OF ALL EXPORTS AND OF PRINCIPAL PRODUCTS

Millions of dollars at 1948 prices



[4] Since the evolution and composition of imports in the post-war period was reviewed by countries in the *Economic Survey of Latin America, 1951-52*, it was considered advisable to study the evolution of exports this year.

[5] In 1953 the cereal group accounted for 48 per cent of all Argentina's exports. This percentage, with slight variations, was similar to the 1948-52 average, the exception being 1952, as already noted.

the return to a peak period for Argentine farming coincided with abundant crops in other regions of the world.

In 1953, wheat exports amounted to about 2.5 million tons, slightly higher than the 1947-51 average. These shipments account for 32 per cent of a production which reached the relatively high figure of 7.6 million tons. Allowing for domestic consumption to absorb some 3.8 million tons and unfulfilled export commitments of about 550 thousand tons, the balance will amount to around one million tons, which the government plans to use as a special reserve.

Maize exports were also very active at about one million tons, but the average 1947-51 levels were not recovered. However, 1953 barley and rye exports were respectively 50 and 60 per cent higher than in this period. The downward trend for linseed, which has been apparent for several years, became more pronounced. However, the group of cereals and linseed together showed an export volume above the 1947-51 average.

Argentina thus remains with large surplus cereal stocks, which may influence 1954 sales, since good yields are announced for the new crops.

For livestock products there has been a similar recovery in 1953, although not as marked as the revival of agricultural crops. There appears to be no slackening in the steady annual process of a smaller quantity of meat available for export, since in 1953 there was an even higher domestic consumption rate.

Government efforts were aimed at counteracting the effects of the 1951 and 1952 droughts (a higher death rate, loss of female breeding stock, and a low birth coefficient) and at reducing domestic consumption to permit the re-establishment of the livestock population. The improvement in 1952 exports was a result of these efforts. However, meat supply still shows a certain rigidity owing to the time required to increase the number of animals available for slaughter. In 1953, meat exports were about 35 per cent below 1948 levels and only tinned meat reached a higher level. The contract with the United Kingdom provided for the export of 160 thousand tons, but only 100 thousand have actually been shipped.

Increased wool exports in 1953 mainly represented the rapid decline of accumulated surplus stocks from the previous clip, which was due to the stimulus of more favourable exchange treatment and to temporary taxation immunity.[6] Exportable wool stocks, amounting to 320 thousand tons in mid-1952, fell to only 23 thousand tons at the beginning of the 1953/54 clip.[7] In contrast, hide exports have continued to decline; in 1953 they fell 15 per cent below the relatively low 1952 level. (See table 38).

During 1953, the position of other export commodities, such as dairy products, edible and other oils and quebracho was generally better than in 1952, without, however, regaining the 1948-51 level. Milk products (casein, cheese and butter) formed an exception and exceeded the average for previous years, owing to a more favourable exchange treatment.

[6] The exemption from the 8 per cent sales tax was maintained until September 1953. The preferential rate of exchange for wool exports to the sterling area was discontinued in May, in order to re-direct sales to the dollar zone.

[7] *The Review of the River Plate*, 10 November 1953, p. 19.

Table 38. Argentina: Exports of meat, wool and hides

(Thousands of tons)

Commodities	*1948-50*[a]	*1951*	*1952*	*1953*[b]
Meat	450.4	293.6	235.7	166.3
Wool	140.1	59.7	106.1	129.4
Hides	205.2	128.8	162.9	101.6

Source: Ministerio de Asuntos Técnicos, *Síntesis Estadística Mensual de la República Argentina.*

[a] Average.
[b] Seven months.

2. *Bolivia*

In 1953, Bolivian exports were faced by two adverse pressures, a severe drop in prices, amounting to 16 per cent for all commodities, and a contraction in the demand for minerals. Despite these factors, the reduction in quantum was negligible, scarcely 1.8 per cent in relation to 1952, because greater tonnages of tin were sold abroad, thus offsetting the decline in lead, zinc, antimony and wolfram exports.

Tin accounted for 73 per cent of the export volume, in contrast to 64 per cent in 1952, and was able to maintain its 1953 position owing to purchases in the United States for the strategic stockpile. Nevertheless, prices were 13 per cent below the previous year, when they had already suffered a marked downward movement. (See table 39).

Because of the structure of Bolivian exports, the drop in mineral prices exposed the economy to a really critical situation, for which no short-term possibilities of improvement are at present visible.

3. *Brazil*

The position of Brazilian exports in 1953 was somewhat singular. The incentives of higher coffee prices were reflected only in current values, which rose from 1,408 million dollars in 1952 to 1,580 in 1953, while the export quantum decreased 8 per cent because of the frosts which affected the crop and will continue to influence them until the destroyed bushes are replaced. Coffee thus lost some of its importance in total Brazilian exports (50 per cent in 1953 against 60 per cent in 1952).

In order to reduce exports as little as possible, Brazil was obliged to draw on reserve stocks, between the end of 1952 and December 1953, stocks in Brazilian ports decreased by about 500 thousand sacks.[8] There was also a tendency to supply the North American market better than Europe.

Another factor contributed to maintain the high level of Brazilian exports. Cotton shipments, which had practically been suspended until prices improved, were resumed. In early 1953, the accumulation of large surplus stocks from the two earlier harvests caused a change in the sales policy which had been previously followed. Authorization was given for the shipment of cotton at world prices and for better exchange treatment. Despite these facilities, exports did not recover to the 1951 level, being som 20 per cent lower.

[8] These are sacks of 60 kilogrammes each.

Table 39. Bolivia: Quantum of exports

Years	Total (millions of dollars)[a]	Tin (millions of dollars)[a]	Total (1948 = 100)	Tin (1948 = 100)	Percentage of tin to total
1948	118.6	80.2	100.0	100.0	67.6
1949	111.2	73.3	93.8	91.4	65.9
1950	109.1	67.5	92.0	84.2	61.9
1951	106.5	71.2	89.8	88.8	66.9
1952	106.2	68.7	89.5	85.7	64.7
1953[b]	104.2	76.5	87.9	95.4	73.4

Source: Economic Commission for Latin America, based on official statistics.
[a] At 1948 prices.
[b] Preliminary data.

Chart XXVI

BOLIVIA: QUANTUM OF ALL EXPORTS AND OF TIN OUTPUT

Millions of dollars at 1948 prices

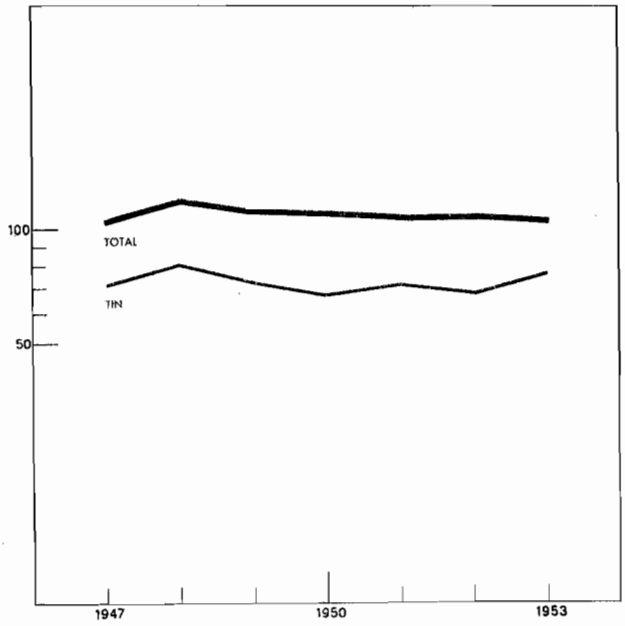
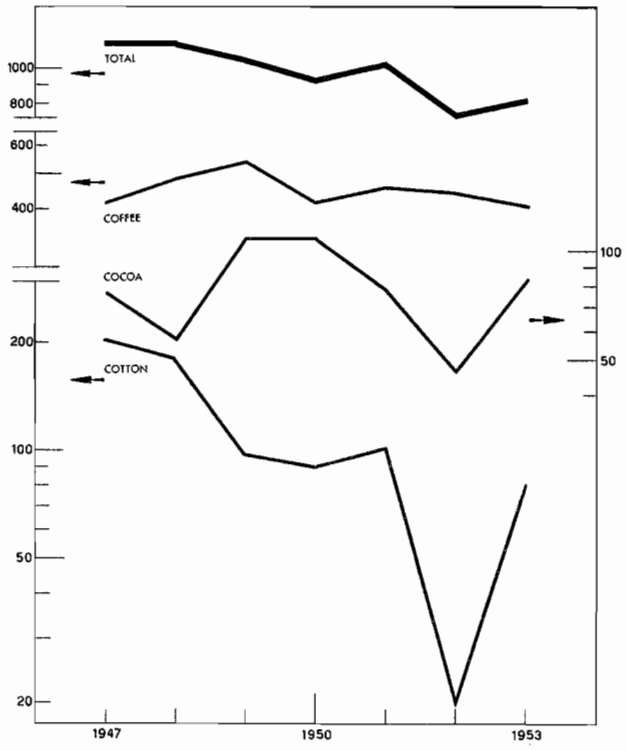


Chart XXVII

BRAZIL: QUANTUM OF ALL EXPORTS AND OF PRINCIPAL PRODUCTS

Millions of dollars at 1948 prices



Prices and demand in the cocoa market were much better than for most Latin-American commodities. Brazil had the advantage of both an excellent crop and a steady demand due to the vacuum left by decreasing African shipments. In 1953, cocoa exports increased by 76.7 per cent in quantum over the previous year, and by 3.6 per cent in price.

Cannery reforms, which consisted of authorizing the free market sale of foreign exchange derived from exports of secondary products, have been successful in the case of pinewood, bananas and other products. Conversely, rice and tobacco crops were affected by adverse climatic conditions so that these exports dropped sharply, especially in the case of rice.

4. *Chile*

In 1953, Chilean exports were subject to the depressive influence caused by the change in the demand for copper. The lower quantum exported in relation to the previous year (15 per cent less) was mainly due to the almost complete suspension of copper sales between August and December. During those months, a stockpile of almost

Table 40. Brazil: Quantum of exports

(Millions of dollars)[a]

Commodities	1948–50[b]	1951	1952	1953[c]
Coffee	480	456	441	405
Cotton	124	101	20	80
Cocoa	90	77	47	83
Tobacco	17	17	17	8
Rice	18	22	31	1
Pinewood	37	50	30	33
TOTAL (including all others)	1,056	1,012	747	811

Source: Economic Commission for Latin America, based on official statistics.
[a] At 1948 prices.
[b] Average.
[c] Estimates based on data for ten months.

150,000 tons was accumulated, which is equivalent to more than one-third of annual production in former years. Meanwhile, negotiations were begun for the purchase of these stocks by the United States as strategic reserves. At the end of 1953 no agreement had yet been reached.

The Chilean monetary authorities—who had obtained a monopoly on copper sales since February 1952—endeavoured to maintain their prices at a time when quotations on the United States market, where price controls had been abolished, were below those which Chile had previously received. In December 1953, sales were resumed, the Chilean authorities accepting world market prices for the future output from that date. But the problem of the accumulated stocks remained unsolved for the moment. Part of these stocks are in the United States, since the mining companies had continued to deliver copper for some time in anticipation of an agreement.

Chilean copper exports in 1953—even allowing for the copper shipped for storage abroad, which is shown in Chilean statistics—sank to the lowest level of the post-war period, or 275,000 tons, as compared with an annual average of 400,000 in 1945-49. (See table 41).

Table 41. Chile: Copper exports

Years	*Quantum (thousands of tons)*	*Average price (U. S. cents per pound)*	*Value (millions of dollars)*	*Percentage of copper to total*
1945	431.6	10.86	103.3	50.5
1946	374.0	12.69	104.7	48.3
1947	387.3	20.35	173.8	62.3
1948	414.6	21.53	196.8	59.7
1949	353.8	19.95	155.6	52.4
1950	322.1	20.00	141.9	50.0
1951	308.8	24.61	167.5	45.0
1952	352.9	32.80	255.6	56.1
1953[a]	275.0[b]	33.60	203.7	51.6

Source: Basic data from the Dirección General de Estadística, Chile.

[a] Preliminary estimate.

[b] According to information from the central bank, effective copper sales in 1953 were 205 thousand tons. The discrepancy with the figure given in this table arises from the fact that official Chilean statistics include as exports the producers' previous shipments to the United States as an available stock for the time when sales are renewed.

The discrepancy between the rise in export prices for Chilean copper between 1952 and 1953 and the price trend on the world market was due to the fact that in 1952, some tonnages were sold at prices controlled in the United States, while the small total exported in 1953 obtained the official price fixed by the Banco Central de Chile. This is an additional reason for the 2 per cent increase in the total index of average copper export prices during 1953, while the remaining Chilean export commodities were sold abroad at prices lower than those prevailing during 1951-52.

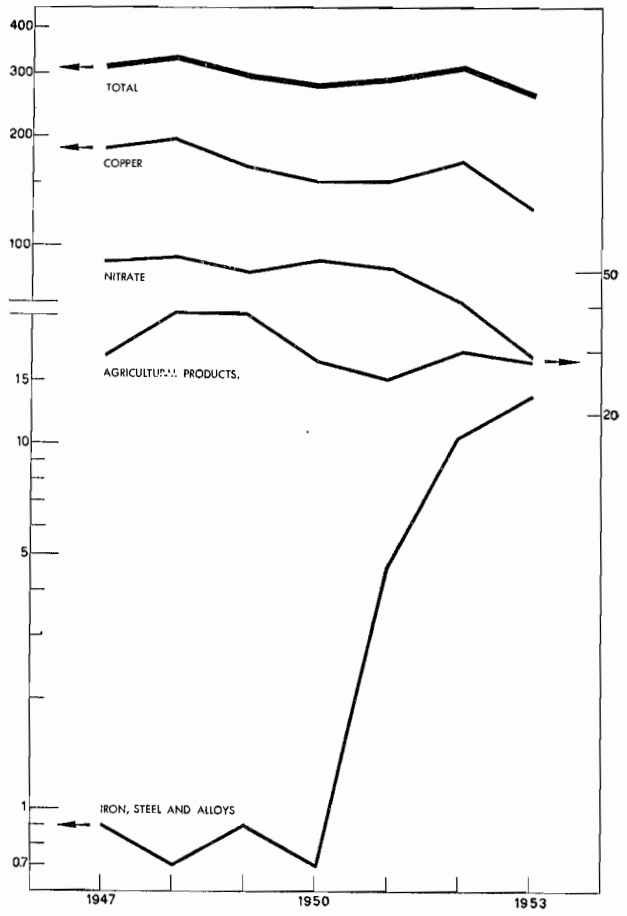
The depressive factors also affected nitrate sales, which are receiving strong competition from synthetic products. The nitrate market has declined, but relatively high prices have been maintained due to the action of domestic cost elements and the rate of exchange.

Iron ore exports increased in volume, but prices were very similar to those of previous years. Semi-finished steel has yielded steadily increasing revenues in foreign exchange since it first appeared among Chilean exports in 1951. In 1953, exports of this commodity totalled 93,000 tons, valued at 18 million dollars, as compared with 12 million dollars in 1952.

Chart XXVIII

CHILE: QUANTUM OF ALL EXPORTS AND OF PRINCIPAL PRODUCTS

Millions of dollars at 1948 prices



In contrast, exports of primary agricultural commodities have shown less success when comparing the 1953 results with those of the previous year; in relation to 1951, there was a slight increase. Exports of industrial goods have dropped to one half their sizes in 1951. (See table 42).

Almost two-thirds of all Chilean exports consist of two commodities for which demand on the world market has tended to decline during the last few years as a consequence of substitution and changes in consumption patterns. The situation thus continues to be one of extreme vulnerability, and it is increasingly difficult to maintain the high level of capacity for foreign payments required for the actual development of the country.

5. *Colombia*

In 1953, Colombia reached the peak level of exports, both in value and volume. Coffee, with high prices and a wide market, was a large factor, representing 73.2 per cent of the value of all exports in 1953, as compared with 68.8 and 65.5 per cent in 1952 and 1951 respectively.

Table 42. Chile: Quantum of exports

(Millions of dollars)[a]

Commodities	*1948–50*[b]	*1951*	*1952*	*1953*[c]
Copper	173.3	153.8	175.4	130.6
Nitrate	51.7	50.5	41.8	28.2
Iron ore	5.9	6.0	4.1	5.4
Agricultural produce	31.8	24.8	29.4	27.8
Industrial goods	5.1	15.5	9.9	8.7
Iron and steel	0.8	4.6	10.6	13.7
Others	32.8	34.7	41.3	51.3
TOTAL	301.4	289.9	312.5	265.7

Source: Economic Commission for Latin America, based on official statistics.

[a] At 1948 prices.
[b] Average.
[c] Preliminary estimates.

The rise in coffee exports[9] during 1953 in relation to 1952 represented higher foreign exchange earnings for Colombia—90 million dollars out of a total of 475 millions, 72 millions of which correspond to the increased volume of exports and 18 millions to the rise in prices. The export trade became even more active during the last six months of 1953, recording a 30 per cent increase in the volume of shipments as compared with the same period in 1952. Stocks held in the country will be reduced to a very low level, since it has been announced that the 1953-54 output will be below that of the preceding year.

Among other commodities exported by Colombia, petroleum shipments ranked first, although at prices somewhat lower than 1952. Banana exports increased both in volume and value. (The over-all situation of these three primary commodities may be seen in table 43).

Table 43. Colombia: Quantum of exports

(Millions of dollars)[a]

Commodities	*1948–50*[b]	*1951*	*1952*	*1953*[c]
Coffee	208.1	193.5	202.9	244.4
Petroleum	56.9	77.2	74.6	76.7
Bananas	7.5	8.2	8.3	9.9
TOTAL (including all others)	284.2	295.5	294.8	333.8

Source: Economic Commission for Latin America, based on official statistics.

[a] At 1948 prices.
[b] Average.
[c] Preliminary data.

6. *Cuba*

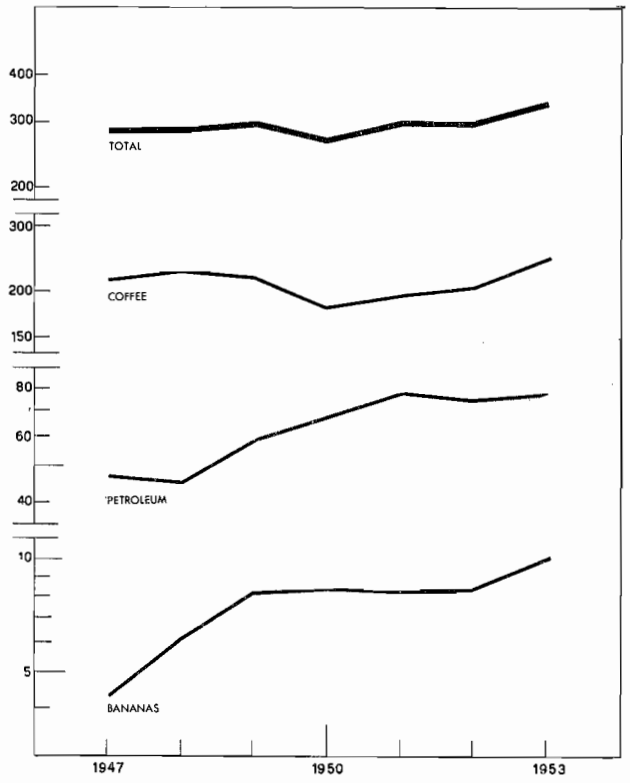
Despite the high level of the export quantum in 1953, estimated as 10 per cent higher than the preceding year, the development of Cuba's foreign trade was less favourable than in 1952. The outstanding event, with the widest repercussions, was the over-all price decline of 12 per cent as compared with the previous year. Although the loss of income resulting from lower prices was offset by

[9] During the last months of 1953, Colombia sold 600,000 additional sacks of the stock in hand, thus raising exports to a total of 6.4 million sacks.

Chart XXIX

COLOMBIA: QUANTUM OF ALL EXPORTS AND OF PRINCIPAL PRODUCTS

Millions of dollars at 1948 prices



greater exports, it was largely due to the additional Cuban sugar sales to the United Kingdom. These totalled one million tons outside the quota assigned to this country but the price was 25 per cent lower than in the United States. The average price level for sugar exports was therefore 14 per cent below that of 1948, and 25 per cent lower than 1951 prices. It is clear that Cuba has made an effort to ensure that the future situation will be less vulnerable to sharp price fluctuations which cause a disequilibrium in the economy. The International Sugar Agreement of 1953

Table 44. Cuba: Quantum of exports

(Millions of dollars)[a]

Commodities	*1948–50*[b]	*1951*	*1952*	*1953*
Raw sugar	450.7	466.0	480.0	540.0
Refined sugar	71.4	75.6	69.7	65.0
Molasses and syrup	47.3	39.7	49.1	..
Tobacco	28.3	37.8	25.9	..
Copper ore	6.3	7.6	6.3	..
Manganese ore	1.5	4.0	5.9	..
Chromium ore	1.4	1.1	1.0	..
Alcohol	4.6	1.8	0.1	..
Others	31.5	32.8	50.0	..
TOTAL	643.0	666.4	688.0	760.1[c]

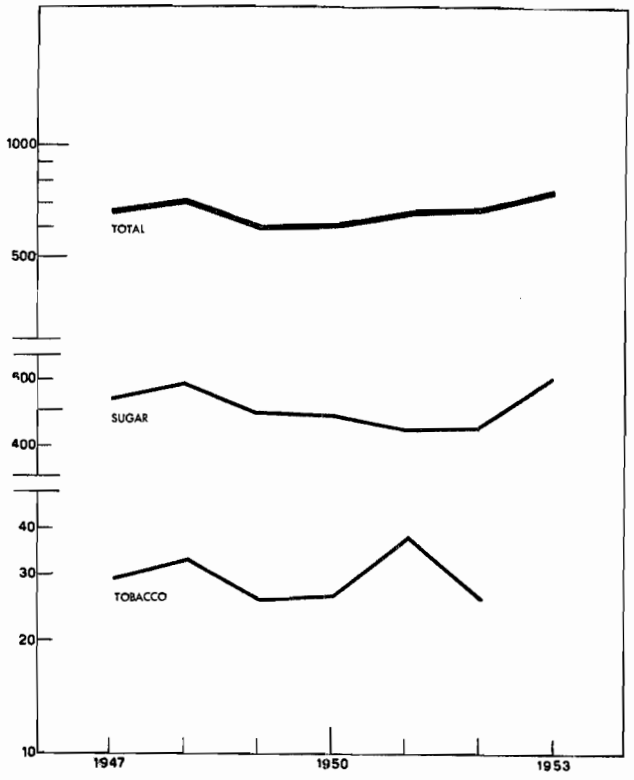
Source: Economic Commission for Latin America, based on official statistics.

[a] At 1948 prices.
[b] Average.
[c] Preliminary estimate.

Chart XXX

CUBA: QUANTUM OF ALL EXPORTS AND OF SUGAR AND TOBACCO PRODUCTION

Millions of dollars at 1948 prices



grants Cuba a quota of 2.25 million tons for world markets,[10] apart from the fixed allocation for the United States.

No information is yet available on the other commodities traditionally exported from Cuba. However, it is known that both tobacco and manganese prices were good.

In short, although the export quantum in 1953 was the highest registered during the past fifteen years, there has been little influence on the gross product. This was in fact determined by the volume of sugar production during the year (25 per cent below 1952), since this commodity was exported at a lower price and served mainly to relieve the substantial surplus stocks accumulated in the past.[11] Conversely, exports have helped to strengthen monetary reserves, which had declined slightly, although there is no problem of a foreign exchange shortage in Cuba. The outlook for 1954 is more encouraging as regards the demand for sugar, but it cannot be denied that Cuba's economy has had to contract rather than expand.

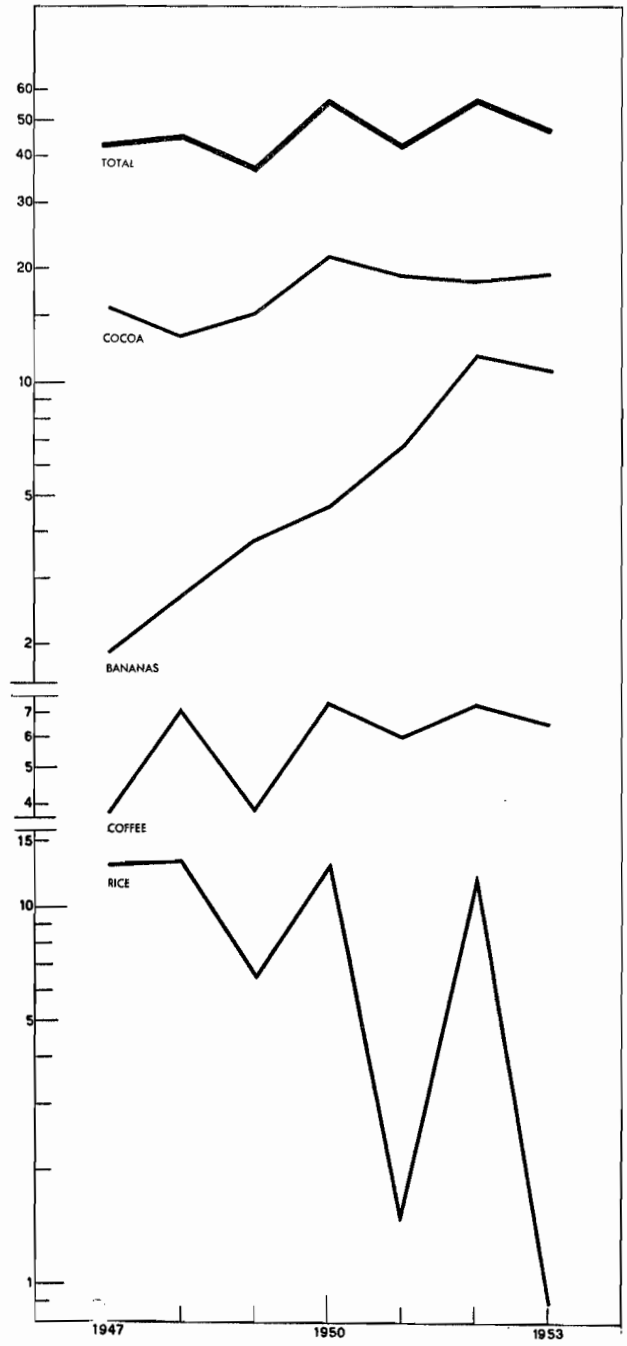
7. *Ecuador*

In contrast to other countries, where exports suffered mainly on account of reductions in demand abroad and the drop in prices, the decrease in Ecuador's exports during 1953 was due to other causes. The almost disastrous climatic conditions—a very long winter and abnormally heavy rainfall—affected production in the coastal region and also transport to ports of embarkation. Ecuador's principal exports, with the exception of rice, are among the few commodities the prices of which show an upward trend or are being maintained at high levels, i.e., bananas, coffee, cocoa and petroleum. But the weather made it impossible to take full advantage of the favourable price situation. Needless to say, petroleum was not affected, and an export recovery took place. A similar rise was apparent in the case of Panama hats, and sales abroad increased after several bad years.

Chart XXXI

ECUADOR: QUANTUM OF ALL EXPORTS AND OF PRINCIPAL PRODUCTS

Millions of dollars at 1948 prices



[10] For further details regarding this Agreement, see the section on sugar in the chapter entitled Agricultural Production, which appears in part II of this report.

[11] The dynamic element in Cuba's economy is indeed the sugar exports, which represent 40 per cent of the gross product.

Table 45. Ecuador: Principal exports

(Thousands of tons)

Commodities	*1948–50*[a]	*1951*	*1952*	*1953*[b]
Bananas	135.7	246.4	429.8	392.7
Coffee	16.7	16.6	20.0	17.8
Cocoa	20.9	24.1	23.3	24.7
Rice	51.9	6.9	56.5	4.1
Panama hats[c]	4.2	3.7	3.0	3.5
Petroleum	151.0	137.3	115.5	187.1

Source: Economic Commission for Latin America, based on official statistics.

[a] Average.
[b] Preliminary estimates.
[c] In millions of hats.

These circumstances caused banana exports—which are highest in total value—to decline for the first time in many years of steady increase. (See table 45).

It is interesting to observe that Ecuador's exports present a perfect example of fluctuation between alternate years with a high volume and years registering a decline, but with an over-all tendency to increase gradually. (See table 46).

Table 46. Ecuador: Quantum of exports

Years	*Millions of dollars*[a]	*Variation on preceding year (percentage)*
1947	43.5	..
1948	45.3	4.1
1949	37.4	−17.4
1950	56.6	51.3
1951	42.7	−24.6
1952	56.4	32.1
1953[b]	47.0	−16.7

Source: Economic Commission for Latin America, based on official statistics.

[a] At 1948 prices.
[b] Preliminary figures.

8. *Mexico*

During 1953, changing world economic events affected the satisfactory conditions under which Mexico's foreign trade was developing. These changes may be attributed to a weakening in over-all world demand which, in the specific case of Mexico, only affected prices abroad and, as a result, the proceeds derived from exports. Conversely, the export quantum, estimated at a 1948 price dollar value, was 9 per cent higher than that of the two previous years. The different evolution of prices and quantum of Mexican exports was reflected in a 9 per cent decrease in the current value of exports as compared with 1952.

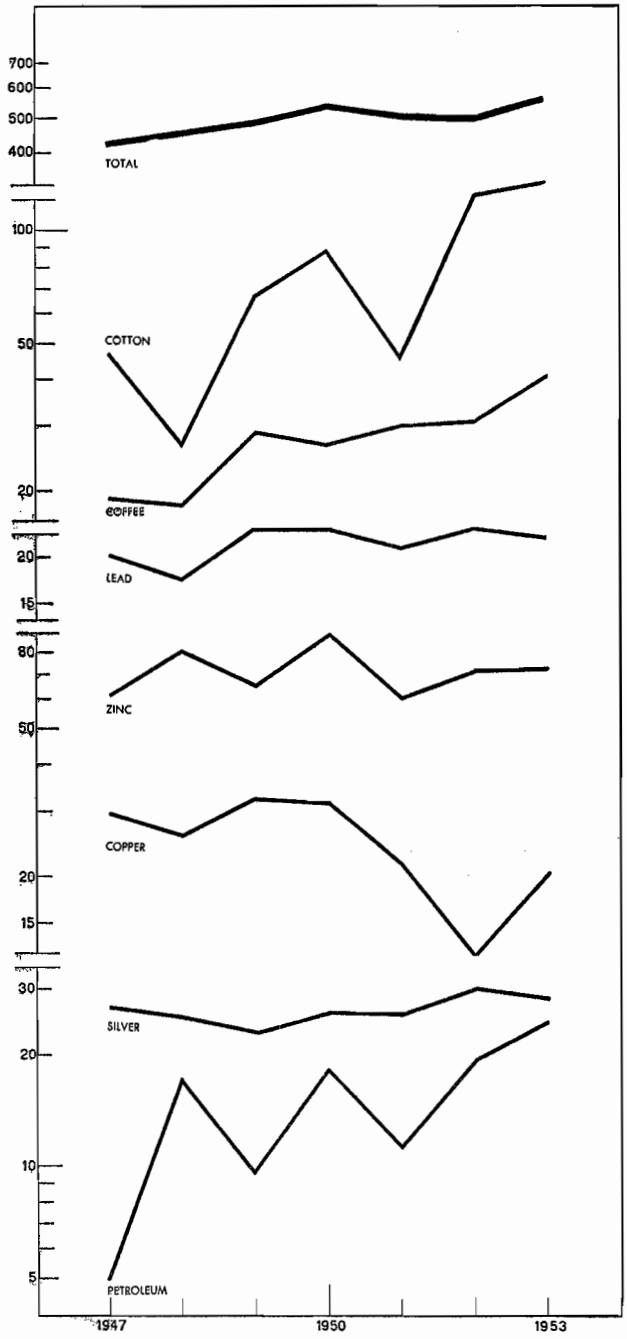
Not all prices for the principal export commodities followed the same trend. For minerals, lead and zinc prices dropped 32 and 40 per cent respectively, while petroleum decreased 14 per cent and copper only 2 per cent. Silver maintained its price at the level of the previous year.

Among agricultural commodities, according to Mexican statistics, the price of coffee was stabilized at approximately that of 1952; tomatoes experienced a firm price increase, but cotton and hemp showed substantial decreases. (See table 47).

Chart XXXII

MEXICO: QUANTUM OF ALL EXPORTS AND OF PRINCIPAL PRODUCTS

Millions of dollars at 1948 prices



In spite of the rise in the prices of some of these commodities, and others such as shrimps, the general tendency was downward, amounting to approximately 10 per cent. This compares unfavourably with the drop of only 2 per cent in import prices.

Substantial changes also occurred in exports by groups; these changes may be observed from the quantum of such exports. An increase in the relative importance of minerals as a proportion of total exports was apparent; this was due to a higher quantum, in which lead, petroleum and silver were the main factors. In spite of this increase,

Table 47. Mexico: Unit value indices of exports, by commodities

(1948–100)

Commodities	1951	1952	1953[a]	Percentage of 1953 to 1952
Coffee	155.8	155.4	155.5	0.1
Raw cotton	134.3	111.0	102.4	− 7.8
Henequen	81.7	90.1	69.9	−22.4
Tomatoes	65.9	68.2	112.8	65.4
Fish	67.1	78.9	76.2	− 3.4
Shrimps	104.5	130.5	162.1	24.2
Lead	108.5	104.8	71.2	−32.1
Copper	143.2	164.0	161.6	− 1.5
Zinc	146.5	135.6	80.8	−40.4
Silver	118.4	114.0	114.0	—
Petroleum	117.0	129.9	111.3	−14.3

Source: Economic Commission for Latin America, based on official statistics.

[a] Preliminary estimates.

lead and petroleum could not offset the loss in proceeds resulting from the price decline.

In marked contrast, the proportion of manufactured goods and miscellaneous commodities declined in relation to the total, as a result of the fall in the respective tonnages exported. Within the group of manufactured goods, exports of cotton textiles, hemp manufactures (threads, yarns, ropes, etc.), and lumber showed the largest decreases. The export quantum for agricultural and livestock commodities increased, and thus showed approximately the same relative importance as in 1952.

However, within this group, a reduction was noted for cotton the share of which to the total exported decreased from 24.8 per cent in 1952 to 23.3 per cent in 1953. In contrast, coffee increased its proportion from 6.1 to 7.8 per cent following a 40 per cent rise in the tonnage shipped abroad. (See table 49).

Table 48. Mexico: Quantum and unit indices of exports

(1948=100)

Years	Quantum of exports	Export unit value index
1951	108.7	112.1
1952	108.3	113.1
1953[a]	117.8	102.2

Source: Economic Commission for Latin America, based on official statistics.

[a] Estimates based on nine months.

9. *Peru*

Owing to the composition of its exports, Peru was among the countries most affected by price deteriorations on world markets. The two principal agricultural exports, cotton, and sugar, and the two leading minerals, lead and zinc, were among the commodities experiencing severe price falls in 1953.[12] These commodities, considered together, represented 70 per cent of the value of all exports. However, two circumstances have offset the consequences of declining prices; firstly, increased export tonnages and secondly, the relative compensation which zinc and lead producers have obtained from the silver content of these minerals. Silver prices have remained at a fairly stable level. (See table 50).

In 1953, the quantum of exports was 8.2 per cent higher than that of the previous year. This was almost entirely due to the influence of basic primary commodities, since non-metallic minerals, forest products (principally rubber) and industrial goods have diminished; canned fish has almost entirely disappeared as an export owing to difficulties in the United States, the principal market.

[12] Based on preliminary estimates for eight months, prices in 1953 fell by 22 per cent for sugar, 19 per cent for cotton, 14 per cent for lead and 38 per cent for zinc.

Table 49. Mexico: Quantum of exports, by commodities

Commodities	1951	1952	1953[a]	1951	1952	1953[a]
	(millions of dollars)[b]			(percentages of total)		
Coffee	29.8	30.3	42.5	6.0	6.1	7.8
Cotton	95.7	123.6	126.0	19.1	24.8	23.3
Henequen	14.6	6.0	11.7	2.9	1.2	2.4
Tomatoes	5.0	5.4	5.3	1.0	1.1	1.1
Chick peas	4.9	2.0	1.2	1.0	0.4	0.2
Hay and grasses	10.8	11.2	1.1	2.1	2.2	0.2
Fish	27.0	23.8	22.7	5.4	4.8	4.2
Shrimps	9.7	7.6	7.6	1.9	1.5	1.5
Lead	60.8	70.1	72.1	12.2	14.1	14.5
Copper	21.0	23.8	22.3	4.2	4.8	4.5
Zinc	25.9	30.1	28.6	5.2	6.0	5.7
Silver	21.5	12.1	20.3	4.3	2.4	4.1
Petroleum	29.6	25.2	32.2	5.9	5.0	6.4
Manufactured goods of henequen	11.9	10.4	5.1	2.4	2.1	1.0
Cotton fabrics	20.0	9.8	5.4	4.0	2.0	1.1
Total (including other exports)	500.2	498.2	541.9	100.0	100.0	100.0

Source: Economic Commission for Latin America, based on official statistics.

[a] Preliminary estimates.

[b] At 1948 prices.

Table 50. Peru: Principal exports

(Thousands of tons)

Commodities	1948–50[a]	1951	1952	1953[b]
Sugar	313.9	271.2	313.0	354.9
Cotton	60.5	62.6	82.8	92.0
Lead	53.3	82.0	89.8	104.7
Zinc	60.6	99.1	113.0	97.5
Copper	24.3	33.8	32.9	34.2
Petroleum	1,054.5	993.4	964.6	833.4

Source: Banco Central de Reserva, *Boletín.*

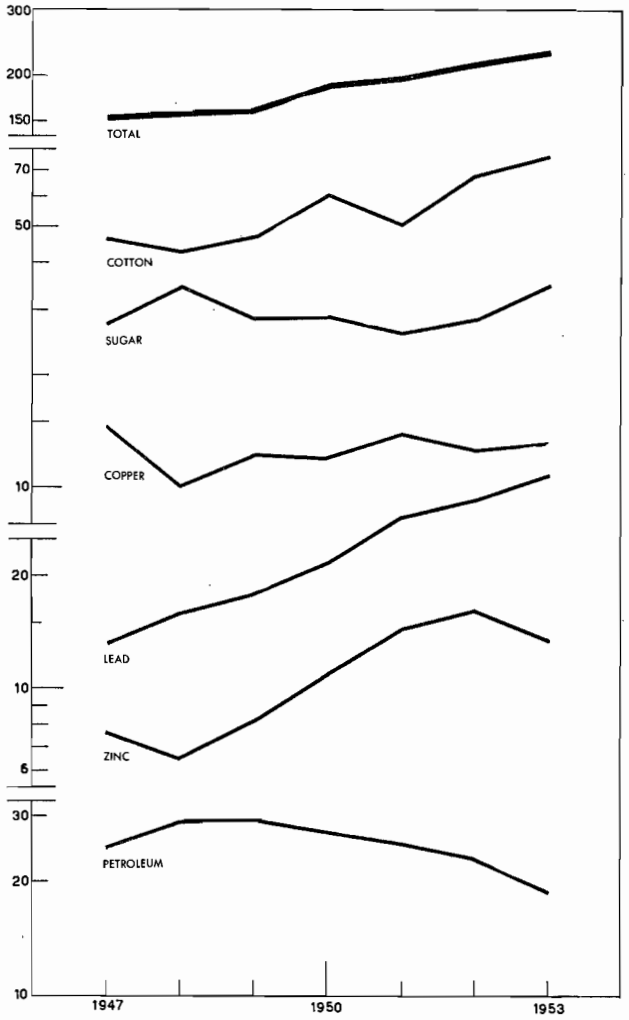
[a] Average.

[b] Preliminary estimates.

Chart XXXIII

PERU: QUANTUM OF ALL EXPORTS AND OF PRINCIPAL PRODUCTS

Millions of dollars at 1948 prices



10. *Uruguay*

With regard both to current and constant values, Uruguay was able to achieve a maximum export figure in 1953. (See table 52).

Table 51. Peru: Quantum of exports

Years	Millions of dollars[a]	Years	Millions of dollars[a]
1948–50 (average)	168.1	1952	212.4
1951	195.7	1953[b]	230.0

Source: Economic Commission for Latin America, based on official statistics.

[a] At 1948 prices.

[b] Preliminary estimates.

This outstanding increase, amounting to 12 per cent in volume, was almost entirely due to wool exports. In 1953, consumer markets strengthened with the recovery of the textile industry and with expansion to other areas through demand in some eastern European countries and

Table 52. Uruguay: Value and quantum of exports

Years	Current value (millions of dollars)	Quantum (millions of dollars)[a]
1945	122.0	198.6
1946	152.8	209.5
1947	162.5	172.0
1948	178.1	178.1
1949	191.6	209.8
1950	254.3	223.4
1951	236.3	164.4
1952	208.9	218.8
1953[b]	269.8	245.5

Source: Economic Commission for Latin America, based on official statistics.

[a] At 1948 prices.

[b] Preliminary estimates.

the Soviet Union. Uruguay was thus able to place the large stocks accumulated after the clips of the two previous years. A preliminary estimate for 1953 forecasts a higher wool export volume than the figure reached in 1950. (See table 53).

Table 53. Uruguay: Wool exports

Years	Quantum[a] (thousands of tons)	Current value (millions of dollars)	Percentage of wool to total
1949	53.7	68.3	35.6
1950	100.7	159.9	62.9
1951	36.3	117.5	49.7
1952	64.9	90.3	43.2
1953[b]	106.0	147.3	54.6

Source: Ministerio de Hacienda, *Boletín Informativo.*

[a] In terms of greasy wool, converting washed wool at a ratio of 1.67 and wool tops at a ratio of 1.75.

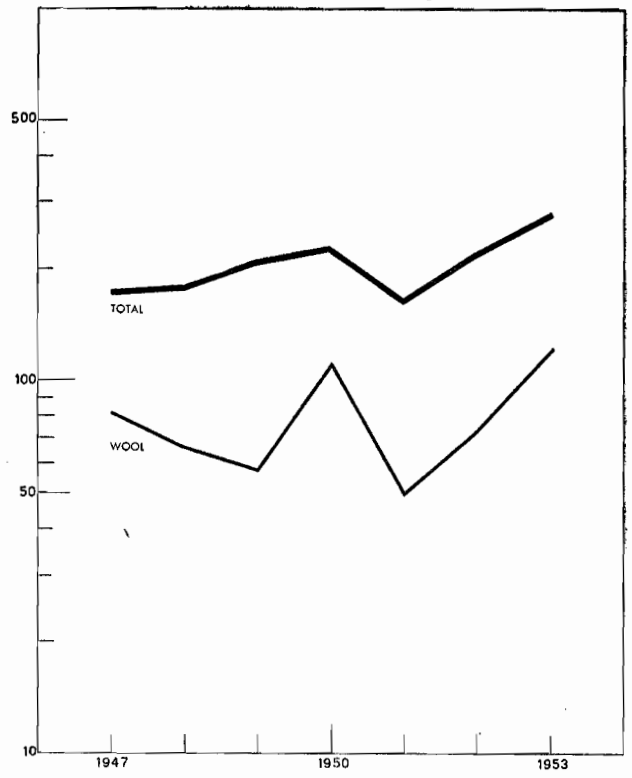
[b] Preliminary estimates.

This spectacular increase in Uruguay's wool exports between 1952 and 1953 was not caused entirely by high foreign demand. The 1951-52 season had been critical. The market was practically at a standstill from April 1951 until the end of 1952. The value of wool shipments represented less than one-third of aggregate exports, which were also low, a situation which had not occurred during the whole post-war period.

Chart XXXIV

URUGUAY: QUANTUM OF ALL EXPORTS AND OF WOOL PRODUCTION

Millions of dollars at 1948 prices



The Government was obliged to take exceptional measures to facilitate wool sales abroad and to restore the basic element of its payments capacity. Firstly, it abolished various taxes on wool exports, this measure remaining in force until mid-1953. Secondly, the negotiable margin which the exporter is permitted to exchange on the free market for commissions or expenses was raised from 2 to 5 per cent of the f.o.b. export value. Finally, although the exchange rate for greasy wool remained unmodified, in February 1953 a special rate of 1.602 pesos per dollar was established for washed wool in place of the 1.519 peso quotation that was in force for all basic export commodities.[13] In this way sales of accumulated wool stocks were stimulated.

The prospects were not so favourable for sales of the new clip (1953/54). Foreign demand remained weak and producers showed a certain disinclination to sell at the prices offered abroad, owing to the confusion caused on the market by wool tops purchasers for the domestic industry paying higher prices than those on the world market. From October to December 1953, sales of the new clip were reckoned at 20 thousand tons (of which domestic industry absorbed 15 per cent) out of an estimated total production of 85 to 90 thousand tons.

The so-called problem of wool tops originated from the decree of October 1949, which established an exchange rate of 2.30 pesos per dollar for exports of woollen articles or clothing, textiles in general and spinning yarns. The object was to stimulate exports of manufactured or semi-manufactured goods. With the support afforded by this preferential rate of exchange, 50 per cent higher than the basic rate, the export of wool tops was developed rapidly and, from being entirely nonexistent in 1948, reached a value of 22 million dollars in 1953.

There were subsequent reactions to this situation abroad, especially in the United States where a compensatory tariff was established to neutralize the exchange rate applied in the country of origin.[14] But, in addition, the preferential system caused domestic difficulties, since exporters of both greasy and washed wool considered they were suffering from competition with wool tops producers, who could pay higher prices owing to the preferential rate of exchange.

A special Commission appointed by the Government studied the problem and came to the conclusion that, in fact, the stagnation of greasy and washed wool exports was in part due to the preferential exchange rate. This caused, firstly, a temporary suspension in the negotiation of foreign exchange accruing from wool tops exports and, later, a lower rate of exchange.[15]

Trends in the other primary commodities exported by Uruguay—meat and hides—varied from the tendencies for wool. Meat exports remained at the low 1952 level, while hides slid back after their recovery in 1952. For agricultural commodities, good harvests and improved exchange treatment are reflected in the rise of the export quantum, although the value was affected by low prices.

11. *Venezuela*

The upward trend visible in the volume of Venezuela's exports since 1949 appears to have slackened in 1953. For the first time, a slight decrease took place (scarcely 3.5 per cent). This decline was mainly the result of reduced petroleum exports, which constitute 98 per cent of the value of all exports. The decline was probably determined by an accumulation of hydrocarbon stocks in the United States and greater competition on European markets. It is also probable that a further influence was the uncertainty caused by draft bills submitted to the United States Congress for the application of restrictions on imports of crude petroleum, and especially on residual fuel oil.

Petroleum prices remained steady almost throughout the entire period 1948-52, and in 1953 they even registered a slight increase over the previous year when expressed in annual averages. Nevertheless, towards the close of the year, less stable trends were apparent. (See table 54).

[13] The exchange rate of 1.602 pesos is the result of combining 90 per cent of the value at 1.519 and 10 per cent at the rate of 2.35 pesos.

[14] Before the application of the compensatory tariff in February 1953, Uruguayan wool tops paid duties of 27.75 cents per pound upon entry into the United States, plus 6.25 per cent *ad valorem*. The compensatory tariff raised the duty to 18 per cent of the invoice value. When this duty was applied, no exports of Uruguayan wool tops were made to the United States, which formerly absorbed 34 per cent of such exports. The Uruguayan Government then reduced the exchange rate for wool tops to 2.06 pesos per dollar, as from June 1953. In turn, the United States offered to reduce the compensatory duty to 14 per cent, but Uruguay maintained its position on the grounds that the preferential exchange rate was not an export subsidy.

[15] Established at 2.15 pesos from May 1952 to June 1953, and at 2.06 when exemption was waived, calculated to be equivalent to 0.09 per dollar. The rate of 2.06 per dollar is made up of 76 per cent at 2.35 and 24 per cent at 1.519 pesos.

Table 54. Venezuela: Petroleum exports

Years	Volume (thousands of cubic metres)	Value (millions of dollars)	Average price[a] (dollars per m3)
1945.....	50,511	335.7	6.65
1946.....	59,667	484.7	8.12
1947.....	67,363	761.9	11.31
1948.....	74,577	1,163.9	15.61
1949.....	73,136	1,111.4	15.19
1950.....	82,617	1,216.9	14.73
1951.....	93,568	1,414.7	15.12
1952.....	98,450	1,495.3	15.19
1953.....	94,200[b]	1,436.6	15.25

Source: Dirección General de Estadística, Venezuela.

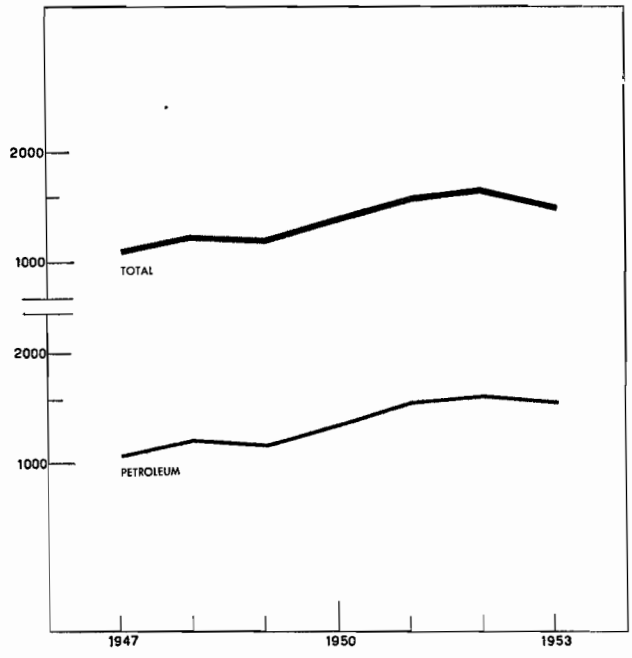
[a] Average prices for all grades of crude petroleum and by-products. These average prices show fluctuations which are not recorded on the world market. In the case of one grade of crude petroleum alone, it may be seen that Venezuela followed the trend of rising prices on the world market since June 1953.

[b] Estimate based on nine months.

Chart XXXV

VENEZUELA: QUANTUM OF ALL EXPORTS AND OF PETROLEUM OUTPUT

Millions of pesos at 1948 prices



Among other Venezuelan exports, mention should be made of the substantial increases in coffee and cocoa exports, together with an upswing in prices for these two commodities. However, these improvements both in tonnage and value were insufficient to offset the decline in petroleum exports, due to the low proportion of coffee and cocoa in the value of all exports.

On the whole, Venezuela's exports have not been modified in their structure, and fluctuations were slight in relation to those occurring in other Latin-American countries. (See table 55).

Table 55. Venezuela: Quantum of exports

(Millions of dollars)[a]

Commodities	1948–50[b]	1951	1952	1953[c]
Petroleum.....	1,177.2	1,460.3	1,530.5	1,466.6
Coffee.....	10.5	7.8	12.3	19.8
Cocoa.....	10.1	9.2	9.8	12.2
All others.....	17.7	6.4	2.2	2.1
TOTAL	1,215.5	1,483.7	1,554.8	1,500.7

Source: Economic Commission for Latin America, based on official statistics.

[a] At 1948 prices.

[b] Average.

[c] Preliminary date.

12. *Central America*

Following the tendency evident during the previous year, Central America's exports registered very high levels in 1953. Considering the five countries together, there was a 7.4 per cent increase over the already high figure for 1952. This situation was mainly due to the substantial rise in the quantum of the exports of El Salvador and Nicaragua. Excluding Honduras, exports from the two remaining countries also showed an upward movement, though to a lesser degree. (See table 56).

Since these countries do not have varied economies, so that their shipments abroad are restricted to a limited number of commodities, the favourable world prices obtained for their main primary commodities over a number of years, particularly coffee and bananas, have played an important role in stimulating production for export. The fact that climatic conditions influenced the excellent 1953 harvests, especially in Costa Rica, El Salvador and Guatemala, should not be ignored.

Table 56. Central America: Quantum of exports

Countries	1951	1952	1953[a]	1951	1952	1953[a]
	(millions of dollars)[b]			(1948-100)		
Costa Rica.....	24.2	28.2	29.0	78.6	91.6	94.2
El Salvador.....	44.8	47.3	51.1	100.0	105.8	114.1
Guatemala.....	45.2	51.4	52.5	90.2	102.4	104.6
Honduras.....	18.5	24.6	23.8	97.1	129.5	125.3
Nicaragua.....	22.9	26.9	35.2	124.6	146.2	191.3
TOTAL	155.6	178.4	191.6	95.3	109.3	117.4

Sources: Individual Foreign Trade Yearbooks and Statistical Bulletins.

[a] Provisional.

[b] At 1948 prices.

Table 57. Central America: Quantum of exports, by commodities

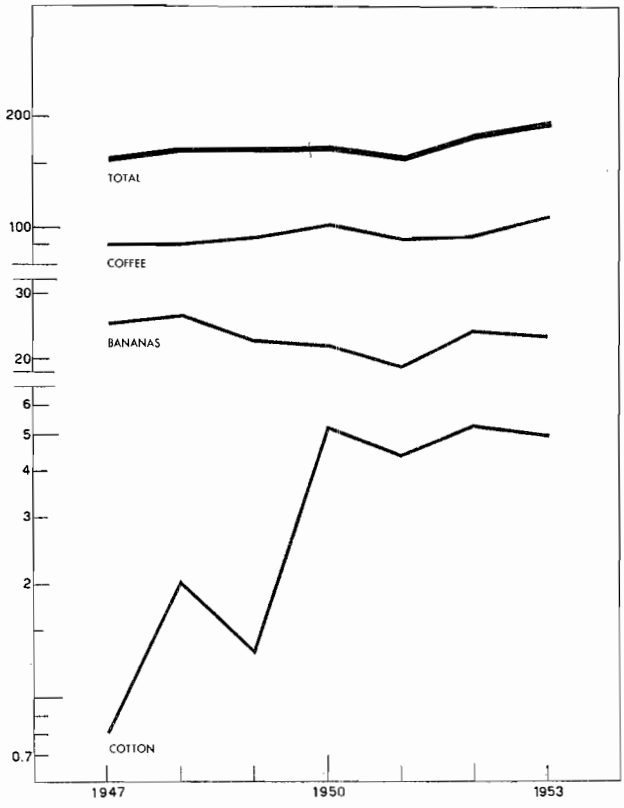
Commodities	1951	1952	1953[a]	1951	1952	1953[a]
	(millions of dollars)[b]			(percentages of total)		
Coffee	86.0	96.4	108.1	55.3	54.1	56.4
Bananas	19.4	24.0	23.2	12.5	13.4	12.1
Cotton	4.4	5.3	5.0	2.8	3.0	2.6
Oil-seeds	3.0	6.5	6.9	1.9	3.6	3.6
Lumber	4.9	6.1	5.7	3.1	3.4	3.0
All others	37.9	40.1	42.7	24.4	22.5	22.3
TOTAL	155.6	178.4	191.6	100.0	100.0	100.0

Sources: Individual Foreign Trade Yearbooks and Statistical Bulletins.
[a] Provisional.
[b] At 1948 prices.

Chart XXXVI

CENTRAL AMERICA: QUANTUM OF ALL EXPORTS AND OF PRINCIPAL PRODUCTS

Millions of dollars at 1948 prices



In addition to the considerable increase in the export quantum, and with reference to changes in export composition, it should be noted that the same five commodities which represented 75 per cent of all exports in previous years recorded a similar proportion in 1953 (78 per cent). Nevertheless, coffee predominated slightly and there was a decrease in the relative importance of bananas.

The Central American republics have not emphasized coffee production, but the downward trend in banana exports from Guatemala since 1946 became more acute in 1953, according to assumptions from the partial data available. In contrast, the remaining countries increased banana exports to an extent that partly offset the drop in Guatemalan shipments.

Exports of cotton, oilseeds (principally sesame) and lumber continued at high levels, although their relative importance cannot be compared with coffee and bananas. (See table 57).

As regards other commodities of less importance in aggregate exports, sales abroad continued actively, taking advantage of the world demand. Increases, varying between 7 and 10 per cent, took place in Costa Rica's cocoa shipments and in the manila hemp exported by Costa Rica and Guatemala. High export levels were also maintained for gold and cattle (Honduras and Nicaragua), rice (Nicaragua), beaten silver (Honduras), and chicle (Guatemala). In the case of some commodities—oilseeds, cattle, maize, beans and textile—the rise in exports was partly due to the development of trade between Central American countries during the last few years.

For all five countries, the general level of export prices was higher in 1953 than in the preceding year. In relation to 1951, only Nicaragua experienced a slight decrease of 0.9 per cent which was mainly caused by the drop in world prices for cotton and rice which commenced that year.

Owing to the importance of coffee in total exports from Central America and the increase in its price, this commodity was the main determining factor in the favourable terms of trade. In 1953, this product in fact represented 56.4 per cent of all exports, while there was also a 5.1 per cent gain in price over the preceding year. (See table 58).

In 1953, banana price levels, which had remained steady since 1948, were able to recover from the slight drop experienced in 1952, showing a 1 per cent rise over 1948.

Table 58. Central America: Unit value indices of exports, by commodities

(1948=100)

Commodities	1951	1952	1953
Coffee	166.6	189.1	198.7
Bananas	100.6	98.2	101.0
Cotton	129.2	93.0	91.2
Oil-seeds	101.1	99.1	99.8
Lumber	97.6	98.8	100.1

Source: Economic Commission for Latin America, based on official statistics.

Timber prices followed a similar pattern. Although the price of oil-seeds was below both the 1948 and 1951 levels, the terms of trade with imported produce were favourable, so that the price decline for the latter was more pronounced. But cotton, by contrast, continued its downward movement, recording a 29 per cent drop in relation to 1951.

V. The evolution of imports

1. *Changes in the quantum of imports*

In 1953 the aggregate quantum of imports for the whole region was 13 per cent lower than the 1952 level. Almost all the Latin-American republics contributed to the overall decline with some decrease in their individual tonnages. The only exceptions to this rule were Peru, Ecuador, Colombia and some Central American countries.

In *Peru,* the increase in imports was due both to the facilities offered by a free exchange system for the entry of foreign goods and to the advantages of very liberal credit granted by the suppliers in an effort to maintain their position on a market which showed signs of saturation. But the upward movement in the dollar rate of exchange and restrictive measures adopted by the government may arrest this abnormal expansion of imports.

In the case of *Ecuador,* the increase was due to a special cause. Imports were ordered in advance to escape the effects of a new customs tariff, to be applied on 1 January 1954. Consequently, it is probable that imports will show a reduction from the 1953 level.

It is clear that in *Colombia* a substantial proportion of the higher proceeds derived from coffee exports have been used for the purchase of consumer and capital goods abroad. A similar situation also exists in the coffee producing countries of *Central America.*

The rest of Latin America is undergoing a period of new restrictions on imports, either due to reduced export earnings or, where such a system has been adopted, a stricter control in granting foreign exchange permits.

In this connexion, the severest restrictions have been applied in *Argentina* where, in 1953, imports represented 37 per cent and 72 per cent only of the volume in 1948 and 1952 respectively. Argentina's imports have been contracting year by year, excluding 1951 when controls were slightly relaxed so that the country should not be left unsupplied with raw materials and essential goods against an anticipated world shortage. It may be inquired how this has been possible without appreciably affecting standards of living and the regular operation of industry and transport. Although Argentina may be considered as one of the highly industrialized countries in Latin America and therefore has been able to replace many imported commodities by domestic production, this process had led to a subsequent expansion in raw material, fuel and capital goods requirements. Restrictions were tighter in 1953 than in previous years, but sacrifices have not been distributed uniformly. According to preliminary data, reduced imports affected capital equipment more than consumer goods, while fuels suffered far less and today account for one-third of all imports. It appears that Argentina has reached a point at which substitution is increasingly difficult; the establishment of new industries continues to require a greater provision of equipment and other imports. As noted earlier,[16] investments have borne the brunt of the austerity policy, and this has been reflected in imports. The only import item to show an increase was farm machinery, and this expressed the government's desire to reemploy this vital production sector to the full.

The case of *Brazil* is similar in some aspects to that of Argentina, but demonstrates a reversal of a rising trend or a pause in a movement which had perhaps been too rapid. Brazilian imports grew at an exceptional rate between 1949 and 1951, far in excess of the capacity for external payments, through the use of credit, payments agreements, and international reserves. In 1952 a decline in foreign purchases occurred (7 per cent under the previous year), while a substantial reduction of 30 per cent took place in 1953, causing imports to reach the level of 1947-49. As in Argentina, restrictions have affected investment, since there was a tendency to give priority to industrial output and consumption of imported goods, for which substitutes could not be obtained.

The position of *Uruguay* is midway between that of Argentina and Brazil. Import reductions in 1951 and 1952 were caused by a smaller capacity for external payments, which obliged the authorities to adopt a less liberal policy in granting import permits. But—as occurred in Brazil—the restrictions came into force two years after heavy imports, caused by the desire to establish reserve stocks as a buffer against future scarcity or supply difficulties. Since these supplies are exhausted, it is probable that strong pressure to increase imports will again be felt in 1953, particularly in the light of the improvement in placing accumulated wool surpluses from two annual clips.

Chile has followed an import policy of periodically adjusting the foreign exchange budget to the proceeds of its basic exports, copper and nitrate. The terms of trade were favourable from 1950 to mid-1953. Imports reached a peak in 1952, but, during 1953, difficulties in placing copper exports necessitated a reduction in purchases abroad and the import quantum thus contracted by 5 per cent.

Imports into *Mexico,* after attaining in 1951 a quantum never previously recorded, began to decline slightly in 1952 and in 1953 showed a 7 per cent decrease on the 1951 figure. In 1952 and especially in 1953, in the development of economic activity suffered from much less favourable conditions and the decline in earnings affected the volume of foreign purchases. At the opportune moment, the government established restrictions for some imports such as shoes, iron bars and so on, to protect domestic industry. Another factor was the smaller domestic demand for imported wheat, owing to the good Mexican harvest. The decline in imports would have been more pronounced if there had not been higher fuel imports in areas bordering the United States, these requirements normally being met by domestic output.

Venezuela has steadily maintained a favourable trade balance, and during 1953 imported almost the same quantum as in 1952. The latter year had already shown a higher level than 1951 or 1950.

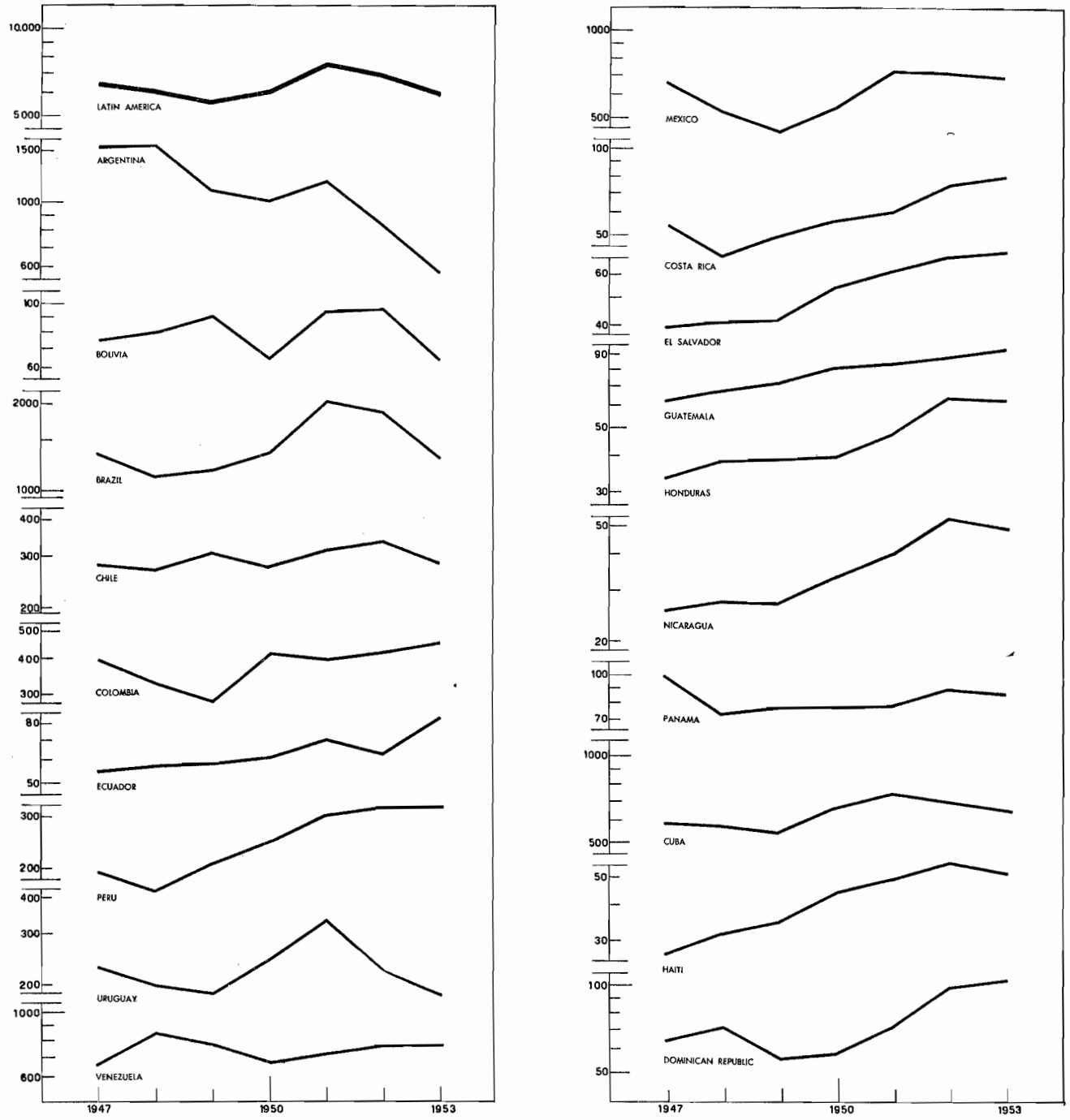
Cuba is another country without foreign exchange problems. Imports declined by approximately 5 per cent in 1953 but this appears to reflect a fall in domestic activity.

[16] See the section on Argentina in chapter I of part I.

Chart XXXVII

QUANTUM OF IMPORTS

Millions of dollars at 1948 prices



2. *Changes in the source of Latin America's imports*

The reversal of the upward movement in Latin America's imports since 1952—the decline becoming more marked in 1953—gives particular interest to an analysis of the degree to which the supplying countries were affected. The phenomena of competition which have reappeared are considered elsewhere, as well as the measures adopted by exporting countries to expand or maintain their position in Latin-American markets. It suffices here to review the shift in the sources of supply from the available current statistics, using as a basis official figures of the countries trading with Latin America.

The United States is still the principal supplier. Latin-American imports from this country decreased between 1952 and 1953, about 20 per cent at current values and somewhat less perhaps in volume. This was because the prices declined for manufactured goods, which are the major factor in such purchases. Imports have almost returned to the pre-Korean level. Purchases in 1951 and 1952, which were 1,000 million dollars above previous annual averages, appear to have been favoured by two factors. These were the efforts to build up reserve stocks against an eventual scarcity (which did not in fact materialize) and, secondly, the advantages derived from temporarily favourable terms of trade.

Table 59. Latin America: Quantum of imports[a]

Countries	1948–50[b]	1951	1952	1953[c]	Percentages of 1953 to 1952
	(millions of dollars)[d]				
Argentina	1,227.5	1,188.8	845.0	580.0	−31.4
Bolivia	78.1	93.6	96.2	64.4	−33.1
Brazil	1,226.1	2,042.2	1,901.0	1,324.9	−30.3
Chile	283.1	316.6	337.7	285.2	−15.5
Colombia	348.7	400.1	425.0	461.1	8.5
Costa Rica	49.2	60.4	74.5	78.8	5.8
Cuba	592.1	739.5	687.0	649.3	−5.5
Dominican Republic	62.0	72.4	98.2	104.6	6.5
Ecuador	58.9	70.7	63.6	84.8	33.3
El Salvador	46.3	63.2	69.8	72.6	4.0
Guatemala	74.5	85.0	88.9	95.3	7.2
Haiti	37.2	49.4	56.4	52.9	−6.6
Honduras	39.4	48.4	65.7	63.3	−3.7
Mexico	505.6	728.3	708.5	693.5	−2.1
Nicaragua	29.3	40.0	53.1	49.2	−7.3
Panama	75.7	78.6	89.9	86.6	−3.7
Peru	208.5	305.5	322.5	323.9	0.4
Uruguay	211.9	337.8	224.3	186.0	−17.1
Venezuela	759.3	721.8	767.9	766.8	−0.1
TOTAL	5,913.4	7,442.3	6,975.2	6,023.2	−13.6

Source: Economic Commission for Latin America, based on official statistics.

[a] C.i.f. value.
[b] Average.
[c] Preliminary estimates.
[d] At 1948 prices.

For Europe the situation was somewhat similar, although purchases in 1951-52 did not experience such a sharp upswing. Estimates based on available data for the first nine months of 1953 indicate that Latin-American purchases from Europe as a whole showed a decrease of 15 per cent. The level reached was also very similar to that of 1950, or a value of 1,500 million dollars. The quantum of imports was probably somewhat smaller, but 1953 prices for manufactured goods were some points above the pre-Korean level.

Canada's exports to Latin America also fell by 30 to 35 per cent, according to preliminary estimates. In contrast, Japan improved its absolute and relative position as a supplier of Latin America, an indication of the efforts being made by that country to recover its former position after the Second World War. (For the respective country positions, see the figures in table 60).

Significant changes have occurred in the import distribution of European goods. Some countries—France, Italy, Western Germany and Switzerland—have been able to improve or more or less maintain their position in relation to 1952, whilst others—Belgium, the Netherlands, Sweden and particularly the United Kingdom—have experienced setbacks. From the first place it occupied in 1951, the United Kingdom now ranks second to Western Germany, a country which has recovered a large proportion of its pre-war markets in Latin America.

The factors causing these changes vary considerably, but the most significant appears to have been the provision of credit facilities. With prospects of losing ground and faced by the slackness of Latin-American demand, several European countries resorted to a wider use of credit, as well as to an extension of the period for payment.

Table 60. Latin America: Distribution of imports, by source

Source	1951	1952	1953[a]	1951	1952	1953[a]
	(millions of dollars)[b]			(percentages of total)		
United States	3,638	3,337	2,850	57.0	54.7	54.8
Europe	2,905	1,750	1,500	32.8	28.7	28.9
Canada	197	277	200	3.1	4.5	3.8
Japan	89	49	100	1.4	0.8	1.9
Other sources[c]	361	687	550	5.7	11.3	10.6
TOTAL[d]	6,380	6,100	5,200	100.0	100.0	100.0

Source: Economic Commission for Latin America, based on official statistics.

[a] Preliminary estimates.
[b] F.o.b. values.
[c] Comprises other regions and inter-Latin-American trade.
[d] Obtained by deducting from the c.i.f. total values 15 per cent for freight charges and other expenses.

3. *Changes in the composition of imports*

A matter of special interest, particularly from the viewpoint of economic development, is the definition of which commodities or group of goods have been most affected by the over-all contraction of imports which Latin America was obliged to adopt in 1953 to remain within the limits of its capacity for payments. Although the decisive factor was the loss of external purchasing power in most Latin-American countries, in some cases individual decisions acted as a natural or spontaneous check, while elsewhere the application of a stricter policy of deliberate restrictions was the procedure chosen to reduce foreign purchases. It cannot be doubted that in both cases there must have been a selective criterion or a scale of priorities. It is thus advisable to see if the effect of this criterion is already apparent in Latin-American imports.

It is possible to make a preliminary calculation of the changes which occurred in 1953, and to compare them with previous years. (See table 61.)

In absolute terms, only in the case of fuels was there a continuation of the upward trend of previous years, since this is a difficult item to reduce in view of the marked power shortage in Latin America. The rise in quantum was only 1.8 per cent, but even this figure is considerable when compared with the substantial declines registered in total imports and in the remaining commodity groups. This increase was principally due to larger imports of Argentina, Chile, Mexico and Uruguay and to the maintenance of the 1952 levels in other countries. In this way, the relative share of fuels in the over-all quantum was 12.5 per cent in 1953, as compared with 10.6 per cent in 1952.

Consumer goods were affected least by the drop in the over-all quantum, registering a decline of 9.6 per cent. This was due in part to increased imports of this commodity group by Colombia, Ecuador, Venezuela and the Central American countries, although these increments were not large enough to offset the marked downward trend of other countries, such as Argentina, Brazil and Chile. The fact that the decline was less than that of the total quantum caused the relative share of consumer goods in aggregate imports to rise from 36.5 per cent in 1952 to 38.2 per cent in 1953.

Of greater importance than the decline in consumer goods was that which occurred in the raw material sector, which dropped 15.9 per cent in relation to 1952. The most substantial decreases as compared with the volume of the previous year took place in Argentina (43 per cent), Brazil (26 per cent), Chile (14 per cent) and Mexico (12 per cent). An exception to this downward trend took place in Uruguay and Venezuela, while the remaining countries were able to maintain approximately the same levels. Nevertheless, there was no significant change in the relative importance of raw materials in aggregate Latin-American imports (15 per cent).

Finally, mention should be made of the pronounced drop in total Latin-American imports of capital goods, which in 1953 declined 21 per cent in relation to the previous year. As a result of this, the proportion of these to total imports fell from 37.0 to 33.8 per cent, the lowest level for the last few years. The most substantial reductions took place in Argentina (40 per cent), Bolivia (48 per cent) and Uruguay (34 per cent), while slight declines were registered for Cuba, Chile and Venezuela. On the other hand, there were substantial increases of 29 per cent in Colombia, 33 per cent in Ecuador and 26 per cent in Peru.

Table 61. Latin America: Composition of imports

Commodity groups	*1948–50*	*1951*	*1952*[a]	*1953*[a]	*1948–50*	*1951*	*1952*[a]	*1953*[a]
	(millions of dollars)[b]				*(percentages)*			
Consumer goods	2,141.3	2,696.8	2,545.0	2,300.8	36.2	36.2	36.5	38.2
Raw materials	1,039.8	1,371.8	1,110.1	933.6	17.6	18.4	15.9	15.5
Fuels	508.5	667.0	739.3	752.9	8.6	9.0	10.6	12.5
Capital goods	2,223.8	2,706.6	2,580.7	2,035.8	37.6	36.4	37.0	33.8
TOTAL	5,913.4	7,442.2	6,975.1	6,023.1	—	—	—	—

Source: Economic Commission for Latin America, based on official statistics.

[a] Provisional figures.

[b] At 1948 prices.

Chapter IV

THE MONETARY SITUATION

I. General considerations

The contrast between the monetary situation of the various Latin-American countries during 1953 — particularly with regard to the course and development of inflation — was heightened by prevailing world conditions which, although preserving the same general tendencies, differed somewhat from those of 1952. In some instances the inflationary process reached an acute stage, causing the authorities to adopt plans to contain it and to solve difficulties arising in the balance of payments through the increase in imports and the falling-off, or stagnation, of exports. However, those countries which have not experienced sharp monetary inflation in recent years have, in general, succeeded in maintaining their position.

Apart from exceptional cases, there is a very close correlation in Latin America between variability in the money supply and price fluctuations, the latter usually following the former. Thus a study of variations in the money supply and their determining factors, whether of an internal or external nature, is a first step towards analysing the problem of inflation.

Without ignoring the features to be observed in the various countries and to which reference will be made later, an initial classification may be undertaken in which the predominant features of each group are emphasized:

(*a*) The first group consists of countries which, since the war and particularly between 1947-50, have shown a greater rate of inflation through the action of both external and internal factors, and in which the situation of foreign exchange reserves became critical owing to the pressure of heavy imports in 1951. Influenced by these circumstances, a slight downward trend in the money supply could be noted during 1952, but towards the end of that year and in 1953, expansive forces appeared to gather new strength, except in those few countries where the adoption of special measures resulted in a relative stabilization of the inflationary process. Throughout the period under review (1946-53), and to a more marked extent in 1953, internal factors have prevailed. Argentina, Brazil, Bolivia, Chile, Colombia, Mexico, Paraguay and Peru may be included in this group.

(*b*) The second group comprises countries which enjoyed relative monetary stability during 1947-50 and in which the creation of the money supply was mainly subject to the action of external factors. During 1952 and 1953 the countries in this group maintained or slightly accelerated the moderate expansion of their money supply under the influence of favourable balances of payment which enabled them to increase their monetary reserves or, when these contracted, through increased bank loans. Costa Rica, Cuba, the Dominican Republic, Ecuador, El Salvador, Guatemala, Honduras, Nicaragua, Uruguay and Venezuela are in this group.

The above classification is by no means rigid. As stated earlier, there are overtones causing differences which are at times substantial among the countries within a given group. Thus, for instance, Paraguay stands out in the first group because of the persistence and growing intensity of its inflation, which caused violent price increases. In the second group, Guatemala, Honduras, Uruguay and Venezuela are characterized by marked monetary and price stability, while there has been a certain rise in Nicaragua. External factors have had less influence in some cases (Costa Rica and the Dominican Republic).

The action of external factors can at once be observed from aggregate monetary reserves, whose fluctuations in turn determine the creation or absorption of the money supply. It is a well-known fact that Latin America is extremely sensitive to external factors because its levels of income and output are so dependent upon exports and imports. In recent years, however, these fluctuations in reserves have not always been closely reflected in the monetary field; this is evident when it is recalled that a fairly uniform expansive trend in the money supply has, at frequent stages in the process, coincided with an adverse balance of payments and a resultant reduction in reserves. There are many examples of a greater monetary reserve coinciding with a downward trend in the pace of inflation and even with pronounced stability in the money supply. The explanation lies in the influence of internal factors which have, in recent years, played an important role in Latin-American economies.

These internal factors have reacted differently upon the various countries of Latin America and the stages of their post-war development. In some cases the result has been to offset fluctuations in the balance of payments, particularly when these gave rise to absorption of the money supply. In others the effect has been contributory, that is to say, it has worked towards the same end, aggravating or intensifying the effects of the fluctuations on the money supply. Taking Latin America as a whole, there have been good examples in recent years of differing behaviour patterns of internal forces. Thus the loss of reserves in 1951, due to heavy imports, was checked in the internal field by the creation of money, which usually involved an intensification of the inflationary process. In 1953, when an improvement could be noted in the position of international reserves, internal factors in most cases showed a continued trend towards increasing the money supply.

As regards individual countries, in some cases (Mexico, Paraguay) the initial impulse was derived from external factors; in others (Argentina, Brazil) the internal forces reacted somewhat independently of monetary reserves. But in both cases internal factors finally predominate; when the expansion has acquired some intensity, the forces unleashing the inflationary process tend to perpetuate themselves. If the position of reserves becomes really critical or difficulties connected with the state of international ac-

counts arise, external factors will once more take effect and will influence the direction given to monetary policy. This is the position of Peru, where disequilibrium in reserves and depreciation of the sol are putting the liberal exchange system to the test.

Thus it should not be forgotten when discussing the predominance of internal factors in the course and development of Latin America's post-war inflation that the economy of these countries fundamentally depends upon their foreign trade. In the past, variations in this trade gave rise to practically automatic expansions or contractions of money in circulation, owing to the rigidity of the monetary systems in force among most of the countries. The greater elasticity of the present systems and Governmental determination to use monetary and fiscal policy for purposes of economic development, full employment or social improvements, do not imply that such variations have ceased to have a decisive influence on the success or failure of these proposals or on the direction given to monetary events. The fact that internal factors have recently tended to increase the money supply does not prevent either the consequences of that increase from being reflected in exports and imports over the short term in the manner indicated above, or the fluctuations from becoming the main cause of concern to Governments. This is particularly clear in those cases—of which Brazil's experience provides the best example—in which the fluctuations threaten the whole economic structure. It is for this reason that stabilizing forces should stem, as they have done in some countries, from internal factors, through either fiscal measures, credit policy or systematic programmes and campaigns for saving and investment.

There is no doubt that it is more interesting to analyse the experience of those countries which have undergone or are suffering from a high degree of inflation. Although the inflationary process has some common characteristics, which are due to the similarity in the economies of the Latin-American countries or are, as mentioned earlier, inherent in a process of this nature, it also has features giving a distinctive character to differing cases. Thus the experiences of Bolivia, Brazil, Chile or Paraguay, the countries with the most critical situations in 1953, are by no means identical.

In Brazil, the process may be described as an inflation of investments. In the post-war period investments have grown at a rate which at times (1951) can only be described as exceptional. Other factors, such as fiscal deficits, the rise in wages, speculative investments and so on, were contributory rather than the cause of inflation. The developmental crisis in Brazil is most obvious from the foreign accounts, with their inevitable repercussions upon the domestic economy. Furthermore, investments were apparently not financed in their entirety from voluntary savings, but through bank credits. Investments in the public sector were made at the cost of fiscal deficits and were likewise covered through bank loans or direct currency issues.

Conversely, investments have played no important part in the course and development of inflation in Bolivia, Chile and Paraguay. There the most decisive factors were public finances and increases in nominal wages which sometimes led to an improvement in real wages, but which usually, over the whole period, did no more than enable the workers' purchasing power to be maintained. The source of the funds from which such increases were met, as well as bank financing of the fiscal deficit, led to a price and wage spiral aggravated by stationary domestic production and difficulties in maintaining the required level of imports. In the case of Bolivia, these difficulties could most clearly be observed in the deterioration of the terms of trade due to the fall in the price of tin, the principal export product. Chile, by contrast, has maintained the terms of trade at a high level by refusing to sell copper at world prices, which has resulted in a pronounced deficit in the foreign exchange budget.

Argentina may be considered as an intermediate case. The initial stimulus to the inflation arose from increases in wages and in social benefits for workers. To these was added a process of industrialization which—together with increases in wages and social benefits—was made possible by a liberal credit policy and certain favourable foreign events. Once these latter changed and the price-wage spiral broke loose, inflation was able to proceed through the use of accumulated monetary reserves and of credit. But with an intensification of the inflation—largely due to crop failures—the situation became critical because reserves were already greatly depleted.

In Mexico the progress of inflation was aided by several combined or alternating factors: the balance of payments, which in 1949 and 1950 had been extremely favourable; a high and growing investment rate, a high proportion of which originated in the public sector; substantial credit expansion; a much less substantial growth of income; and, in general, a disequilibrium between the rise in the money supply and the increase in available goods, which, together with the influence of the 1949 devaluation of the peso, resulted in prices 54 per cent higher in 1951 than in 1948. There was a very moderate decline in the inflation during 1952, which extended into 1953. Mexico's economic development since the war has been intense, as judged by the rate of capital formation.

The Central American republics represent a group of economies which have neither experienced inflation nor have developed to any great extent, with the single and relative exception of El Salvador. These countries increased their international reserves through a rise in their export quantum, an improvement in the terms of trade, and the incomplete use of their capacity to import. Total reserves for this area rose from 118 million dollars in 1948 to 212 million in August 1953. The rise in export commodity proceeds, apart from having a direct influence on general price levels, also extended to domestic consumer goods through higher income. This immediately benefited exporters, but later spread to the rest of the economy through a general rise in demand. Hence the upsurge in prices. An important part in moderating this upward movement and preventing it from eventually developing into inflation—except in Nicaragua and El Salvador, where the rise was higher—appears to have been played by the increase in savings, which exceeded domestic investment, by budget surpluses and, in general, by a monetary policy along orthodox lines.

Latin America's post-war experience illustrates both the continued influence of external factors on its economies and the effects which a policy of mere monetary expansion may have in promoting development.

At some stages there is a coincidence between inflation and development in some countries, such as Argentina, Brazil and Mexico. This coincidence does not, however, warrant the establishment of any relationship of cause and

effect between the two events, or any assumption that development must necessarily be accompanied by inflation or that development with inflation provides a firm basis for economic growth.

It is true that an upward movement of investments does initially provoke an increase in the money supply and a rise in prices; it is equally clear that, as a primary incentive, some credit expansion is required. But it does not necessarily follow that monetary expedients alone will permit an unhindered advance along this road. The promotion of development and the preservation of the growth already achieved are linked to other basic assumptions: the existence of a high capacity to import, permitting the purchase of capital goods; a reasonable formation of domestic savings or an inflow of foreign capital to supplement a lack of savings; a tax system likely to foster and channel investments, and efficient handling of public finances; a prudent and moderate social policy; equilibrium in the various branches of economic activity; and so forth. In other words, the requirement is a combination of factors favourable to economic development under conditions of monetary stability.

There are very powerful obstacles in Latin America to such harmonious and balanced development. This is so, first and foremost because expansion has largely arisen from the influence of favourable external factors which, as the facts tend to show, are of a transitory rather than a permanent nature. Consequently, when the terms of trade deteriorate or fail to improve, or when the quantum of exports is prejudiced by natural or other causes, tensions arise such as those currently affecting several countries in the region. Where no intensive substitution process has been undertaken, or no reinforcements of foreign capital are available, the falling-off in the capacity to import seriously affects the supply of the industries processing imported raw materials, or impedes the replacement of essential equipment and machinery.

Conversely, savings have not reached the required proportions or else have been directed towards investments of a speculative nature. Domestic saving has acquired some importance in the Central American republics, but these are the very countries where there has been little development and no inflation. In many countries the lack, or poor control, of savings is partly due to the absence of organized stock markets and partly to the insecurity created by inflation.

The fiscal structure is normally regressive and characterized by the prevalence of indirect taxation. Public expenditure has, in turn, been increasing at the same pace as inflation and the rise in prices. While this may appear to be a logical process, enabling the Government share in the gross national product to remain constant, it becomes less logical when it is observed that public expenditure has a singular inflationary power. As a result of higher Government spending, a type of "budget-inflation" spiral is engendered which offsets the effect of restrictive measures. In fact, the rise in public expenditure is usually greater than the increment in the national product and tends to be accompanied by deficits which are generally financed by bank credit rather than by public savings.

From the angle of social policy, once again events have not been propitious for containing inflation. In some cases, as noted earlier, monetary expansion originated in wage increases; in others, wage increases had to be granted to meet the rise in the cost of living. Throughout the period 1946-53, real wages were subject to a variability which, on an average, gave them some stability. From this standpoint, the price-wage spiral only results, for the wage-earning class, in offsetting the consequences of the income redistribution in favour of the classes receiving profits which is normally produced by inflation. If this is so, and since an inflation of costs is based on a rise in nominal wages, any attempt to check it by stabilizing wages without achieving a simultaneous stabilization of prices meets powerful obstacles, or at least has to pay an extremely high social cost.

Inflation directed towards raising investments—when the availability of idle factors is insufficient or when optimistic or speculative prospects are roused in certain quarters—often provokes a transfer of resources towards some activities to the detriment of others. If, as is often the case, the latter activities are those upon which the capacity to import is fundamentally based, a dislocation occurs which soon results in disequilibrium in the balance of payments and in supply difficulties. This situation has occurred in some countries in which an industrialization policy deprived primary activities of incentives and resources. To some extent, a similar process of absorbing surplus or low productivity resources, particularly of labour, by other activities with a higher productivity must take place if the countries concerned are to develop. But any exaggeration in the size or type of the investments may cause the consequences noted above.

In the various Latin-American countries with experience of inflation there have been several combinations in the action of such factors, which have led to critical situations in the last two years. Brazil is an extreme example of such results. It should thus be stressed that the fact that it was possible to promote development and inflation jointly was due to a combination of favourable and circumstantial factors entirely independent of inflation itself. Such favourable factors include an improvement in the terms of trade, greater exports and foreign investment in certain basic sectors, supported by official action either through investment, through the incentive of exchange rates, or through a selective credit policy. Furthermore, when such elements cease to function or change their direction the way is clear for inflationary forces and their sequel of social and economic upheavals. If, as in countries with an inflation but no development, these factors are absent and inflationary forces have operated alone, the crisis is more serious and becomes chronic; it provides the best illustration of the thesis that inflation is not capable of promoting development. Moreover, such countries attempt the more logical process of combating inflation by fostering development.

During the last two years, but particularly in 1953, there has been a healthy reaction against inflationary trends, resulting either in the formulation of plans, in fairly organic, isolated measures, or at least in the statement of firm objectives.

Fundamentally, such plans and objectives coincide at many points, even at times in their contradictions and results. They include balanced budgets, price freezing, modification of the exchange system, credit restriction and selection, adjustment of wages and salaries, stimulation of production, import restrictions, and so on. Conversely, all such measures show concern for improved co-ordination between monetary and fiscal policies.

Without entering into details that will appear at a later stage, it should be noted that Latin America has recently shown greater confidence in the possibilities of monetary policy. Differing expedients have been adopted in different countries: some adopted the traditional expedient of varying the cash ratio of banks (Bolivia, Colombia, Mexico, Peru); others tried open market operations (Mexico) or quantitative credit restriction through limits or ceilings (Chile, Costa Rica, Paraguay); a further example—when monetary legislation so permits—was the direct regulation of loans (Argentina). In this last case, by virtue of the nationalization of bank deposits decreed some years ago, the credit prospects of Argentina's banking system are almost exclusively subject to re-discounts granted by the Central Bank.

In contrast, little use has been made of the method of varying the interest rate. The demand for credit has normally been intensified by inflation, and prevailing bank rates in most countries are fairly high, but not in relation to what the public is willing to pay or the rates they would have to pay for private loans. It may thus be assumed that a rise in the bank rate would not be an efficient restrictive measure.

The fairly modest curb on bank credit has at times provoked currency shortages owing to the requirements of a demand which continues to be stimulated, if not actually urged, by motives of liquidity or by unrestricted high costs. This was the case of Paraguay in mid-1953. In Chile, the decision to place a maximum limit on the rate of increase in bank loans was abandoned for the same reasons. A sharp contraction in the currency in circulation may give rise to dangerous depressive tendencies. In Mexico, where restriction of the money supply has operated in the sector of official investments, which represent a high proportion of the total, there has been a falling-off in all indices of economic activity.

Proposals for financial austerity and balanced budgets are general throughout the countries attempting to arrest inflation, but in most cases they have been only partially fulfilled. The need to adjust expenditure to the high level of administrative costs and to compensate civil servants and government employees for the rise in the cost of living compels the first step in the economy plan to be an increase in the budgetary figures to levels above those already prevailing. This was the policy followed in Chile and Paraguay.

These contradictions are even more evident in the field of prices and wages. While the first are frozen, the second are adjusted by authorizing new increases to correct an existing disequilibrium or to avoid an imbalance caused by other measures included in the plan. In Bolivia and Chile, for instance, the modification of the exchange rates, which tended to raise the prices of several essential imported commodities, was accompanied by a general increase in wages.

Balance-of-payments problems caused devaluation in some countries through necessitating either an increase of exports of a reduction of imports. The best-known and most energetic such devaluation took place in Brazil, where the auction system established in October 1953, in addition to bringing about devaluation, gave scope for the introduction of multiple exchange rates additional to those already in existence and constituting a contributory factor to the rise in prices.

It should be noted that the simultaneous freezing of prices and wages in Argentina succeeded in arresting the rise in the cost of living, at least temporarily.

The difficulties encountered by the Latin-American countries in developing their economies without inflation and without a disequilibrium in their balance of payments, or in curbing the inflationary process, have led several of them to realize that the assistance of foreign capital is at present essential to supplement the shortage of domestic savings and to increase investment possibilities, particularly if the latter cannot be achieved without basic supplies from abroad. Moreover, this type of investment is aimed both at saving foreign exchange, if applied to the substitution of imported goods, and at an increase in the capacity to import, if directed towards the production of export goods. With these objectives in view, Argentina, Brazil and Chile enacted in 1953 legislation to encourage and protect an inflow of foreign capital. This is in addition to plans and projects which exist in many countries, and some of which are already in operation, to foster the contribution of foreign capital to specific industries or other activities through specific contracts or agreements. The legislation in Argentina and Chile particularly refers to facilities for the remittance of profits and for capital re-exports, and to guarantees against expropriation of investments.

This brief review of recent outstanding monetary events in Latin America is primarily designed to underline the obstacles which some countries must overcome in order to attain monetary stability after a period of sharp inflation. It also serves to stress the undeniable fact that, broadly speaking, only a very slight reduction in the vulnerability of their economies to external factors has been achieved.

If experience as rich as that of these countries could be condensed into a few fundamental points, the following would have to be included:

(*a*) Fiscal policy has decisively influenced the course of inflation, both through the high proportion of public expenditure within the total income and through the regu- attempts of governments to solve them.

(*b*) The increase in the gross product, largely caused by an improvement in the terms of trade and the greater volume of exports, has been translated not only into an increase in the demand for and consumption of domestic goods, but also into a disproportionate rise in imports. The change in these factors and the persistent import demand have brought about serious disequilibria and exchange difficulties.

(*c*) The redistribution of income which is normally caused by inflation has favoured consumption by the classes benefiting thereby, and speculative investment, to a greater degree than basic economic activities;

(*d*) Bank credit has been almost without restriction to increase investments and costs, as well as to meet the demands of the public sector;

(*e*) The upward movement in the cost of living necessitated continued wage increases, which have resulted in only a sporadic improvement of real wages. The social problem that would arise from freezing wages without arresting the rise in prices is one of the gravest obstacles to any anti-inflationary policy;

(*f*) Financial austerity programmes and restrictions on credit and imports have engendered depressive tendencies;

(*g*) The countries which have experienced the sharpest degree of inflation and those which have experienced none at all show the least development.

It would be unwise to draw specific conclusions from these facts, particularly concerning the relationship between inflation and development. No definite statement can be made as to the value of the individual plans for containing inflation and for fostering development, nor as regards the success achieved arresting inflation, which to date can be considered only as precarious. It may be said, however, that this experience provides eloquent examples of the risks and the social or economic upheavals traditionally attributed to inflation.

II. Evolution of the monetary situation by countries

The previous section comprised a summary of the monetary situation in Latin America enabling the broad outlines of such events in this sector of the economy to be discerned. The following pages are devoted to a country-by-country analysis of the monetary situation. The aim of this section is to detach specific events from the previous brief review and to indicate in summarized form both the main problems confronting individual Republics and the attempts of governments to solve them.

1. *Argentina*

The outstanding features of Argentina's monetary situation in 1953 were the pause in the inflationary process and the recovery of international monetary reserves due to the increase in exports achieved through recent excellent harvests.

The losses in reserves, caused by the adverse balance of payments in 1951-52, were the culmination of a process which had been in continuous operation since 1947, with the single exception of 1950, when the balance of payments was favourable. Almost throughout the post-war period the absorption of the money supply which these circumstances involved was fully offset by the bank loans placed at the disposal of an expansionist policy. The heavy deficits of 1947 and 1948 largely originated in the repatriation of the foreign debt and the nationalization of public services. This led to a situation similar to that of 1951-52, when the deficit was due to substantial imports, stimulated as a precaution against possible future shortages, and to considerably reduced exports. But in 1947-48, although the expanding pressure of bank credit was arrested, the money supply continued to increase and the inflation recovered and even accelerated its pace in 1950 through the combined action of external and internal factors. Conversely, during the first half of 1952 restrictions were more severe and the intention of the authorities to curb inflation became more obvious. This policy has been somewhat relaxed since the achievement of a reduction in imports and the remarkable subsequent recovery of the export trade mentioned earlier. In the first nine months of 1953, there was, owing to pressure from external and internal factors, a far greater increase in the money supply than that registered during the same period of 1952. (See table 62 and chart XXXVIII.)

Chart XXXVIII
ARGENTINA

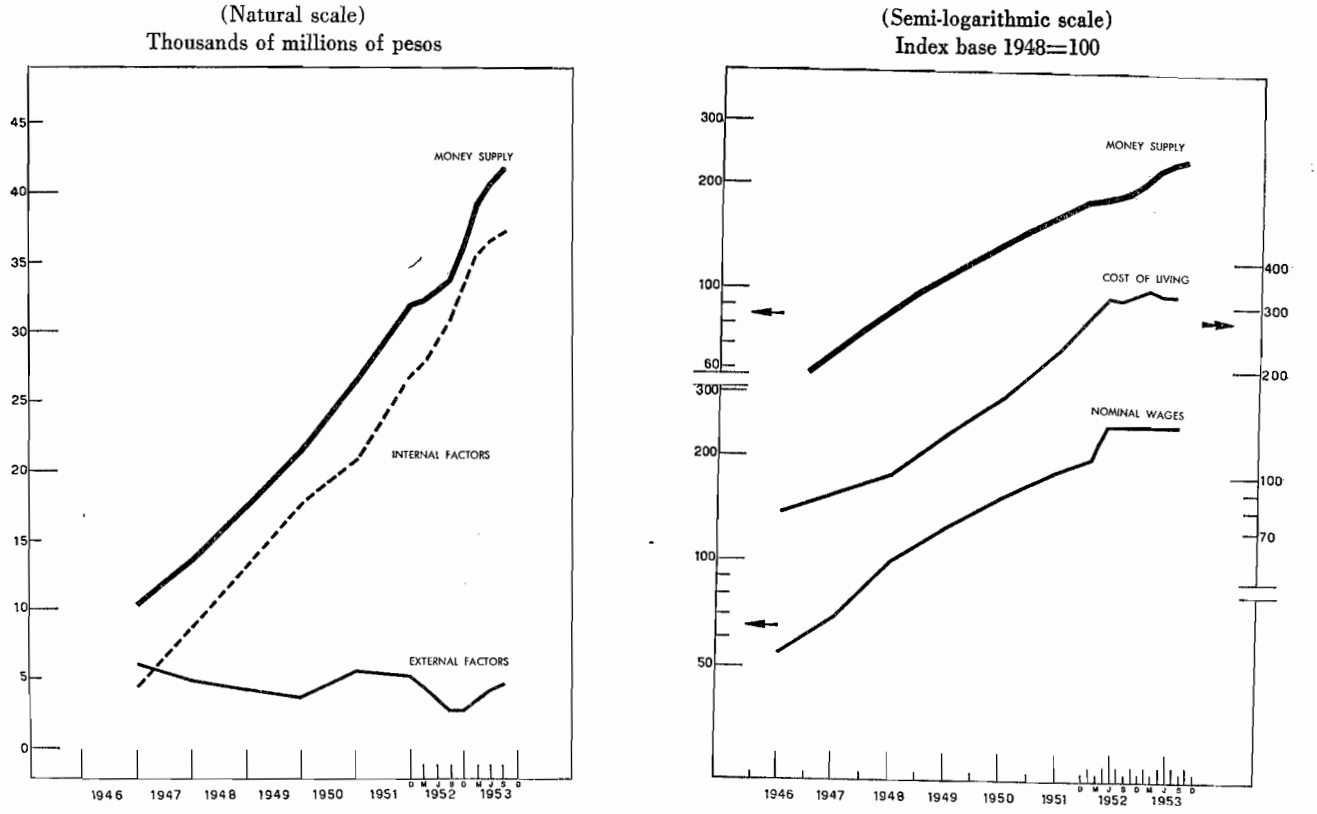


Table 62. Argentina: Sources of money supply

(Millions of pesos)

Years and quarters	External factors[a] (A)	Internal factors			Money supply absorbed (−) (E)	Net variation in money supply (F)	Aggregate money supply (G)
		Total (B)	Public sector (C)	Private sector (D)			
1946	354	3,830	1,683	2,147	−1,619	2,565	10,368
1947	−1,184	5,385	2,704	2,681	−1,008	3,193	13,560
1948	− 638	6,800	3,395	3,405	−2,265	3,897	17,475
1949	− 446	5,596	2,866	2,730	−1,226	3,924	21,398
1950	1,771	5,087	472	4,615	−1,951	4,907	26,305
1951	− 433	7,930	1,024	6,906	−1,921	5,576	31,881
1952:							
I	− 734	1,395	348	1,047	− 440	221	32,102
II	−1,606	3,301	413	2,888	− 753	942	32,823
III	−2,370	5,199	993	4,206	−1,112	1,718	33,599
IV	−2,383	7,972	1,152	6,820	−1,653	3,936	35,817
1953:							
I	714	3,643	3,794	−151	− 589	3,030	38,847
II	1,393	5,101	4,392	709	−1,012	4,744	40,561
III	1,929	6,843	4,556	2,287	−2,855	5,917	41,734
IV[b]	2,123	7,308	4,486	2,821	−3,535	5,896	41,713

Sources: Banco Central, *Memoria Anual*, and Ministerio de Asuntos Técnicos, *Síntesis Estadística Mensual de la República Argentina.*

General notes:

(A) Variation in reserves of gold and foreign exchange held by the banking system.

(B) The sum of cols. (C) and (D).

(C) Variation in the loans granted to the government and official bodies by the banking system.

(D) Variation in loans granted to the private sector by the banking system.

(E) Variation in all accounts causing absorption of the money supply, such as savings and time deposits, capital reserves, profits, etc., of the banks.

(F) Variation in col. (G).

(G) Includes government deposits.

The above notes refer to all tables dealing with sources of money supply for the individual countries studied in this chapter.

[a] Comprises exports on a credit basis.

[b] October.

There is a contrast between the steady rate of increase in the money supply between 1946 and 1952 and the continuous loss—except only, as already noted, in 1950—of monetary reserves. The figures for the aggregate money in circulation demonstrate a degree of expansion which is among the highest in Latin America during the period under review. On the other hand, a glance at simultaneous developments in the cost of living and in wages will bring to light the magnitude of the inflationary process. (See table 63.)

The expansion of the money supply in Argentina is often described as an inflation of costs. However, this is not strictly accurate for the whole post-war period, and it may be more correct to speak of it as a combination of two types of inflation, firstly of costs and secondly of investments. It began as an inflation of costs owing to the general rise in wages and social benefits granted to workers. There followed a clearly defined policy of industrialization and of investment, both public and private, aided by the banking system. There is no doubt that, among the immediate consequences, the inflation of investments predominated, and this, favoured by propitious circumstances abroad, especially the terms of trade, permitted of a considerable increase in the gross product up to 1948. During the years 1946-48, prices and wages spiralled, but the rise in the gross product caused an increase in real wages, to which the redistribution of wealth characteristic of any inflationary process largely contributed.

Table 63. Argentina: Indices of money supply, cost of living and wages

(1948 = 100)

Years and quarters	Money supply	Cost of living[a]	Wages	
			Nominal[b]	Real[c]
1946	59.3	77.9	54.5	70.0
1947	77.6	88.4	69.7	78.8
1948	100.0	100.0	100.0	100.0
1949	122.4	130.0	124.6	95.8
1950	150.5	164.6	152.7	92.8
1951	182.4	224.9	182.1	81.0
1952:				
I	183.7	289.0	198.0	68.5
II	187.8	319.2	243.7	76.3
III	192.3	314.6	243.7	77.5
IV	205.0	325.3	243.7	74.9
1953:				
I	222.3	334.1	243.7	72.9
II	232.1	321.4	243.7	75.8
III	238.8	321.2	243.7	75.9
IV[d]	238.7	318.4	243.7	76.5

Source: Ministerio de Asuntos Técnicos, *Síntesis Estadística Mensual de la República* Argentina.

[a] For the federal capital.

[b] For industrial workers in the federal capital.

[c] The series were obtained by deflating the nominal wages series by the cost of living index.

[d] October.

The modification of the external factors altered the situation in 1949. Exports suffered from the united effects of the decline in agricultural production, of high costs, and of the deterioration in the terms of trade. Real earnings fell and the inflationary spiral of prices and wages became more acute. There was also a drop in productivity per employed worker, and the gross product declined in 1951-52. Nevertheless, in 1951 and 1952 the intensive use of reserves and credits from bilateral trade agreements made an import surplus possible and enabled consumption levels to be maintained.

The contrast between the periods 1946-48 and 1949-52 cannot be attributed solely to the inflation of costs, which finally prevailed over that of investments. Unfavourable external factors combined with natural causes to prejudice the export trade. There was, in addition, the effect of industrial expansion which impaired primary activities. But it is evident that inflation did weaken the basis of Argentina's economy, placing it—as events were subsequently to show, and despite the progress achieved—in a position of extreme vulnerability to external factors. The intervention of such phenomena helped to endow the growth of money supply with features typical of an inflation of costs.

The austerity programme launched by the Government in 1952, accompanied by a restriction of bank credit, might be cited as an example of the sacrifice the economy has to shoulder when the attempt is made to impose too energetic a control on inflation. Industrial production declined and the national product developed a downward trend which reduced it to a very low level. In some spheres of activity the decrease in sales placed many entrepreneurs in a critical situation and increased the number of bankruptcies. There thus appeared a phenomenon typical of certain stages in the inflationary process. This was the decapitalization of private companies and their lack of liquidity, which prevented them from meeting replacement costs and paying rising wages. The result, for the average of 1952, was a halt in price increases and a general slackening of the pace of inflation. Indeed, the cost-of-living index, which had been 319.2 in the second quarter of that year, declined to 314.6 in the third, while the money supply showed only a very moderate increase between these periods. Towards the end of the year, however, there were signs of an increase in the money supply. This tendency was due to a combination of the desire to put an end to the depressive tension on the one hand and, on the other, the prospects offered by good harvests and by the investments envisaged in the Government's Second Five-Year Plan. These events were accompanied by further rises in prices, but not in wages.

A process similar in some of its aspects was repeated in 1953. The cost-of-living index in the first quarter rose to 334.1, while wages remained stabilized. The effects on the working class—whose real wages suffered a further reduction at a time when it was felt that private companies could not meet any new increase—obliged the Government to adopt energetic measures. These were designed to control any rise in prices, to ensure that official levels were observed, and to frustrate any speculation which might hinder normal supplies to the public. In this way the cost-of-living index was reduced to 321.4 during the second quarter and to 318.4 in October. In addition, various factors combined to prolong the depressive trends of the previous year.

Credit restriction for the private sector was more severe. As a consequence, during the first half of 1953 the money supply created from domestic sources yielded only 709 million pesos as against 2,888 millions during the same period in 1952. Adversely affected by reduced imports, which diminished the supply of raw materials and the replacement of equipment, and also by the decrease in demand, industry operated at a low level of capacity which in some cases declined to 50 per cent. Unemployment was not high, partly owing to the reduction in working hours. The Government did not abandon its policy of restricting public works, and the launching of the Second Five-Year Plan was postponed until 1954. All these phenomena had repercussions on fiscal income, which decreased. It was not, therefore, remarkable that the increase in the money supply recorded during the first months of 1953 mainly corresponded to the public sector.

The improvement in the balance of payments, the stabilization of the cost-of-living index, and the need to provide a fresh impulse to Argentina's economy induced the authorities to relax credit restrictions, the adoption of a more liberal policy in this respect being announced by the Ministry of Finance. Early in September, the Central Bank issued instructions to commercial banks to the effect that the differential rates of interest, which hitherto had always been higher for small loans, should be eliminated when credit was granted; that commissions should be suppressed so that the entire loan cost might be included in the rate of interest; that credit should be available to finance instalment sales of other than luxury articles; that the capital used by private firms for useful activities should be taken into consideration without requiring a special property statement from the partners when they did not guarantee the operation; and, finally, that reasons for refusing credit should in every case be clearly stated.

It may be said that public finances have contributed in a high degree to the progress of inflation. This fact is already evident when it is seen that, from 1947 to 1949, the money supply from domestic sources originated more in the public than in the private sector, largely through the financing of crop harvests. In 1953 the increase in the money supply was almost exclusively due to the public sector. (See table 64.) Nevertheless, the taxation system relied largely upon domestic taxation on consumption, notwithstanding the increase of revenue accruing from income tax during recent years.

Fiscal resources represent a growing proportion of the national product. Although this percentage is apparently small, the aggregate public expenditure, including that of the provincial and municipal authorities, has of recent years reached about 25 per cent of the national product.

Nevertheless, the deficit in the federal budget has been constant. It has been necessary to cover it by loans, as may be seen from the growth of the domestic national debt in step with Government investments. The inflationary effects have not been very marked, however, because State bonds were mainly in the hands of social security institutions—thus attracting savings from the community—and were, to a lesser degree, held by the banks. Like all scrip with a fixed yield in periods of inflation, Argentina State bonds, which traditionally relied upon a stable domestic market, are now difficult to place with a public that prefers more substantial investments or seeks to take advantage of the prevailing high interest rates on private loans.

Table 64. Argentina: Fiscal revenue[a] and the public debt

(Millions of pesos)

Years	Total domestic resources (A)	Income tax (B)	Domestic taxation on consumption (C)	Internal public debt (D)	Percentage of resources of gross product (E)
1948	4,094.4	1,066.2	816.5	12,940.0	10.8
1949	5,613.4	1,215.1	879.9	15,194.5	12.4
1950	7,577.8	1,896.3	1,142.2	18,096.0	14.1
1951	11,012.9	2,911.5	2,173.7	21,454.0	15.1
1952	12,214.6[b]	3,803.8[b]	2,444.1[b]	26,104.3	13.8
1952[c]	9,641.4	3,308.2	1,837.0	..	..
1953[c]	9,244.8	3,235.7	1,770.9	..	..

Sources: Cols. (A), (B) and (C): Ministerio de Asuntos Técnicos, *Síntesis Estadística Mensual de la República Argentina.*

Col. (D): *Review of the River Plate*, 19 February 1954, pp. 16–17, with data from *Cuenta de Inversión*, 1948–52.

Col. (E): Based on unpublished information on the gross product furnished by the central bank.

[a] Sums collected by the Federal Government, which include provincial participation in some taxes but not other resources of the provincial or municipal authorities.

[b] Provisional.

[c] First nine months.

In brief, the outstanding characteristics of Argentina's monetary situation in 1953 are as follows: a policy of credit restriction on private enterprise linked to the aim of discontinuing the encouragement of industrialization by inflationary methods; balancing and stabilization of prices and wages through freezing both; an improvement in the balance of payments and the recovery of foreign reserves through increased exports and the maintenance of import controls; a rise in the money supply under the influence of the imbalance in public finance, particularly owing to the fall in taxation revenues, and accompanied by the objective of reducing public expenditure. The Government has expressed its intention to continue its present policy and to avoid any repetition of the disequilibrium.

The necessity of encouraging economic development with the aid of resources which cannot be provided by savings alone, prompted the enactment of Law No. 14,222, of August 1953, concerning foreign investments. Capital —whether in the form of foreign exchange, machinery, equipment, or other capital goods—entering the country for the purpose of investment in industry or mining enjoys the benefits of this legislation. Among other requirements, it must assist activities contributing to the implementation of economic development plans drawn up by the Government and must also lead, directly or indirectly, to the acquisition or saving of foreign exchange. This capital enjoys, if duly registered, and subject to prior official approval of the investment, the same treatment as domestic capital. After two years, investors have the right to transfer to the country of origin both profits up to 8 per cent of the registered capital and capitalized profits; after ten years the capital can be repatriated in annual amounts of from 10 to 20 per cent, according to the terms of the original authorization. If the activity in question is declared by the Government to be "of national interest", foreign investments may benefit from the advantages granted to Argentine industrial enterprises in the form of tariff protection, import quotas or output subsidies.

As regards prices and wages, the Government has made specific statements with the purpose of avoiding the reappearance of inflation through wage increases which do not correspond to a correlative increment in production and the available goods.[1]

Expression has been given to the intention to maintain the surplus achieved in foreign accounts "by giving effect to a realistic and practical policy in trade relations with the rest of the world", and it is hoped that "the provision of foreign capital under the conditions of and as regulated by the law will also have a favourable influence upon the balance of payments". Exchange controls remain in force, but the Central Bank, since the second half of 1953, has raised the number of exchange permits in accordance with the priorities and objectives of the Government's economic development plans.[2]

Credit granted by the banking system to the public sector continued to be high towards the end of the year, but the authorities have followed the policy of limiting expenditure, and economies equivalent to 10 per cent have been introduced in the 1954 budget.

2. *Bolivia*

There was, on the average, a substantial rise in the money supply in 1953, particularly as compared with the rate of increase since 1946. (See table 65 and chart XXXIX.) Until 1951 there had been a steady annual growth in the money supply, which rose more than 30 per cent in one year alone (1950). In 1952, however, the increase was 45.6 per cent higher than in 1951, and data available up to August 1953 show that this pace was being maintained. Simultaneously, the cost of living continued its upward progress—if not in moderation, at least with some regularity—and a pronounced rise was evident during the first half of 1953.

These circumstances and the various measures adopted by the Government in May to overcome the difficulties caused by inflation, by the deterioration in the demand for mineral exports and by the decline in tin prices determine Bolivia's situation in the monetary field in mid-1953.

[1] Address by the President of the Republic on 31 December 1953.

[2] Ibid.

Table 65. Bolivia: Sources of money supply

(Millions of bolivianos)

Years and quarters	External factors (A)	Internal factors			Money supply absorbed (−) (E)	Net variation in money supply (F)	Aggregate money supply (G)
		Total (B)	Public sector (C)	Private sector (D)			
1946	− 112	157	177	−20	179	224	3,052
1947	− 139	552	493	59	426	−13	3,039
1948	43	735	446	307	− 163	941	3,980
1949	− 134	813	702	111	− 125	554	4,534
1950	1,252[a]	404	860	544	− 335	1,321	5,855
1951	509	586	162	424	689	1,784	7,639
1952:							
I	84	553	240	313	− 346	291	7,930
II	496	556	253	303	− 426	626	8,265
III	− 103	2,225	1,460[b]	765	− 177	1,945	9,584
IV	− 708	3,781	3,107	674	415	3,488	11,127
1953:							
I	− 439	1,827	1,589	238	− 65	1,323	12,450
II	4,268	8,333	8,199	134	−8,648	3,953	15,080
III[c]	3,658	8,901	8,879	22	−7,593	4,966	16,093

Source: Based on International Monetary Fund, *International Financial Statistics.*

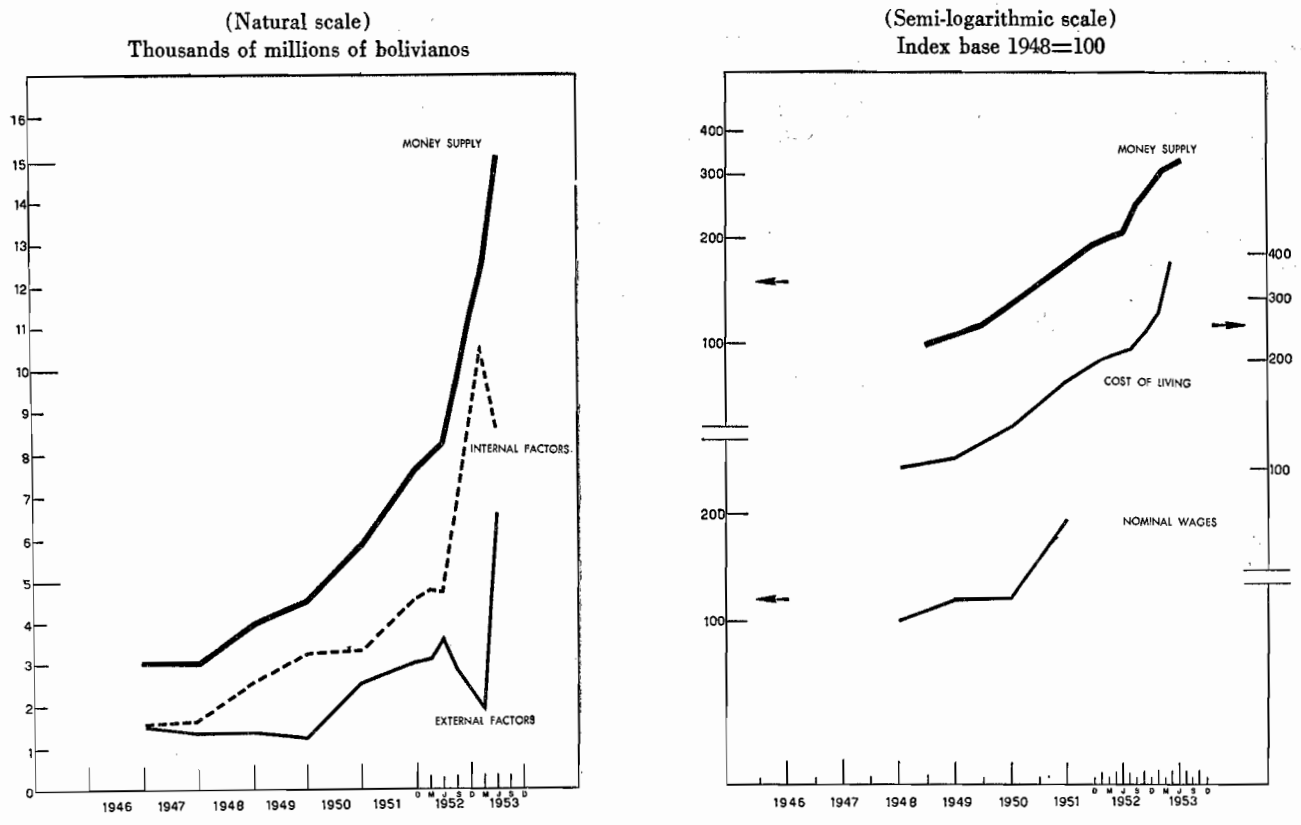
General notes: see table 62.

[a] The gold reserve of the central bank was revalued in June 1950, in accordance with the International Monetary Fund.

[b] From July 1952, includes the purchase of bills from the Corporación Minera and the Banco Minero de Bolivia.

[c] August.

Chart XXXIX
BOLIVIA



In 1950 and 1951, external and internal factors combined to increase the money supply, although in 1950 the substantial contribution of external factors to this expansion was greatly influenced by the revaluation of international reserves carried out in that year.

Conversely, despite the similar tendencies observed in the first six months, the year 1952 closed with a heavy adverse balance, causing a considerable loss of reserves. The substantial increase in the money supply during this year was due to internal factors. The same trends continued in

1953 owing to the persistence of unfavourable foreign balances.

Within the sphere of internal factors, the predominance of the public over the private sector is evident, except in 1951.

Cost-of-living indices (see table 66) showed a rise similar to that in the money supply until mid-1952.[3] Thenceforward the increase in the money supply was intensified up to the beginning of 1953. In the second quarter of that year the rise in the cost of living was substantially above that of the money in circulation.

Table 66. Bolivia: Indices of money supply, cost of living and wages

(1948 = 100)

Years and quarters	Money supply	Cost of living	Wages	
			Nominal	Real
1948.....	100.0	100.0	100.0	100.0
1949.....	113.9	107.1	114.0	106.4
1950.....	147.1	131.1	116.0	88.5
1951.....	191.9	174.7	193.0	110.5
1952:.....	..	216.3	..	..
I.....	199.2	201.6	..	..
II.....	207.7	208.5	..	..
III.....	240.8	217.3	..	..
IV.....	279.6	237.9	..	..
1953:				
I.....	312.8	272.0	..	..
II.....	278.9	381.7	..	..
III.....	404.3[a]	484.2	..	..
IV.....	..	574.7	..	..

Sources: Cost of living: International Monetary Fund, *International Financial Statistics;* wages: International Labour Organisation, *Yearbook of Labour Statistics.*

[a] August.

The available data on wages do not enable their influence on the course and development of the inflation to be established. However, in 1949 and 1951, nominal wages rose more sharply than the cost of living, thus implying an improvement in real wages and an advance in the inflationary pressure, subsequently expressed in terms of higher prices. The fall in imports, the uninterrupted increase in the money supply and the general stagnation of domestic productivity combined to cause a rise in prices unaccompanied by an equivalent increase in wages. In May 1953 alone the cost-of-living index rose to 396, as against 299 in April. This increase was undoubtedly influenced by the much sharper reduction of imports during the first months of the year, and to some extent by the decrees issued by the Government on 14 May. One decree laid down general increases in wages and salaries, while another legalized the devaluation of the boliviano, thereby affecting the price of many imported commodities.

According to official statements, these decrees were designed, among other aims of a general nature, firstly to combat the shortage of essential goods by fixing ceiling prices; secondly, to cut down the artificial demand of exchange rates which had no relation to reality and stimulated speculation. A third aim was the suppression of subsidies for imported farm products which prevented the development of domestic production, and a fourth was to encourage gold output and to protect savings against the risks of monetary devaluation. A fifth objective aimed at stabilizing the currency by drawing up a balanced foreign exchange budget and by limiting bank credit to the public and private sectors. Finally, the decrees of 14 May 1953 proposed to compensate workers for the rise in prices.

The measures adopted to put these aims into practice were, briefly, as follows:

(1) The par value of the boliviano was pegged at 190 to the U.S. dollar, which dispensed with the multiple exchange rates then in existence (60, 100, 130 and 190). Gold and foreign exchange held by the Central Bank were revalued accordingly;

(2) Two exchange markets were set up, the official and the free. The former, in charge of the Central Bank, is used, at the pegged par rate, for all exports and imports (both subject to previous permits), for the entry of registered foreign capital, for loans and Government payments for all operations arranged by the Government in consultation with the Central Bank. Foreign exchange accruing from other sources may be negotiated on the legal free market at exchange rates fluctuating in accordance with supply and demand, and through banks and authorized agencies;

(3) The establishment of an annual foreign exchange budget was decreed, by which the inflow is calculated and distributed in accordance with an order of priority primarily based on the country's essential requirements;

(4) The free minting of gold coinage from domestic output was authorized;

(5) An export tax of 35 bolivianos was imposed on every dollar sold by the Government-owned mining corporation to the Central Bank in connexion with mineral exports. *Ad valorem* taxes of 50 and 100 per cent were applied on the c.i.f. value of various specified imported goods;

(6) Ceiling prices for essential goods were raised and rents frozen;

(7) A bonus of 4,000 bolivianos per month was granted to all salary and wage-earners in Government and private employment;

(8) Bank credit to the private sector was limited to the amount it had reached on 30 April 1953, the minimum cash reserve of the banks being fixed at 20 per cent for sight deposits and 10 per cent for time deposits;

(9) A monetary stabilization office responsible for studying problems arising from the above measures was set up.

The information available is still insufficient to form an estimate of the results of this stabilization plan. One of its immediate effects was the exceptional rise in the cost of living during May 1953, which was undoubtedly greater than had been foreseen. This caused fresh demands for higher wages, which were rejected. At the same time the dollar quotation on the free market rose from 577 in June to 634 in July.

[3] The correlation is closer than table 66 indicates, since the annual cost-of-living indices were calculated as an average, whereas those for the money supply correspond to balances at the end of each year.

In the second half of the year there was a sharp increase in the money supply originating in the public sector (see table 66), and at the end of August a supplementary budget of 3,600 million bolivianos to cover higher wages and other payments was approved.

Public finances have obviously exercised an inflationary pressure in Bolivia. Public expenditure does not appear to have been very high in relation to the gross product, but there has been a regular budgetary deficit over recent years, and financing by banks has been intensively employed. Further, public expenditure continues to show a marked upward tendency.

3. *Brazil*

An increase of 10,000 million cruzeiros in the money supply during the first half of 1953 and a rise of 13.8 per cent in the index of wholesale prices at the end of the year are facts that bear eloquent witness to Brazil's recent inflationary development. These circumstances, together with the steady loss of reserves, the difficulties of increasing exports, the need to curtail imports too severely for industries to receive their normal supplies, the rise in foreign trade indebtedness—which reached 1,200 million dollars in mid-1953—and the devaluation of the free-market cruzeiro, sum up the problems confronting Brazil and account for the special measures adopted by the Government in 1953.

It is evident that, in contrast to 1939-45, internal factors have predominated in the creation of the money supply during the post-war period. The loss of monetary reserves and the increase in the money supply were uninterrupted from 1947 to 1952. Both movements reached their maximum figure in 1951, and were due in the first case to the influence of heavy imports, which exceeded the capacity to import, and in the second to substantial investments. During the first half of 1952 the lighter import pressure considerably reduced the losses of reserves, and a domestic policy designed to restrict a larger money supply made itself felt. In the second half of 1952 the loss of monetary reserves was much lower, but bank loans regained their rapid momentum, causing a definite and substantial increase in the money supply. The vigorous import reduction of 1953 led to some degree of equilibrium in the balance of payments, but, in contrast, internal forces showed only fleeting signs of moderation, and the average for the year showed an exceptional increase in the money supply. (See table 67 and chart XL.)

World conditions due to the end of the war caused modifications in the external factors. As noted earlier, they ceased to add to the money supply when the balance of payments became unfavourable in 1947, but continued to exercise a marked influence upon the Brazilian economy through the quantum and price of exports and imports. The rise in export prices, which had already been taking place, was accentuated, especially in the case of coffee and cotton. The quantum of exports also increased. Import prices showed the same upward tendency, although not to the same extent as exports, and the import tonnage strengthened substantially. Thus the money supply ceased to be influenced by external factors, while, from this aspect, internal factors proceeded to play an active part in the progress of inflation.

During the war the upward movement of domestic prices was significantly lower than the increment in the money supply, probably owing to the maintenance of investments at a reasonable level, to a growth in productivity through a more intensive utilization of existing capacity, and to the fact that wages rose slowly and therefore exerted no pressure on prices. During the post-war period the rise in prices continued at a similar even rate, and at one time, in 1949, some indices, such as the cost of living in São Paulo, showed a decline. Thenceforward, through the action of the same forces as operated in previous years, the upward trend of prices and the cost of living remained steady. Coffee prices underwent new and more pronounced increases, which influenced the domestic price level through the higher proceeds for exports and the current of expenditure on consumption and investment thereby generated. In 1952 domestic prices continued to rise, while the price of coffee remained relatively stable and that of cotton suffered a marked drop. Similar tendencies were apparent in the first half of 1953.

In general, the evolution of wages has not induced inflation during the post-war period. (See table 68.) The improvement in real wages since 1946 was, to a large extent, only a recovery of the ground lost during the war. Again, from 1949 to the end of 1952 the wage earning sector merely managed to maintain its level, and since early 1953

Table 67. Brazil: Sources of money supply

(Millions of cruzeiros)

Years	External factors (A)	Internal factors			Money supply absorbed (−) (E)	Net variation in money supply (F)	Aggregate money supply (G)
		Total (B)	Public sector[a] (C)	Private sector (D)			
1947.....	− 223	4,248	2,520	1,728	− 924	3,101	49,758
1948.....	− 846	4,805	608	4,197	− 98	3,861	53,619
1949.....	− 172	12,393	3,992	8,401	−5,996	6,225	59,844
1950.....	−1,620	17,182	1,923	15,259	3,177	18,739	78,583
1951.....	−4,585	20,770	1,491	19,279	− 967	15,218	93,801
1952.....	− 940	18,727	2,431	16,296	−1,184	16,603	110,404
1953.....	− 72[b]	..	..	530	..	2,409	112,813
June.....	..	..	..	5,410	..	9,876	122,430

Source: Basic data from *Relatorio do Banco do Brasil.*

General notes: see table 62.

[a] Includes money in circulation issued by the national treasury.

[b] March.

Chart XL
BRAZIL

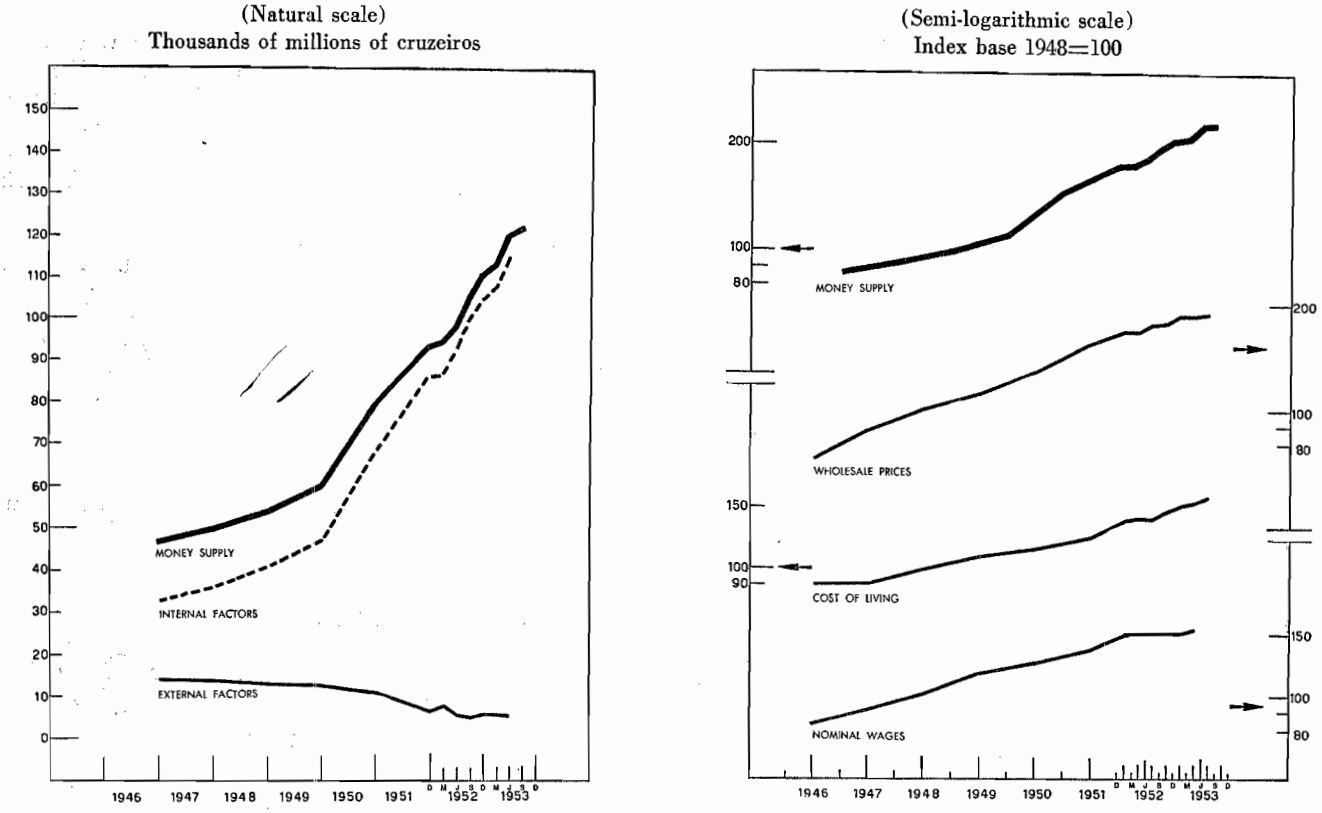


Table 68. Brazil: Indices of money supply, wholesale prices, cost of living and wages

(1948=100)

Years and quarters	Money supply	Wholesale prices	Cost of living[a]		Wages	
			End of each period	Monthly averages	Industrial nominal[b]	Real[c]
1946	87.0	71.4	89.6	79.4	82.6	92.2
1947	92.8	86.4	90.7	96.8	90.9	100.2
1948	100.0	100.0	100.0	100.0	100.0	100.0
1949	111.6	110.7	108.3	104.0	114.9	106.1
1950	146.6	127.1	114.2	110.3	123.1	107.8
1951	174.9	153.6	123.5	123.0	133.9	108.4
1952:						
I	175.7	168.1	138.1	133.9	148.8	107.7
II	182.3	166.9	140.5	139.2	149.6	106.5
III	194.9	175.5	140.5	141.0	150.4	107.0
IV	205.9	177.2	146.0	144.2	150.4	103.0
1953:						
I	210.4	185.2	151.6	149.5	150.4	99.2
II	224.3	185.0	154.8	156.9	154.5	99.8
III	228.3	191.2	161.1	156.6	..	..
IV	..	201.7	169.8	166.7	..	..

Sources: Money supply: based on *Mensario Estatístico;* prices, cost of living and wages: *Conjuntura Económica.*

[a] For the federal district.

[b] For the federal district, at the end of each period.

[c] Nominal wages in the federal district deflated by the cost of living index, at the end of each period.

there has been an appreciable fall in real wages through the increase in the cost of living and nominal wage stability. If the Government's anti-inflationary measures do not succeed in checking the upward movement of prices, it will be difficult to resist the pressure of demands for higher wages. Such demands have already made themselves felt, in spite of the present unfavourable position of industry due to import restrictions and the power shortage.

In contrast, the high investment level, and, to a greater extent than that level, the rate of increase, appear to have played an important role in the inflationary process. It has been estimated that investments continued to grow during 1946-52, until in 1952 they had reached 17.6 per cent of the gross product. *Per capita* investment measured by constant values (1950 cruzeiros) rose from 378 cruzeiros in 1945 to 997 cruzeiros in 1952, and there was a high annual rate of increase in investment.[4]

This rate of growth has undoubtedly favoured the continuation of wartime inflationary tendencies. This is particularly true if account is taken of the substantial State investment applied to basic sectors and not productive of immediate results, of the speculative investments prevailing during peak inflation periods in Brazil, and of the fact that a large share of the investment had to be applied to replacing equipment and machinery which had suffered abnormal wear and tear during the war.

On the other hand, the rise in the gross product during this period was largely due to the improvement in the terms of trade.

The manner in which new investments have been financed has also made an important contribution to the growth of inflation. In the public sector, combining the Federal Government, state authorities and municipalities, there was a continuous deficit from 1946 to 1950. In 1951 and 1952 the Federal Government obtained a substantial surplus, which would undoubtedly be offset or transformed into a deficit if the figures for the states and municipalities were added. The available data for 1953 indicate that the Federal Government's budget closed with a deficit of 10,000 million cruzeiros, which means that a new high has been reached. The lack of a tradition and a market for Government bonds have caused the public debt to be used only sparingly as a means of utilizing savings of the community to cover the deficits. Financing was achieved through credit from the central bank and the issue of paper currency by the Treasury.

As regards the private sector, bank credit showed a remarkable increment. (See table 69.) This supports the view that investments have been, and still are, to a large extent financed by bank credit, despite reinvestments which entrepreneurs have been able to make in their own undertakings. The considerable profits obtained from certain activities have also been used to increase consumption or to make speculative investment fostered by the inflation, as in the case of buildings, and especially those of a residential type. The available information is inadequate to estimate the contribution of domestic savings to the financing of investments, but there is little doubt that it has been insufficient. The capacity to import, however, which enabled the high level of capital goods imports to be maintained, was reinforced by intensive drawing upon international reserves, by the employment of short-term credits and, to a lesser degree, by the inflow of foreign capital. In other words, the deficiency in current domestic savings was covered from these resources. Since they could not be used indefinitely, particularly in the case of the first two, there necessarily ensued a tension of the type that Brazil experienced in the early months of 1953. An important feature of this situation was the difficulty of maintaining exports at a suitable level.

Table 69. Brazil: Fiscal expenditure and balances

(Millions of cruzeiros)

Years	*Total expenditure*	*Balance*
1946	24,586	−3,037
1947	26,156	−1,100
1948	30,970	−1,256
1949	39,631	−4,037
1950	47,405	−6,863
1951	45,096[a]	617[a]
1952	..	..
1953	75,000	−8,000

Sources: Ministerio da Fazenda, *Financas do Brasil*, Vol. XVIII, January 1952; *Mensário Estatístico*. For 1953, estimates in *Conjuntura Económica*, January 1950.

[a] Federal Government and states only.

The inflation in Brazil appears to have been the result of the steady rise in the tendency to invest, stimulated by the structural changes which the economy has experienced since the period before the depression of the 'thirties. The feeble resistance shown by the monetary authorities is a factor whose importance should not be underestimated. The source of this weakness lies in the special nature of the financial and banking structure.

Brazil's fiscal system is both rigid and dispersed. The rigidity obstructs the raising of certain taxes and tariffs in peacetime, for example. The dispersion of financial jurisdiction—Federal Government, states and municipalities—is a serious inconvenience in co-ordinating the establishment or fulfilment of anti-inflationary measures with the monetary authorities. In the same way, monetary authority has different branches, divided between the Treasury, the Superintendency of Currency and Credit, the Banco do Brasil, the Rediscount Department and the Department of Banks.

The Treasury may have recourse to the direct paper issues or loans of the central bank, cancelling the latter by the former, which in turn allows the bank to liquidate its debts with the Rediscount Department. Any deflationary measure which results in a rise in the cash assets of the central bank enables the latter to expand credit, which it in fact does, since the criterion for its behaviour is almost always that of a commercial bank and very rarely that of a central bank. Furthermore, the whole banking system is capable of serving any inflationary pressure, and the monetary authorities are in a position to provide the funds if necessary.

In these circumstances it is apparent that there is little hope of monetary and bank control through the traditional expedients. The use of the rediscount market and the rate of interest as regulators of credit is extremely limited, since the smaller commercial banks take permanent recourse to rediscounts and the large banks do so only to meet emergencies. The monetary authorities are thus obliged to provide funds to avoid the unfortunate consequences to the stability of some banks and the liquidity ratio of others which would otherwise ensue. Open market operations are faced with the obstacle of a small bond market. Nor do variations in the minimum obligatory cash requirements

[4] Economic Commission for Latin America, *Economic Survey of Latin America 1951-52*, (E/CN.12/291/Rev.2), United Nations publication, Sales No., 1953.II.G.3.

hold out more favourable prospects, since the high interest rate for deposits prevents the banks from maintaining large cash balances. Little use has been made of selective credit facilities or moral persuasion, and in any case both methods have been obstructed by the lack of contact between the monetary authorities and the banking system.

The plans announced by the authorities in 1953—some of which were successively amended or amplified in the course of the year—embrace the entire economy, but especially the monetary field, since they are particularly aimed at checking the inflationary process and solving exchange problems.

In the sphere of public finance, where the anticapted deficit had reached figures never hitherto attained, it has been announced that every effort will be made to reduce expenditure without resorting to paper money issues to defray routine administrative costs. The issue of short-term Treasury bonds to a value of 4,000 million cruzeiros and discountable at the central bank was arranged with this end in view.

Two basic fiscal policy measures of singular importance have been drafted, dealing respectively with taxation reform and the consolidation of the public debt. Under the former an excess profits tax is to be imposed at progressive rates rising from 20 to 90 per cent on profits above 12 per cent. Consolidation of the public debt will be effected through bond issues up to the amount of 60,000 million cruzeiros. It will include the floating debt of the Federal Government, the states and the municipalities, with the special proviso that interest and amortization are to be paid on New York in dollars at the official rate of exchange. Dollars so earned may be sold on the free market.

As regards productive activity in general, steps have been taken to limit bank credit and to postpone less urgent or non-essential industrial expansion projects. However, in order to maintain a level of activity compatible with the present state of development, and to avoid the paralysation of industries and unemployment, the new exchange system allows raw materials, replacements and machinery to be imported in accordance with a scale of priorities.

The new exchange system, established in October, includes a system for auctioning foreign currencies within five categories, under which priority is given to the imports considered most urgent and essential to the domestic economy. It also sanctions a considerable devaluation of the cruzeiro. Since this aspect of monetary reform, and the problems involved in the overvaluation of the cruzerio, are analysed elsewhere,[5] it is sufficient to mention here that the foreign exchange allotted to each category and the priority classifications for imports are determined by the central bank, and that the exchange rate depends upon the demand. While on the one hand the initial classification gives priority to tractor and seed imports, and on the other the profit on exchange received by the Government covers a subsidy of 5 and 10 cruzeiros per dollar to exporters of coffee and other primary commodities, respectively, it is evident that the new system implies a transfer of proceeds from the industrial and commercial sectors to the agricultural sector. The restriction of imports continues to be in the discretion of the monetary authorities through the classification of goods, the amount of foreign exchange allotted to each category, and the basis established at each auction.

Law No. 2,145 creating the Foreign Trade Office, which replaced the Export-Import Office, was passed at the end of December. The new entity was given wide powers over the regulation and financing of trade. The law also established a system of prior licensing for imports, with a few exceptions including imports of newsprint and equipment or supplies for the Press. The regulations issued under this law on 24 January 1954 contain a clause on foreign capital invested in Brazil, which is granted the same conditions as domestic capital and enjoys special benefits when such investments are of substantial importance to the economy of the nation.

Some of the proposed measures, especially those affecting foreign exchange, are already in force, while others have not yet been put into effect. It is at present impossible to judge the results already obtained from the former. It should be noted, however, that towards the end of 1953 Brazil had been able to cover a large part of its external commercial debt through the use of the 300-million-dollar loan from the Export-Import Bank and other resources; coffee and other exports showed favourable progress. In addition it was evident that the Federal budget, despite a deficit, showed substantial economies and that the increase in wages was lower than anticipated. In contrast, during the last quarter the rise in the cost of living and the increment in the money supply had become more pronounced. The cost of living was influenced by higher prices for all imported goods and the subsidy granted to exports as a whole, while the pressure on the money supply arose from expanding bank credit to both the public and the private sectors.

Over the long term, over-all results will depend both on the firmness with which the official austerity programme is carried out in the economic and financial spheres and on the development of Brazil's exports on world markets.

4. *Chile*

Chile has been unable to escape from the price-wage spiral that has characterized its inflationary process for years. The plans put into operation have caused further increases in both prices and wages to an extent unforeseen by the authorities, who had hoped that the short-term effect of such measures would be to curb the expansive forces. The latter have proved to be the stronger, however, and inflation, far from losing impetus, has gained renewed vigour in the course of 1953.

The remarkable increase in the money supply during the post-war period is entirely due to internal factors. Except in 1948, the fluctuations in international monetary reserves are of hardly any significance when compared with the size of the increase arising from internal factors. In 1953 these factors caused the sharpest upward movement of the money supply in Chile's monetary history. (See table 70 and chart XLI.)

For the period as a whole, the private sector predominated within the internal factors. But the part played by the public sector, which in 1947 already contributed in great measure to the increase of the money in circulation, became more prominent from 1951 onwards. In 1952 and 1953 the two sectors were the source of an almost equal increase in the means of payment.

[5] See section III, "Overvaluation, Foreign Trade and Exchange Reforms".

Table 70. Chile: Sources of money supply

(Millions of pesos)

Years and quarters	External factors (A)	Internal factors			Money supply absorbed (−) (E)	Net variation in money supply (F)	Aggregate money supply (G)
		Total (B)	Public sector (C)	Private sector (D)			
1946.....	− 172	3,445	520	1,925	− 296	1,977	10,005
1947.....	− 297	3,366	1,527	1,839	− 196	2,873	12,878
1948.....	1,979	3,722	141	3,581	−2,345	3,356	16,234
1949.....	− 65	3,884	559	3,325	− 394	3,425	19,659
1950.....	210	2,280	977	1,303	−1,853	637	20,296
1951.....	− 32	7,110	2,690	4,411	− 252	6,826	27,123
1952:							
I.....	..	2,561	751	1,810	..	1,640	28,763
II.....	− 139	5,794	2,956	2,838	− 318	5,337	32,460
III.....	..	6,299	3,342	2,957	..	5,399	32,522
IV.....	640	8,916	4,433	4,483	− 978	8,578	35,701
1953:							
I.....	..	4,547	2,461	2,086	..	6,097	40,085
II.....	524	9,451	5,327	4,124	924	10,899	44,887
III[a].....	..	8,589	4,183	4,406	..	10,385	44,373

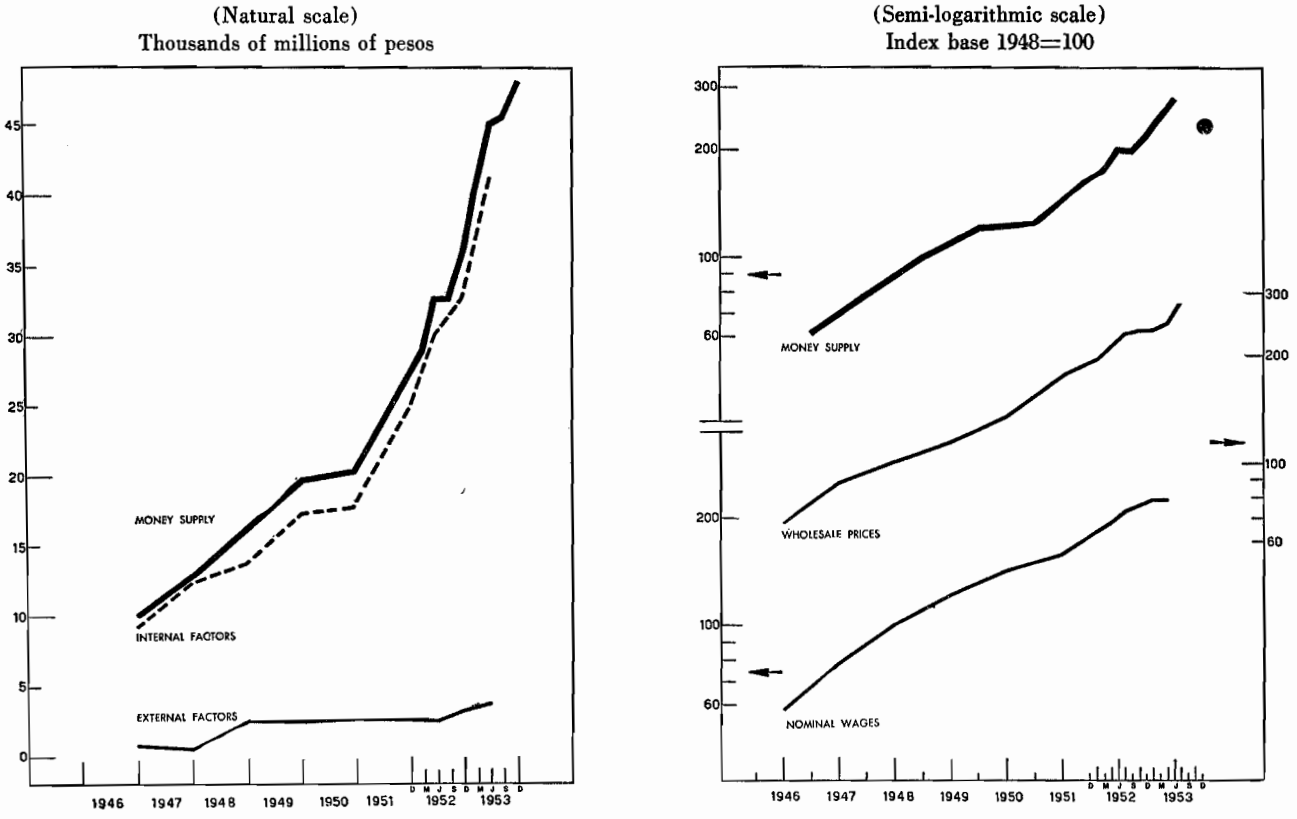
Sources: Banco Central de Chile, *Memoria Anual* and *Boletín Mensual* and Superintendencia de Bancos, *Estadística Bancario.*

General notes: see table 62.

[a] July.

Chart XLI

CHILE



The growth of the money in circulation was accompanied by a similar rise in both the cost of living and wholesale prices, while a parallel movement may also be observed in nominal wages, causing a relative stability in real wages. (See table 71.) However, in the last quarter of 1953 there were sharp price increases, far higher than the rise in the money supply.

These indices provide a first approximation of the magnitude of Chile's inflation and of its fundamental characteristics. Their simplicity appears to confirm, in principle, the general belief in the country that what is involved is an inflation of costs reflected in the price-wage spiral. However, these characteristics are not entirely uniform throughout the period, and there are certain shades of difference which it is appropriate to emphasize.

Table 71. Chile: Indices of money supply, wholesale prices, cost of living and wages

(1948 = 100)

Years and quarters	Money supply	Wholesale prices	Cost of living	Wages	
				Nominal	Real
1946	61.6	67.5	63.4	58.0	91.5
1947	79.3	87.1	84.7	78.5	92.6
1948	100.0	100.0	100.0	100.0	100.0
1949	121.1	114.0	118.8	120.0	101.1
1950	125.0	134.0	136.8	140.5	102.7
1951	167.1	175.0	167.2	156.1	93.4
1952:					
I	177.2	194.7	185.9	..	..
II	200.0	211.1	200.7	192.3	95.8
III	200.3	229.9	214.7	205.2	95.6
IV	219.9	232.2	215.8	215.7	100.0
1953:					
I	246.8	234.4	216.1	222.0	102.7
II	276.5	245.2	225.6	221.6	98.3
III	279.9	271.9[a]	267.7	..	..
IV	295.6[b]	..	314.7	..	..

Source: Banco Central de Chile, *Boletín Mensual.*

[a] Average, July-August.
[b] November.

The influence of investment as an effective cause must certainly be discarded. Indeed, although the data available in this connexion are not very reliable, it may be said that investments do not represent a high proportion of the gross product. This proportion has remained almost constant during the post-war period. Hence, neither the size nor the growth of investments could act as decisive factors in the inflation. The small increases recorded in recent years represent a somewhat lower proportion of the gross product and are insufficient to cause inflation. They might well have occurred under conditions of monetary stability.

As regards the gross product, the feebleness of its growth in the post-war period has not resulted in a proportional increase in capital or consumer goods, since Chile was obliged to have substantial export surplus in order to meet the deficit in other sectors of the balance of payments. The consumption goods available *per capita* remained at an almost constant level between 1945 and 1952.[6] In these circumstances the monetary expansion could not but be reflected in price increments.

The inflationary process in Chile is caused by the combined or successive forces of the upward movement in wages and the rise in public expenditure. Between 1946 and 1950, wages were ahead of the cost of living. (See again table 71.) Meanwhile, in spite of a fairly sharp rise in public expenditure, the national budget showed a surplus for three consecutive years, and its proportion to the gross product rose on a relatively moderate scale. Thus the main inflationary pressure during this period came from wages and from social benefits established for workers. It should be noted that the abundant resources accumulated by the Social Security Funds were primarily invested in buildings belonging to these Funds and in mortgage-type building loans to contributors. This is a type of investment which, while it assists in the solution of the very acute housing problem in Chile, has more serious inflationary effects than other types of investment. The improvement in real wages was significant in 1947-48, but became much slower up to 1950. In 1951, real wages experienced a serious drop, almost down to the level of 1947, but they recovered in the following year. The slight rise in the first quarter of 1953 was offset by a decline in the second. Taking the over-all period 1946-53, real wages enjoyed relative stability, especially from 1948 onwards. In recent years, therefore, the wage-earning sector succeeded only in maintaining its proportion of the national product.

As for public finance (see table 72), the growth of public expenditure between 1946 and 1949, although intensive, showed a consecutive surplus in three years, and maintained a relatively stable proportion to the gross product, as stated above. Its inflationary pressure was, therefore, less than that of wages during those years, but in 1950 the adverse balance reappeared and was substantially

Table 72. Chile: Fiscal revenue and expenditure, and relation to gross product

(Thousands of millions of pesos)

Years	Revenue	Expenditure	Balance	Percentage of expenditure to gross product
1946	6.2	7.5	−1.3	15.1
1947	9.9	9.6	0.3	15.3
1948[a]	14.4	13.0	1.4	16.3
1949	16.4	15.4	1.0	16.3
1950	18.9	20.6	−2.7	19.3
1951	26.0	27.6	−1.6	19.1
1952	36.2	42.0	−5.8	21.9
1953[b]	48.0	57.5	−9.5	..

Sources: Servicio Nacional de Estadística, Oficina de Presupuesto y Finanzas, *Estadística Chilena;* Banco Central, *Memorias.* For gross product, Corporación de Fomento.

[a] From 1948, includes semi-fiscal and autonomous bodies.
[b] Estimates.

[6] Economic Commission for Latin America, *Economic Survey of Latin America, 1951-52,* p. 68.

greater in 1952 and 1953, while the increase in the budget, together with its proportion to the gross product, sharpened to a notable degree.

The expansive force which these merely quantitative factors are capable of generating in public finances is aggravated in the case of Chile by the action of certain features of the fiscal structure and of other well-established practices. Firstly, a substantial share of fiscal resources originates from taxes paid by foreign companies, so that the slight surplus achieved in certain years ceases to have any significance as an anti-inflationary factor to the extent that such a surplus does not tap money which would otherwise have been spent internally. Secondly, the pressure of taxation has not been excessive, indirect taxes having been predominant.

The proportion of the total of expenditure represented by investment is fairly low compared to that of other countries with similar economies, and contrasts with the high proportion of wages and salaries. The Government's decision to adjust its employees' salaries and wages to fluctuations in the cost of living caused budget increases when it was put into effect. Under the 1950 budget, for example, an increase of 44 per cent in wages and salaries was decreed, which rose to 53 per cent with the inclusion of family allowances (Law No. 9,629 of 18 July 1950). In the 1951 budget the rise was 40 per cent. Wage readjustments in 1952 involved increased expenditure of approximately 7,700 million pesos, while the budget decree estimated over-all expenditure at 29,000 millions, and 42,000 millions were actually spent. In 1953 a readjustment was made, and a bonus was granted towards the end of the year. When it is borne in mind that wages have absorbed such a high percentage of total expenditure in recent years the readjustments and increases to which allusion has been made become especially significant.

Another factor exerting a powerful inflationary influence is the bank financing of the fiscal deficit and the more urgent monetary requirements of the Government. Loans granted by the Central Bank to the Government caused a general credit expansion provoking as a secondary consequence a greater liquidity in private banking. In this connexion the rediscount rate of the Central Bank enabled commercial banks to provide credit at a good profit.

To summarize, bearing in mind the low investment rate in Chile and the fact, established by investigations, that private companies have avoided decapitalization by using their own profits,[7] it is reasonable to assert that the pronounced expansion of bank credit has mainly served to finance fiscal deficits and increases in nominal wages and salaries.

External factors, whose effect on the size of the money supply was insignificant, nevertheless exerted an important influence on the over-all Chilean economy. The improvement in the terms of trade contributed appreciably to the increase in the gross product for the period 1950-52. But the drop in copper prices, and difficulties in placing the stockpile, reacted adversely upon the balance of payments in 1953. So long as the price of this metal remained high, it was possible to finance import subsidies on a range of consumer goods through the differential rates of exchange. In other words, the surplus obtained by the Government was used for consumption rather than for investment. The relevant figures show this to be so. In 1952 the surcharge on copper represented a greater inflow of foreign exchange equivalent to 48.8 million dollars. In the same year consumer goods imports reached 36.4 per cent of all imports, as against 30.8 per cent in the previous year. Imports of capital goods declined from 33.9 to 32.8 per cent, heavier decreases being recorded for fuel and raw materials. In respect of import quantum there was an increase of 25.4 million dollars in consumer goods, but of only 3.5 million in capital assets, and there were reductions in fuel and raw materials.[8]

In mid-1953 the Government drew up an economic plan to control the inflation. Specifically the plan proposed measures of four types: (i) budget economies of 1,500 million pesos; (ii) a single rate of exchange pegged at 110 pesos per dollar for all imports allowed for in foreign exchange estimates, in place of the multiple exchange rate structure (later, imports based on gold and generally involving luxury goods were suspended); (iii) a rise in wages of from 10 to 15 per cent to compensate higher prices caused by the single exchange rate; (iv) freezing of prices, periodical readjustments being authorized.

In addition—in some cases prior to the formulation of this plan—certain reforms of an institutional nature were introduced with a view to bringing more order and better organization into monetary and fiscal policy. For this purpose, an Institute of Foreign Trade (INACO) was set up as a permanent buyer and exporter of crops. The State Bank (*Banco del Estado*) was also created, by combining savings banks and mortgage, agricultural credit and industrial credit institutes, all of which had previously functioned as autonomous bodies; they were converted into departments of the new institution. The Bank will "encourage productive activities and facilitate the circulation of assets by a credit procedure in conformity with the fundamental needs of the national economy". It will act as an agent of the Government and of fiscal or semi-fiscal bodies and will have the exclusive right to hold their deposits. The statutes of the Central Bank were amended, giving it more authority to regulate credit both quantitatively and qualitatively, and abolishing the requirement of a bullion reserve in proportion to issues. An Investments Corporation (*Corporación de Inversiones*) was established to centralize and co-ordinate investments placed by fiscal and semi-fiscal bodies.

The Government also announced a policy of financial austerity and proposed that the budget estimate for 1954 should not exceed that for 1953. It announced the overhaul of the fiscal system, the auditing of accounts, and tax reforms of a social tendency to overcome the regressive tendencies of indirect taxation. Finally, the policy included credit control without prejudice to basic activities. In short, the specific objectives were to end inflation and to promote economic independence and development and a better distribution of the nation's wealth.

In October 1953 the Central Bank, exercising its special powers, sent a circular to all banks recommending them to moderate credit facilities; to control the destination of funds; not to grant loans for the purchase of real estate or allotments or for speculative purposes; to refuse credit

[7] The first conclusions of an analysis by ECLA dealing with the financial statements of limited liability companies in Chile, 1937-1952.

[8] Calclulated in 1950 dollars by ECLA from official Chilean statistics.

for instalment sales of domestic electric appliances, luxury goods, automobiles and so on, directing loans towards productive ends. Finally, such banks were asked to render to the Central Bank a weekly list of credits exceeding 500,000, 300,000 or 200,000 pesos, according to the capital of each bank.

The decree-law of October 1953 lays down a so-called Statute of Foreign Investments under which the right of free entry is given to new capital (whether in the form of foreign currency, equipment, machinery or raw materials) for "initiating, extending or encouraging activities tending to stimulate the country's industrial development or to improve the exploitation of mineral, agricultural or forest wealth" and earmarked for the production of export articles qualified to compete in the international market without State protection, of essential goods which are at present imported, and of goods that comprise at least 80 per cent of national raw material, provided they are able to reduce their costs. Capital assets which pursue similar ends through the machinery of credit enjoy the same facilities. Such capital is re-exportable after five years, in annual quotas amounting to 20 per cent of the original value; the same applies to both interest and profits. No change in taxation will be made before ten years have elapsed, and the investments are exempt from any price-control system unless similar domestic industries already have such a system at the date when the investments enter the country. The decree establishes a Foreign Investments Committee to which applications may be submitted and which is required to report them to the President of the Republic, with whom the final decision rests and who has the power to extend to up to twenty years the facilities thus granted. The same Committee supervises investments and submits an annual estimate of the foreign exchange required to remit profits and re-export capital assets.

The immediate effect of these measures, whether put into effect or merely announced, was a rise in prices and in the cost of living. This result had been foreseen by the Government, which considered it inadvisable to freeze the distortion already produced by inflation or by the policy of exchange subsidies on certain consumer goods. But the upward movement was sharper than anticipated or could have been caused by the abolition of the subsidy, and the wage increases ordered proved insufficient to compensate its effects. At the very time when it was decided to raise wages by 10-15 per cent, workers were demanding, and in many cases receiving, larger increases based on a previous rise in the cost of living. There thus existed an inflationary pressure which was then reinforced by measures whose ultimate aim was to curb inflation but which temporarily gave it a stronger impulse.

The Government was obliged to authorize a rise in the prices of many essential goods and to grant an exceptional bonus to civil servants, which could be extended to private employees and workmen. It was not possible to restrict bank credit at once, and, since the standards laid down by the Central Bank had weakened, loans from the banking system continued to increase, and at a higher rate than was considered reasonable.

Furthermore, the inflationist psychology of the public has been intensified by these circumstances and by the universal awareness of the difficulties over copper sales. These problems, and the lower price, limit the capacity to import and reduce the Government's possible gains from the exchange margin.

Up to the end of 1953, the clearest symptoms of the difficulties which the Chilean economy is confronting may be defined as follows: (*a*) the shortage of foreign exchange and the possibility of its becoming more acute in 1954; (*b*) the uninterrupted rise in the cost of living; (*c*) the difficulties of giving effect to the austerity proposals as regards fiscal expenditure, and the probable deficit of nearly 10,000 million pesos in the 1953 budget; (*d*) the alarming figure for the 1954 budget estimate, which—according to responsible officials—will in fact total between 80 and 85 thousand million pesos, although planned to reach only 62,900 millions.

5. *Colombia*

Internal factors have predominated in the creation of the money supply during the post-war period. They offset by a substantial margin the absorption of money in circulation caused by external factors during those years in which losses of international reserves occurred, as for example in 1946-48 and 1950. When monetary reserves increased, as in 1949 and 1951-52, the combined action of both factors gave rise to the heaviest increment in the money supply recorded for the whole period. In 1953 the balance of payments continued to show a surplus, but internal factors caused only a very slight increase in the money supply. On the aggregate, for the year's average, the money supply showed a very moderate advance over the figures for December 1952. (See table 73 and chart XLII.)

Thus, from 1951 onwards, the influence of external factors tended to become stronger. The decisive element in this change lies in coffee exports, whose value rose considerably, largely owing to the improvement in the terms of trade. The high proportion of all Colombian exports represented by coffee—between 80 and 85 per cent during the last two years—assigns to this commodity a role of the utmost importance in the development of monetary events.

Among the internal forces, the private sector of the domestic economy predominated except in 1947, when the money supply originating in the public sector almost equalled that created by the former.

There are two quite distinct periods in the course of the inflation. The first, extending from 1946 to 1950, was characterized by price increases which corresponded to the rise in the money supply, although the correlation from year to year was not necessarily very close. Since 1951 there has been an obvious lag in the upward movement of prices in relation to the increase in the money supply. It may thus be said that the inflationary process has been contained, if it is recalled that cost-of-living indices showed an increase of approximately only 10 per cent over the last three years. (See table 74.)

During the early post-war years (1946-50) various factors combined to cause a sharp inflation which found expression in a rise of 76 per cent in the cost of living index. External factors are naturally excluded from those mentioned above, since during this period they were responsible for a comparatively large absorption of the money supply. The inflationary forces were all of an internal character.

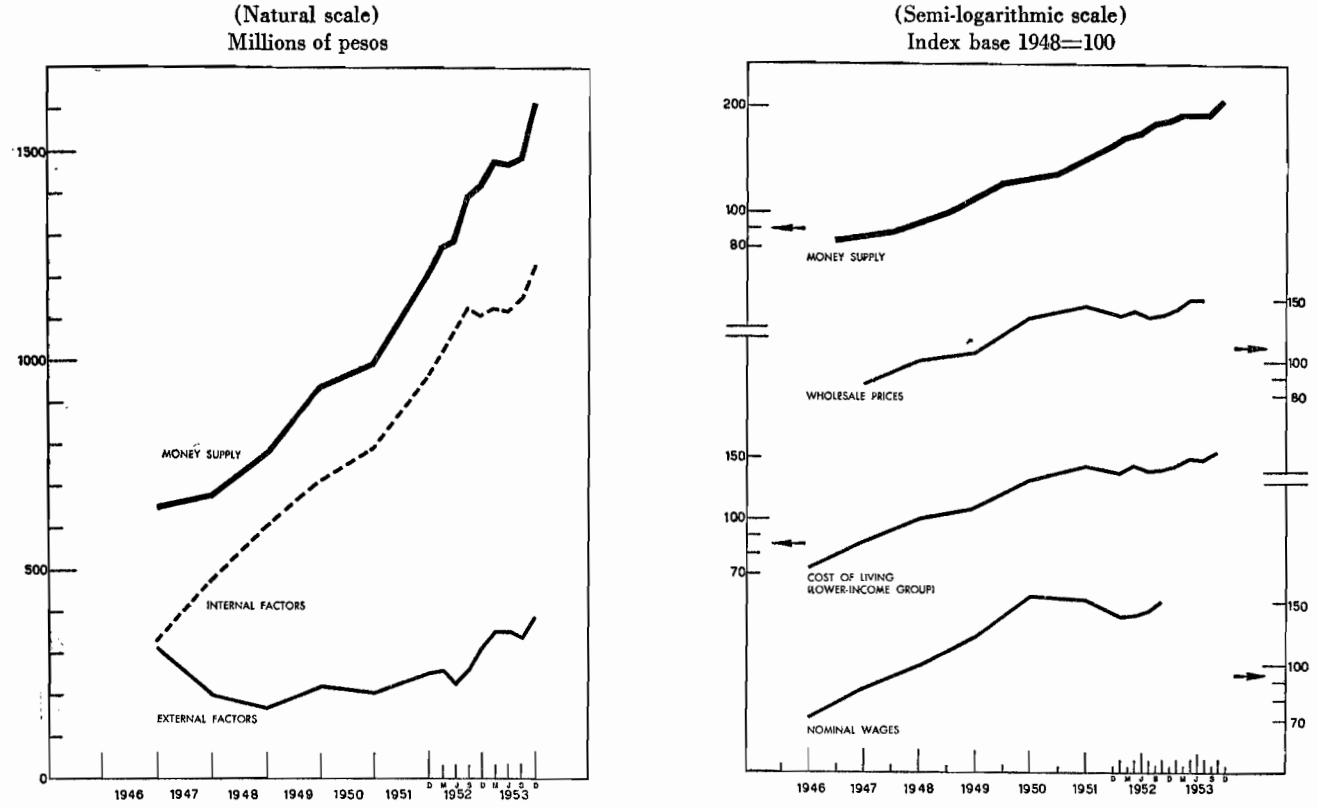
In the first place, the conduct of public finance was favourable to inflation. Between 1945 and 1949, fiscal expenditure underwent an increase equivalent to 136 per cent, and budgets closed with a deficit, except in 1945.

Table 73. Colombia: Sources of money supply
(Millions of pesos)

Years and quarters	External factors (A)	Internal factors			Money supply absorbed (−) (E)	Net variation in money supply (F)	Aggregate money supply (G)
		Total (B)	Public sector (C)	Private sector (D)			
1946.....	0.4	129.8	21.7	108.1	−32.2	98	647
1947.....	−115.2	90.6	44.8	45.8	6.4	31	678
1948.....	−28.7	107.7	33.1	74.6	17.0	96	774
1949.....	51.2	74.4	16.3	58.1	35.4	161	935
1950.....	−17.1	153.7	−38.0	191.7	−75.6	61	996
1951.....	42.1	142.7	16.4	126.3	30.2	215	1,211
1952:							
I.....	5.7	47.3	4.4	42.9	6.0	59	1,270
II.....	−12.3	66.0	16.0	50.0	27.3	81	1,292
III.....	2.7	95.0	14.0	81.0	80.3	178	1,389
IV.....	63.7	26.0	19.0	7.0	119.3	209	1,420
1953:							
I.....	39.0	45.0	4.0	41.0	−29.0	55	1,475
II.....	39.0	42.0	2.0	40.0	−30.0	51	1,471
III.....	25.0	102.0	35.0	67.0	−62.0	65	1,485
IV.....	74.0	116.0	68.0	48.0	5.0	195	1,615

Source: International Monetary Fund, *International Financial Statistics.*
General notes: See table 62.

Chart XLII
COLOMBIA



A liberal monetary and banking policy allowed loans to the private sector to expand to such an extent that the money supply increased by 447 million pesos, in spite of the absorption by external factors.

Investments rose from 12.2 per cent of the gross product in 1945 to 16.4 per cent in 1947,[9] although they were largely of a speculative nature.

[9] Economic Commission for Latin America, *Economic Survey of Latin America, 1951-52.*

Finally, there was a very marked upward movement of nominal wages, which, until 1950, was expressed in terms of an outstanding improvement in real wages.

The coincidence of all these factors with inflationary trends might have resulted in a sharper expansion of the money supply than actually took place. The fact that it did not occur was due to the intervention of other factors which caused a rise in the availability of goods, namely, domestic production of consumer goods, and extensive

Table 74. Colombia: Indices of money supply, wholesale prices of foodstuffs, cost of living and wages

(1948 = 100)

Years and quarters	Money supply[a]	Wholesale prices (foodstuffs)[b]	Cost of living[c]		Wages[d]	
			Medium income	Lower income	Nominal	Real
1946	83.6	..	78.0	72.7	71.3	98.0
1947	87.6	85.6	88.3	85.9	86.0	100.0
1948	100.0	100.0	100.0	100.0	100.0	100.0
1949	120.8	105.9	109.5	106.7	120.7	113.0
1950	128.7	132.5	126.8	128.1	155.9	121.6
1951	156.5	143.1	139.1	140.1	152.5	109.1
1952:						
I	164.1	135.1	138.6	134.2	136.9	101.8
II	166.9	138.6	141.9	140.6	138.6	98.4
III	179.5	133.7	140.7	135.6	142.7	105.1
IV	183.5	135.5	141.1	136.6	153.3	112.0
1953:						
I	190.6	139.9	143.0	140.3	..	..
II	190.1	148.3	146.1	146.6	..	..
III	191.9	149.2	147.4	146.1	..	..
IV	208.7	..	149.7[e]	154.3	..	..

Sources: Money supply: International Monetary Fund, *International Financial Statistics;* wholesale prices, cost of living and wages: Banco de la República, *Revista.*

[a] Includes government deposits.

[b] Indices refer to the whole country for 40 selected foodstuffs.

[c] Refers only to Bogotá.

[d] Nominal wage index calculated by multiplying real wage by cost of living index.

[e] October.

imports. During the period under review the gross national product and the *per capita* product showed perceptible increases.

The pace of inflation was thus checked from 1951 onwards by a combination of circumstances, the more important of which were the improvement in the terms of trade and the fiscal and monetary policy followed by the authorities.

A policy of curtailing public expenditure designed to avoid negative balances, was adopted as early as 1950. The result was a budget surplus in 1950 and the succeeding years, in marked contrast with the previous regular deficits. (See table 75.)

Another factor is that Colombia's fiscal structure is not retrogressive, as in the case of many other Latin-American countries. On the contrary, it is characterized by a high proportion of direct taxation and by the growth in its revenues during recent years. To appreciate the increase between 1950 and 1952 reference should be made to the table below. (See table 76.)

Table 75. Colombia: Fiscal revenue and expenditure

(Millions of pesos)

Years	Revenue	Expenditure	Balance
1945	196.8	173.9	22.9
1946	277.3	288.4	−11.1
1947	350.6	371.7	−21.1
1948	400.1	412.1	−12.0
1949	405.7	411.6	− 5.9
1950	573.4	519.6	53.8
1951	733.4	675.6	47.8
1952	810.3	740.1	70.2
1953[a]	911.8	911.8	—

Source: Banco de la República, *Revista.*

[a] Provisional. The estimate calculated for 1953 was 768 million pesos. In the course of the year new funds were voted, the rehabilitation and development quota, for example.

In the first seven months of 1953 income-tax revenue exceeded that of the previous year by 28.7 per cent.

In March 1951 the exchange regulations were reformed and quantitative restrictions on imports abolished, although certain prohibitions remained in force. The exchange rates were reduced to three, and this represented a currency devaluation, as explained elsewhere.[10] Many goods on the prohibited list may be imported with free foreign exchange obtained from exports of certain subsidized products.

As regards the trade balance, the reform considerably relaxed import restrictions, but simultaneously checked them through the devaluation, whose effects are somewhat limited in Latin America. Devaluation acted as a stimulus to exports, and coincided, moreover, with the improvement in the terms of trade. Up to a point, therefore, the new exchange system did not accentuate the controls on imports. As regards exports, the increase resulting from these favourable circumstances was able to develop into a rise in the money supply and a consequent acceleration of the pace of inflation.

However, the exchange reform was not an isolated measure, but operated in combination with others that were adopted during this period. Apart from the measures already mentioned relating to fiscal policy, there was a tariff modification which replaced specific by *ad valorem* duties and represented a general increase in customs dues.

[10] See section III, "Overvaluation, Foreign Trade and Exchange Reforms".

Table 76. Colombia: Composition of fiscal revenue

(Thousands of pesos)

Years	Direct taxation[a]	Percentage	Customs duties	Percentage	Other revenues	Percentage	Total[b]
1948	152,991	47.2	58,790	18.1	112,467	34.7	324,248
1949	184,281	48.0	42,991	11.2	156,445	40.8	383,717
1950	234,321	45.5	97,557	19.0	182,630	35.5	514,508
1951	287,391	43.0	215,655	32.3	164,717	24.7	667,763
1952	323,197	46.4	195,256	28.0	178,062	25.6	696,515
1952[c]	288,776	49.4	159,143	27.2	136,425	23.4	584,344
1953[c]	283,350	42.7	203,594	30.6	177,198	26.7	664,142

Source: Banco de la República, *Revista.*

[a] Includes income, inheritance and excess profits taxes.

[b] Not including credit resources and the treasury balance, which is why the total revenue shown in this table differs from that in table 75.

[c] First ten months.

Moreover, in September 1950, by agreement with all components of the banking system, it was decided to maintain loans at figures not exceeding credit at the end of that month. This system remained in force until the reform of banking legislation in April 1951 granted the central bank the necessary legal powers to control credit.

As a result of these measures, equilibrium in external accounts and a surplus in the balance of payments were obtained, while the quantum of imports was simultaneously maintained at a high level. Throughout 1951 the money supply registered a substantial increase, which continued during 1952. This was not fully reflected in prices, however. The behaviour of prices can be attributed primarily to the adequacy of the supply, due partly to the progress of domestic production—particularly in 1950—and partly to the growth of imports. Nominal wages, which had risen sharply in 1950, were stabilized and even reduced during 1951, recovering only towards the end of 1952. In addition, the anti-inflationary effects of public finances have already been observed.

Furthermore, the monetary policy pursued by the central bank prevented the increment in the money supply from being more pronounced than it actually was. Finally, for reasons of caution associated with the political situation, the existence of hoarding, or savings held outside the banking system, should not be ignored. Many of these factors persisted in 1953, although others appeared which were fully capable of modifying the situation.

The abatement of political strife has had its effect upon Colombia's economy, but the consequences as regards the monetary position cannot at present be foreseen. On the one hand it has brought a general increase in demand. On the other, increased imports—aided by a greater inflow of foreign exchange due to peak coffee exports—imply the availability of more goods to offset the effect of the rise in demand.

To guard against any inflationary pressures which may reappear, the *Banco de la República* has continued to wield its new statutory powers, enabling it to determine the minimum cash reserves and to fix rediscount quotas. Above all, the central bank has resorted to the first of these instruments of credit control, varying the cash ratio in accordance with events. Thus, although its recent policy was in the main restrictive, changes in the cash reserve minimum were made when it was considered necessary to relieve a shortage of specie, as for instance when the public sought loans from banks to pay the special tax known as the "rehabilitation and development quota".

This policy enabled the monetary supply to be kept at an almost stable level during the first ten months of 1953. Nevertheless, wholesale prices rose by more than 6 per cent and the cost of living by more than 9 per cent. This situation was in direct contrast with the 1952 position, when prices remained relatively stable despite an almost 12 per cent increase in the money supply. In addition, it should be noted that, in 1953, there was no sign of the seasonal decline in prices, which customarily begins in June, the time of harvests and an increase in supply.

A number of facts may explain the behaviour of prices.

For example, the economic recovery caused by more stable political conditions gave rise to the increase in demand mentioned earlier. It was possible to sustain this through the freeing of funds which had previously existed in savings, or had been hoarded, and the greater income from coffee sales. Moreover, the high consumption demand was not satisfied by the somewhat poor harvests. In 1953, a year for which accurate data are not yet available, economic recovery and the rehabilitation of many productive zones, while resulting in higher income for many sectors, must have stimulated the steady upward movement of wages apparent since mid-1952, after the earlier fall in that year.

It is clear that future price developments and the maintenance of the comparative monetary stability achieved by Colombia throughout the whole of the last three years depend upon the behaviour of the following factors: the balance of payments, coffee exports, harvest trends, public finances, wages, and the policy of the central bank. There are two further factors, however, which cannot fail to influence the immediate future of monetary policy.

The first is the fiscal reform, sanctioned on 8 September and modified on 9 October 1953. In brief, the reform establishes a small minimum tax of a universal character and modifies income-tax rates and exemptions progressively in order to reduce the burden on small incomes and increase the contribution of larger ones. All sources of each tax-payer's income are now included in the application of the scale. The provisions applying to limited liability companies have—even after the October modifications—caused some anxiety and given rise to protests. They establish higher rates and a double tax (company profits and shareholders' dividends), while companies having a differ-

ent legal form pay a much lower tax. It is stated that such a measure will discourage the formation of new limited liability companies and therefore the inflow of foreign capital, which prefers companies of this type. Even ignoring this aspect, the reform emphasizes the characteristics of the fiscal structure noted earlier.

The second factor is to be found in the Government's plan for investments through the *Consejo Nacional de Planificación*. According to unofficial information, it is believed that the projected investment for the next five years will reach 1,000 million dollars (750 million from the Government and its ministries and 250 from private industry). If official investment were distributed in equal annual portions, it would represent an additional expenditure of 375 million pesos annually, or an increase of 67 per cent over the estimated investments for the public sector in 1952. The plans include basic investment in electric power, roads, railways, housing, industry, agriculture and livestock.

The expansive force of such heavy public expenditure is undeniable, representing an inflationary potential which may destroy the equilibrium achieved by Colombia. Whether it causes actual inflation or not will depend on the success achieved in respect of greater productivity and on the financing of the proposed investments. Colombia has excellent prospects for investment of a non-inflationary character, namely, the tendency of domestic savings to grow, larger fiscal revenues arising from direct taxation, and the contribution of foreign capital. These last were already fairly substantial in 1952 and 1953; it is expected that they will increase within the near future. Colombia now has recent experience of reasonable development under conditions of stability. If it is possible to prolong and even intensify this progress on the proposed scale, a good example of fostering economic development without inflation will doubtless be established.

6. *Cuba*

In 1953, Cuba's monetary situation was marked by the stability of the money supply. Prices have in general remained stationary at the 1951 level, despite small individual fluctuations. This situation is due to the trend of the economy, which is clearly linked with the variability of sugar production, exports and prices.

As regards the money supply, it was possible to contain the expansion which had taken place in previous years, representing an 80 per cent rise in the money in circulation between 1946 and 1951. During 1947, monetary reserves had caused an increment in the money supply of 200 million Cuban pesos, and although they led to an increase of 41 and 34 millions in 1948 and 1949 respectively, their influence was slighter, owing to the situation on the world sugar market and its lower price. With the progressive improvement in the position of sugar in 1950, monetary reserves began to exercise a new inflationary influence, and they were responsible for most of the increase in the money supply during 1951 and the first half of 1952. The exceptional sugar crop of 1951/52 had important monetary repercussions, among them an increase in reserves to a previously unequalled figure. From that date onwards they began to decline, both for seasonal causes and, later, owing to changes in the world sugar market, representing at the year's end an estimated loss of 23 million pesos. (See table 77 and chart XLIII.)

The growing weakness of demand abroad—which was clearly incapable of absorbing the substantial exportable surpluses of sugar—thus entailed a relaxation in the dynamic element of Cuba's economy and caused 1953 to present a marked contrast with the two previous years, which had witnessed high levels of income and employment. In 1952 it had already been necessary to finance surplus sugar stocks through an operation, involving 120 million pesos, carried out by the *Instituto Cubano de Estabilización del Azúcar*. This institution granted mortgage certificates to sugar producers, who could discount them at any bank of the system depending on the central bank, where it was also possible to rediscount them. This operation had important consequences on the liquidity of the sugar companies and their level of activity.

In 1953, although the falling tendency of sugar prices

Table 77. Cuba: Sources of money supply

(Millions of pesos)

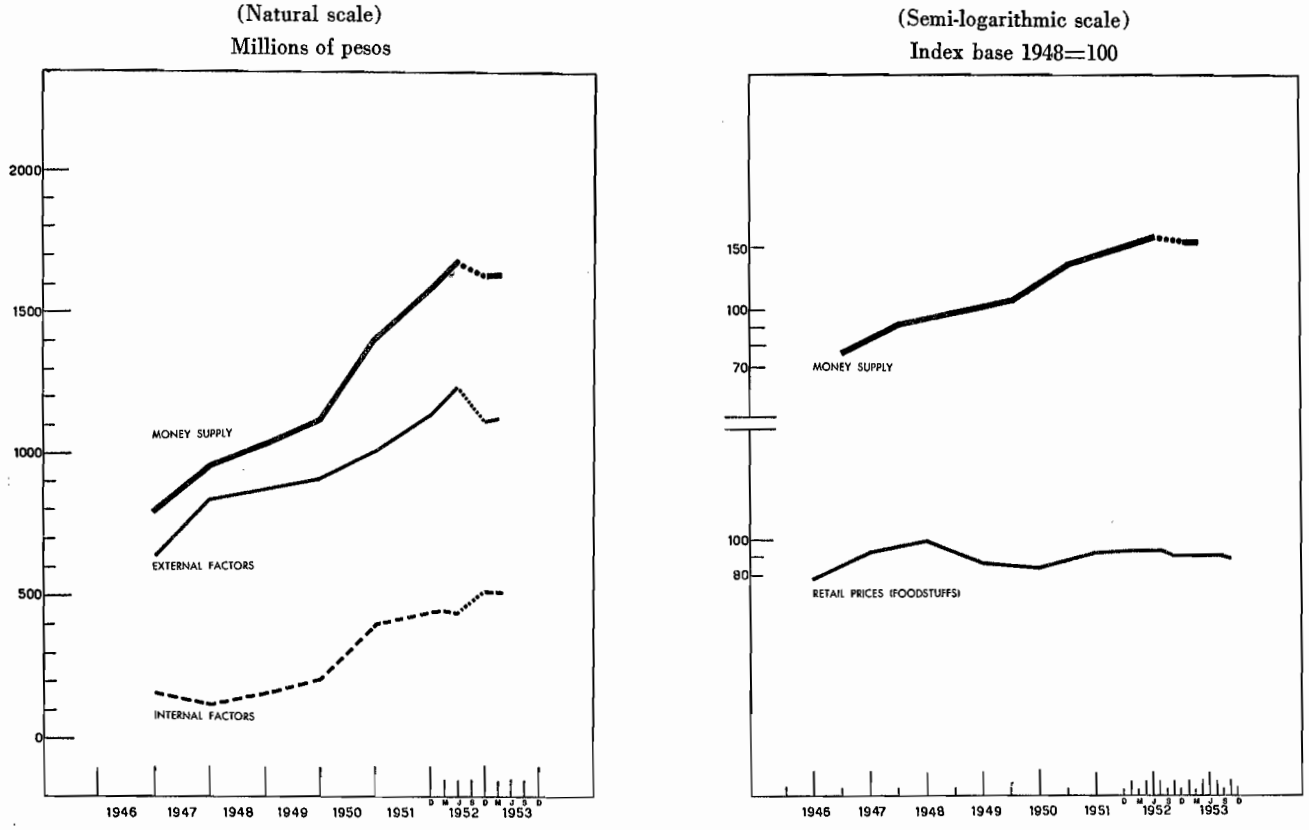
Years and quarters	External factors[a] (A)	Internal factors			Money supply absorbed (−) (E)	Net variation in money supply (F)	Aggregate money supply (G)
		Total (B)	Public sector (C)	Private sector (D)			
1946	..	..	..	..	..	..	799
1947	200	15	..	..	−57	158	957
1948	41	18	..	..	25	84	1,041
1949	34	—	..	..	48	82	1,123
1950	98	148	..	..	40	286	1,409
1951	130	100	8	92	−52	678	1,587
1952:							
I	50	26	−3	29	−24	52	1,639
II	98	30	−7	37	−32	96	1,683
III	..	..	..	..	..	..	..
IV	−23	113	27	86	−42	48	1,635
1953:							
I	7	− 3	—	− 3	1	5	1,640
II	..	−13	15	−28	..	..	..

Source: Banco Nacional de Cuba.
General notes: see table 62.

[a] Includes dollars in circulation and dollar deposits in the banking system.

Chart XLIII

CUBA



had become acute, additional shipments of more than one million tons to the United Kingdom permitted an improvement in monetary reserves.

As regards internal factors, the growth of credit facilities showed an upward trend only from 1950 onwards, sharpening in 1951 and the first half of 1952, both for operations prior to the new harvest and to finance unsold stocks of the 1951/52 crop. The fact that the expansion of credit in 1951 had no great effects was due to the influence of internal factors, mainly the increase of time and savings deposits, which offset its consequences by absorbing the money supply.

With regard to the public sector, it should be noted that Government income, like other economic indices, has followed the fluctuations of the price of and the world market for sugar.

This explains the decline in the gross product during 1948 and 1949, its later recovery, and the further decrease in 1953. Public finance does not appear to have exercised inflationary pressure, judging by the relatively low proportion of the gross product represented by fiscal revenue. (See table 78.) Information on public expenditure and bank loans to this sector was not available before 1950. Bank credit was not substantial during the period 1950-53, and the annual increases were unimportant.

Since the second half of 1950, efforts have been made in the money market to create conditions making possible the gradual placement of a long-term domestic loan. The capital will be at the disposal of the *Comisión de Fomento Nacional* and the total issue is estimated at 120 million pesos. The placing of these bonds with the public had the effect of absorbing funds, an effect which continued until mid-1951, when the loan began to be used to pay for public works.

Nor do investments constitute an inflationary factor in Cuba. The low level of investment has been evident for many years past. Gross domestic investment represents in all 11 per cent of the gross product. This circumstance does not arise from a relative shortage of savings, since the latter have stood at 14 per cent of the gross product during recent years. In other words, savings have been more substantial than domestic investment, which signifies that considerable investment has been made abroad over a long period. The causes lie in the unattractive prospects for new investment offered by sugar production, and in foreign industrial

Table 78. Cuba: Fiscal revenue

(Millions of pesos)

Years	*Revenue*	*Percentage to gross product*
1946	196.3	13.5
1947	265.2	13.5
1948	241.8	12.3
1949	219.9	12.1
1950	269.0	13.6
1951	323.7	13.8
1952	333.3	13.9
1953	267.4	..

Source: Banco Nacional de Cuba.

competition, which, owing to the contractual obligations of the 1934 commercial treaty with the United States, which precludes the adoption of protective measures to support other industrial activities, has few obstacles to contend with. Conversely, domestic costs are high, owing to wage levels which are indirectly protected by the high wages (fixed by the Government) paid in the sugar industry and the pressure of organized labour in some sectors. The 5 per cent reduction decreed for some wages in 1953 does not appear to have influenced the remainder.

Government investments are not high, but there have been recent plans to increase them to offset the contraction in private investment.

Table 79. Cuba: Indices of money supply and retail prices of foodstuffs

(1948 = 100)

Years and quarters	*Money supply*[a]	*Retail prices (foodstuffs)*
1946	76.8	78
1947	91.9	92
1948	100.0	100
1949	107.9	87
1950	135.4	84
1951	152.4	93
1952:		
I	157.4	95
II	161.7	95
III	..	95
IV	157.1	92
1953:		
I	157.5	92
II	..	92
III	..	92

Source: Banco Nacional de Cuba.

[a] Balances at the end of each period.

These factors largely help to explain price behaviour in Cuba. There is, however, another element which has influenced the stable monetary situation since 1951 and some of the previous declines. During 1949-50, for example, it was the satisfactory supply of basic goods through imports. The decline which was apparent at the end of 1952, and which continued during 1953, was closely connected with lower sugar prices and a reduced gross product, as a result of official restrictions on sugar production. (See table 79

7. *Dominican Republic*

During the period 1947-53 there was no pronounced trend in the monetary policy of the Dominican Republic and, except in 1950 and 1951, no substantial variations took place in the money supply. Those fluctuations which did occur were due to the influence of external and internal factors alternately. In the third quarter of 1953 the money supply was lower than in early 1952.

As regards external factors, the balance of payments has been extremely favourable during recent years. Except in 1950 and 1951, however, when there were increments of 9 and 13 million pesos respectively, this did not cause any increase in international monetary reserves, but rather represented losses, as in 1947-49 and 1952. (See table 80 and chart XLIV.) The effects of the balance in current trade accounts were offset by the movement of capital and the servicing of foreign loans.

External factors exerted their major pressure in 1950-51, in consequence of the good market for sugar, the principal export. Later, the fall in sugar prices caused a decline in the trade surplus and an unfavourable balance of payments, which led to losses, although not very pronounced, in reserves.

The internal factors of expansion caused a slight rise in the money supply, by 39 million pesos, during 1947-51, approximately one half being due to the public sector. However, Government finances reacted to moderate the

Table 80. Dominican Republic: Sources of money supply

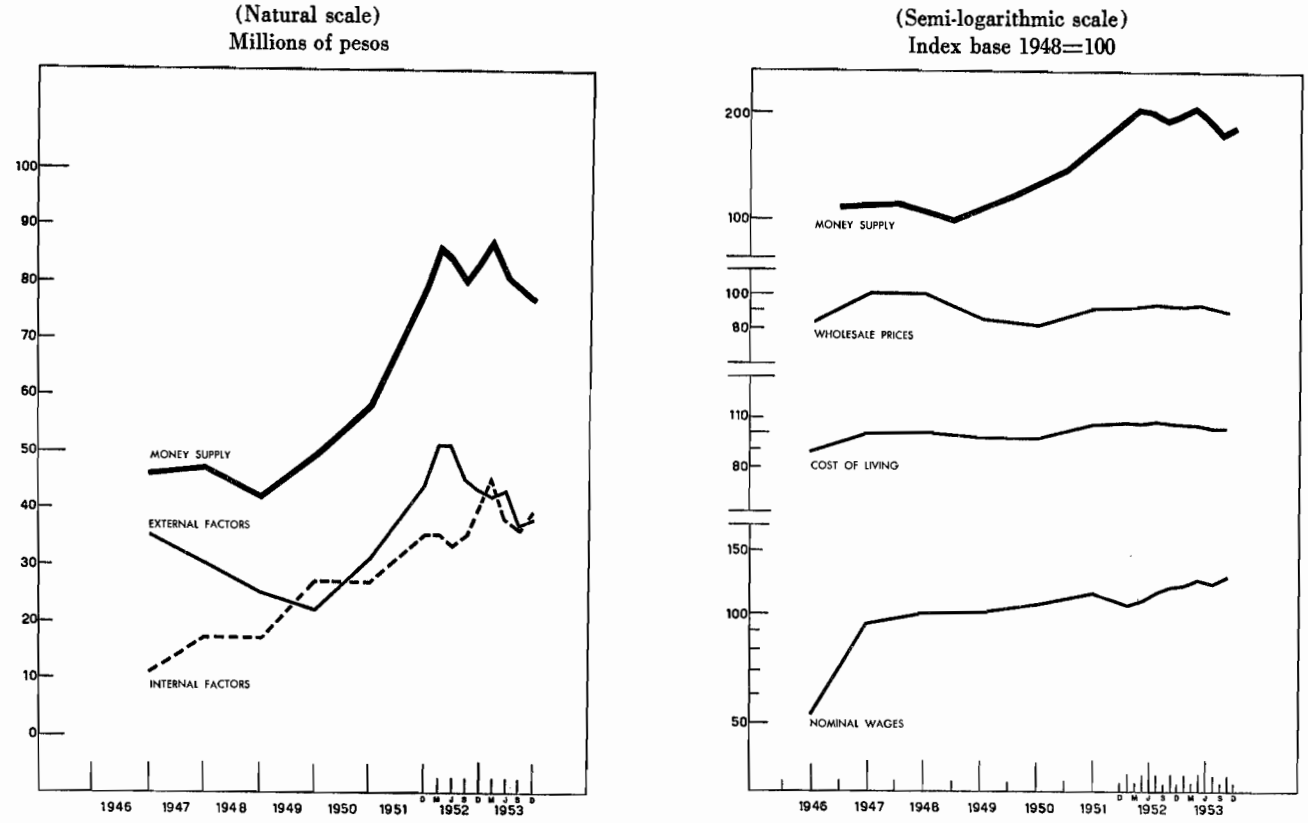
(Millions of pesos)

Years and quarters	*External factors* (A)	*Internal factors*			*Money supply absorbed (−)* (E)	*Net variation in money supply* (F)	*Aggregate money supply* (G)
		Total (B)	*Public sector* (C)	*Private sector* (D)			
1946	2	3	1	2	− 3	8	46
1947	−5	14	11	3	− 8	1	47
1948	−5	12	5	7	−12	−5	42
1949	−3	1	1	—	9	7	49
1950	9	3	—	3	− 3	9	58
1951	13	9	2	7	− 1	21	79
1952:							
I	7	−2	−2	—	2	7	86
II	7	1	—	1	− 3	5	84
III	1	5	5	—	− 5	1	80
IV	−1	7	6	1	− 2	4	83
1953:							
I	−1	1	3	−2	4	4	87
II	—	−1	−4	3	− 5	−6	81
III	4	−1	−1	—	− 7	−4	83

Source: International Monetary Fund, *International Financial Statistics.*

General notes: see table 62.

Chart XLIV
DOMINICAN REPUBLIC



upward movement through the budget surplus. Absorption factors, such as time and savings deposits, the sale of bonds to the community, and so on, were a weak influence, except in 1947 and 1948. For some years, such as 1949, they had inflationary effects upon the monetary supply, occasioned by a sharp contraction in savings deposits. In 1952 a rise in bank loans to the public sector became apparent, but disappeared in the third quarter of 1953.

Prices have remained stable since 1951, in keeping with the level of the money supply. (See table 81.)

The price pattern does not appear to have influenced the advance of nominal wages. More significant pressures are probably inherent in the supply of imported goods, which showed definite increases over the last four years, and the fluctuations in the gross product, which largely depend upon sugar output and markets.

Table 81. Dominican Republic: Indices of money supply, wholesale prices, cost of living and wages

(1948=100)

Years and quarters	*Money supply*	*Wholesale prices*[a]	*Cost of living*[a]	*Wages*
1946	109.5	84	88	53
1947	111.9	100	99	94
1948	100.0	100	100	100
1949	116.7	86	96	101
1950	138.1	83	96	106
1951	188.1	93	105	114
1952:				
I	204.8	94	106	108
II	200.0	93	106	108
III	190.5	95	107	115
IV	197.6	94	106	118
1953:				
I	207.1	94	105	120
II	192.9	95	105	124
III	174.0	93	103	121
IV	183.0	91	103	126[b]

Source: International Monetary Fund, *International Financial Statistics.*

[a] For Ciudad Trujillo.

[b] Average, October-November.

8. *Ecuador*

At the close of 1953 the money supply had risen 5.4 per cent above the level reached in December 1952, a very moderate rate of increase in comparison both with other countries in the region and with the situation in Ecuador during the previous year.

Broadly speaking, the major influence on variability in the money supply is exercised by external factors, that is, by fluctuations in the balance of payments. (See table 82 and chart XLV.) From 1946 onwards the rise and fall in international reserves alternated and had visible repercussions on the amount of money in circulation. The outstanding increases were those in 1950 and 1952, years in which the reserves also rose more sharply than at any other time during this period. In 1947 and 1951, conversely, losses in reserves caused a decrease in the money supply. In 1953 the small increment in the money supply coincided with a substantial loss of international reserves, thus modifying the tendency previously prevailing.

Table 82. Ecuador: Sources of money supply

(Millions of sucres)

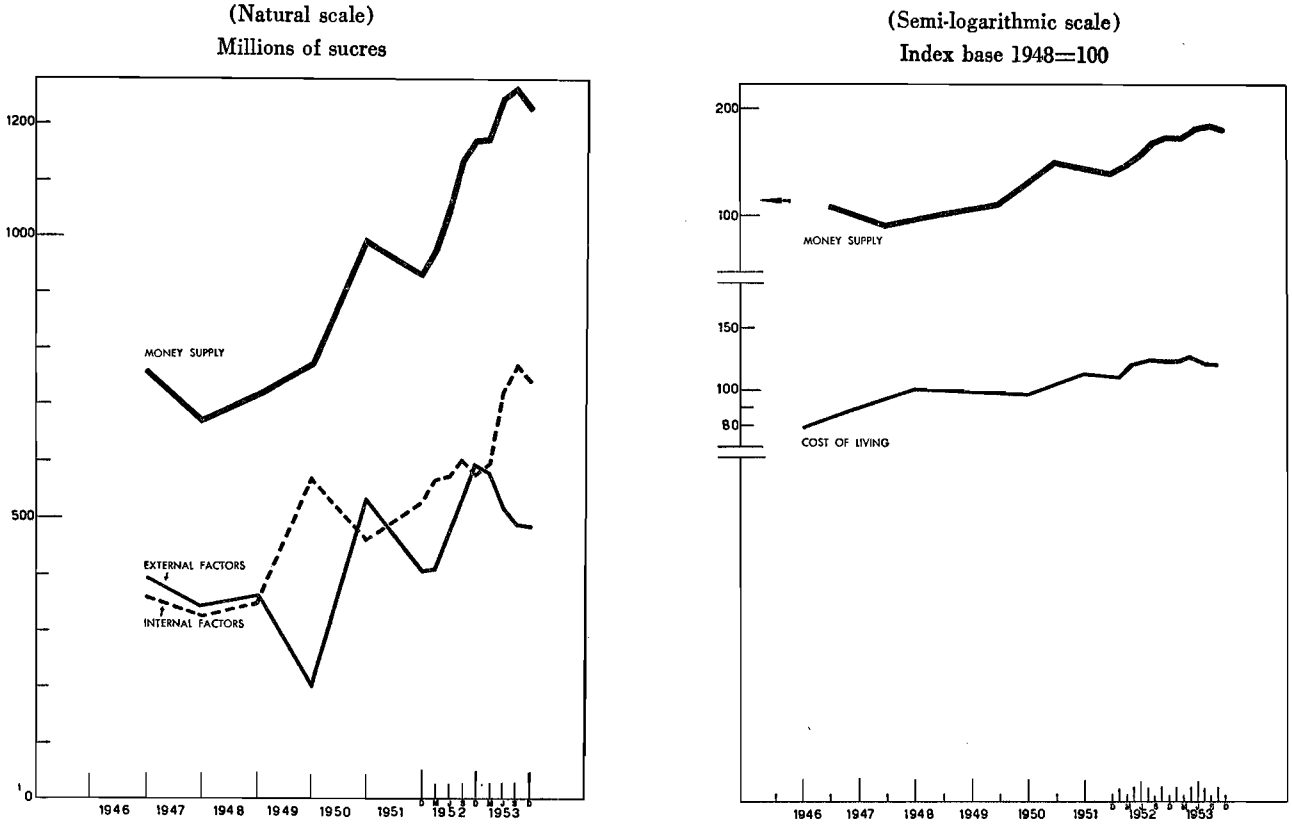
Years and quarters	External factors (A)	Internal factors			Money supply absorbed[a] (−) (E)	Net variation in money supply (F)	Aggregate money supply (G)
		Total (B)	Public sector (C)	Private sector (D)			
1946.....	31.3	111.1	72.2	38.9	− 74.4	68.0	755.5
1947.....	− 51.1	−19.8	−53.3	35.5	− 13.5	−84.4	671.1
1948.....	18.1	58.3	−64.4	122.7	− 33.4	43.0	714.2
1949.....	−162.2	162.0	0.5	161.5	53.7	53.5	767.7
1950.....	331.4	62.3	7.4	54.9	−169.3	224.4	992.1
1951.....	−126.8	77.2	18.6	58.6	− 11.1	−60.7	931.4
1952:							
I.....	2.8	77.0	38.0	39.0	− 37.3	42.5	973.9
II.....	69.8	130.0	21.0	109.0	− 86.4	113.4	1,044.8
III.....	128.2	141.0	−18.0	159.0	− 67.0	202.2	1,133.6
IV.....	185.9	142.0	− 6.0	148.0	− 94.3	233.6	1,165.0
1953:							
I.....	− 13.3	83.0	55.0	28.0	− 64.0	5.7	1,170.7
II.....	− 73.7	222.0	83.0	139.0	− 73.0	75.3	1,240.3
III.....	−101.9	399.0	83.0	316.0	−204.2	92.9	1,257.9
Oct.....	−103.5	420.0	89.0	331.0	−226.7	89.8	1,254.8
IV.....	−105.9	..	..	..	..	32.2	1,225.7

Source: Banco Central del Ecuador, *Boletín.*

General notes: see table 62.

[a] Includes a margin of error which in 1944 reached a maximum of 5 per cent of the aggregate money supply.

Chart XLV
ECUADOR



These statements do not imply that internal factors have been neutral. It would be more accurate to say that their role has mainly been to offset the fluctuations, or to restrain the variations which the individual action of external factors would have produced.

It should be noted that during 1953 the influence of internal factors tended to become more marked, in both the public and the private sectors.

For the period as a whole the money supply showed an increase of 62.2 per cent, a rate of growth which cannot be considered low, although comparing favourably with other countries in the region. However, inflationary effects cannot be attributed to this upward movement if the evolution of the cost-of-living index in the same period is considered. (See table 83.) This index rose by 40.4 per cent between 1946 and 1953, and by only 10.1 per cent in 1948-53. Having reached its peak level, it declined during the second half of 1953 to a position below that of the previous year.

Table 83. Ecuador: Indices of money supply, cost of living, and wholesale prices of foodstuffs

Years and quarters	Money supply (1948 = 100)	Cost of living[a] (1948 = 100)	Wholesale prices (foodstuffs) (1952 = 100)
1946.....	105.8	78.4	..
1947.....	94.0	89.2	..
1948.....	100.0	100.0	..
1949.....	107.5	98.1	..
1950.....	138.9	96.7	..
1951.....	130.4	110.9	..
1952:			
I.....	136.4	107.7	..
II.....	146.3	117.0	..
III.....	158.7	121.0	..
IV.....	163.1	119.5	100.0
1953:			
I.....	163.9	120.7	103.2
II.....	173.7	123.0	104.0
III.....	176.1	116.6	102.1
IV.....	171.6	116.4	..

Source: Banco Central del Ecuador, *Boletín*.

[a] Refers to prices for lower-income families in Quito, figures for which are available until 1952. To continue the series from the last quarter of 1952, it was necessary to use the foodstuffs grouping in consumer-price indices for Quito, which have only been published since August 1950.

Thus Ecuador's position may be described as an inflation, which assumed fairly serious proportions during and immediately after the World War, but has now been arrested. A further general feature is that, except in rare instances, there was no close connexion between variations in the money supply and price fluctuations. In 1950-51 there was an increase in both international reserves and public expenditure, while the most marked upward movement in prices took place simultaneously. On the other hand, the increment in the money supply recorded for 1952 coincided with a downward price trend.

The price stability achieved by Ecuador must largely be attributed to two elements. The first is the realistic policy of the monetary authorities. The second is the absence of expansive factors, since, as has already been noted, while the balance of payments showed alternating results, in each case fluctuations were offset by internal factors. Over the long term, therefore, variability in the balance of payments has definitely been the principal indication of the course of monetary events, and such variations have been decisively influenced by changes occurring in exports and imports.

The importance of foreign trade in Ecuador's gross product accounts for the special attention paid by domestic monetary policy to questions of international exchange. Exports have been encouraged by means of subsidies, through the use of revenue from duties and exchange surcharges on imports, and by giving the whole or a part of certain exports access to the free market. From February 1952 the multiple exchange rates which had previously existed were limited to two: the official and the free. Through their manipulation, the monetary authorities implemented a policy of equilibrium in the balance of payments, apart from duties on exports and imports. These last were, in the case of non-essential or luxury goods, burdened with exchange surcharges of 33 and 34 per cent. These surcharges were, however, abolished at the beginning of 1954 under the 1953 tariff reform which followed the recommendations of the United Nations Technical Mission. The new tariff unifies all duties and taxes, absorbing the surcharges referred to and establishing one single specific duty rate. This tariff reform caused most imported goods to become more expensive, and thus had the immediate effect of increasing imports during the second half of 1953, before it came into operation. It is hoped that the restraining effects of both price increases and the stockpiles established for speculative purposes will be felt during 1954.

Domestic monetary policy has moved towards the maintenance of some degree of stability in the means of payment required for business, for the needs of domestic production and for the Government, without ignoring their repercussions upon foreign trade. In this last connexion, and with the aim of checking the exaggerated flow of imports, the Central Bank adopted various measures during the course of 1953: (*a*) requiring the prior payment of the 33 per cent surcharge in the case of specific goods, and later—after the tariff reform mentioned earlier—the deposit of a high proportion of the duty which replaced the surcharge; (*b*) raising the advance deposit in local currency against letters of credit to cover payment of imports from 10 to 25 per cent; (*c*) exercising a more rigid control over imports by official or Government organizations.

As regards promoting investments and private enterprise, the policy was varied and was adjusted to circumstances. Generally speaking, exports represent a high proportion of the gross product, and they therefore largely influence investment. When exports decline and a threat of monetary contraction appears, as occurred in 1949, the Central Bank and the banking system adopt a policy of compensation, providing the domestic market with a greater money supply. But, as far as may be judged from available data, investments did not reach a significant level. The expectations raised by the establishment of the Development Corporation *(Corporación de Fomento)* in 1949 were dissipated through the fact that in the following year it was necessary to subsidize rice exports from the funds earmarked as the Corporation's capital. In 1951, similar difficulties appeared in respect of several classes of export goods, and at a time when substantial imports were affected owing to fears aroused by events in Korea. The policy of compensation failed to prevent a decline in the

money supply. In actual fact, investments seem to have played an active role only during 1944-46—when there was a considerable rise in the money supply—and in 1953, under pressure from the public sector.

There appears to be a certain parallel movement between the money supply and investment. When an increase in the former is due to peak exports, it produces a higher income in the sector concerned and therefore enhances the possibilities of investment. Investment, in turn, results in larger capital goods imports and a higher demand for domestic productive facilities. Although it might not be correct to state that full employment exists in Ecuador, productive facilities are at least fairly stationary, particularly in the case of labour, owing to the country's lack of economic and geographic unity. The higher domestic demand thus tends to have inflationary effects. At the same time, imports of capital goods and imports caused by domestic expansion upset the balance of payments. These circumstances have led the monetary authorities to follow a restrictive policy in order to weaken the inflationary pressure and to correct the disequilibrium in external accounts.

The increase in the money supply is exclusively of domestic origin when external factors—whether through greater imports or declining exports—cause an absorption of funds. In such cases, monetary policy has aimed at arresting the subsequent depressive tendencies, especially if the imbalance is caused by a failure in exportable production or a slump in its price.

The modest total of investments has not, therefore, constituted an inflationary factor in Ecuador, owing to the policy of compensation which has maintained investments within the bounds prescribed by the available resources. In addition, the recent stability in prices has in some years been influenced by the inflow of imported goods and in others by the production of domestic consumption goods.

The influence of the public sector should also be mentioned. There are no data from which to estimate the size of public expenditure in relation to the gross product, but it may be assumed that it is considerable. The fiscal system is to a large extent based upon indirect taxation. In other words, Ecuador's public finances possess a potential inflationary power. However, in recent years, and at least up to 1951, these aspects have been offset by others of a different nature. Indeed, between 1946 and 1951, with the single exception of 1950, all financial operations of the Government, the municipalities and public bodies showed a surplus, and the domestic public debt steadily diminished.

During the whole period under review, except 1946, the public sector has made only a very moderate contribution to the money supply. (See again table 82.) In this connexion it should be noted that the Government's policy has been conservative. Like the monetary authorities, the Government has aimed at offsetting trends appearing in other economic sectors, and more particularly at counteracting inflationary pressures or any disequilibrium in the balance of payments. For this reason, investment by the public sector followed a downward movement until 1952.

These tendencies persisted during 1953, but not to the same extent. Faced by a strong disequilibrium in the balance of payments—occasioned both by poor harvests of certain export products and by higher imports—domestic monetary policy, as in previous years, was of a compensatory character. Nevertheless, the high figures for the money supply created from domestic sources are striking, and far surpass any hitherto registered. If factors of absorption had not once again intervened, the rise in the over-all money supply would have exceeded the previous peak. Furthermore, public finances showed a fairly substantial deficit, and the budget estimate for 1954 allows for heavy increases.

These latent inflationary forces should be considered at a time when Ecuador's Government is drawing up or putting into effect plans for economic development. The aims of the draft proposals for establishing an Executive Commission for Planning and Economic Development *(Comisión Ejecutiva de Planificación y Desarrollo Económico)* are to formulate a development plan; to attain the highest levels of income and employment compatible with the resources of the country and with equilibrium in the balance of payments; to co-ordinate investment projects primarily with national savings, avoiding inflationary or deflationary effects; to co-ordinate monetary and fiscal policies; to readjust national finances, etc.[11] It should be noted that one of these aims is of particular importance, that of co-ordinating investments of the Government and other public bodies, since dispersion and lack of unity in the budget has characterized Ecuador's finances, thus obstructing the realization of a suitable fiscal policy in the past. It is sufficient to state that in 1952 the Government received only 35.4 per cent of all public income.

To fulfil certain basic projects, such as road building, assistance has been received from the International Bank for Reconstruction and Development. In addition, the Government hopes that the recent reforms will provide increased tariff proceeds, apart from the revenue accruing from the new income tax regulations which are now awaiting approval. But these prospects must be confronted with the reality of an unfavourable balance of payments and a sustained increase in credit to the public and private sectors, both of which are threatening the monetary stability in recent years.

9. *Mexico*

The controls and financial austerity adopted by the Mexican Government in the first half of 1953 represented an important change of policy. The effects were rapidly perceptible in the domestic economy and interrupted the upward movement of the money supply, at the same time contributing to prolong the stability maintained by the price level since early 1952.

The external and internal factors have been mutually compensatory in the post-war period. When the former caused losses in monetary reserves and a corresponding reduction in the money supply, the internal factors became the source of a greater increase in the means of payment (see table 84 and chart XLVI). This type of action has brought about a steady rise in the money supply, which would have been far sharper but for the intervention of powerful absorption factors.

Between 1948 and 1950 the Mexican peso was devalued, and in June 1949 was pegged at a par value 44 per cent lower than that in operation until July 1948. As a result, and during the period of readjustment when the

[11] See *Informe del Consejo Nacional de Economía,* Quito, 1953. p. 352 *et seq.*

Table 84. Mexico: Sources of money supply

(Millions of pesos)

Years and quarters	External factors[a] (A)	Internal factors			Money supply absorbed (−) (E)	Net variation in money supply (F)	Aggregate money supply (G)
		Total (B)	Public sector (C)	Private sector[a] (D)			
1946.....	..	..	..	..	..	..	3,514
1947.....	− 460	1,010	185	825	− 564	− 14	3,500
1948.....	− 32	1,278	488	790	− 752	494	3,994
1949.....	667	612	380	232	− 781	498	4,492
1950.....	1,512	491	−166	657	− 331	1,672	6,164
1951.....	− 214	1,548	− 50	1,598	− 551	783	6,947
1952:							
I.....	− 165	227	−221	448	− 275	−213	6,734
II.....	−1,046	749	9	740	− 283	−580	6,367
III.....	− 552	1,105	237	868	− 809	−256	6,691
IV.....	53	1,453	445	1,008	−1,179	327	7,274
1953:							
I.....	156	392	−136	528	− 393	155	7,429
II.....	− 355	742	−117	860	− 474	− 86	7,188
III.....	− 368[b]	1,138	154[c]	984[c]	− 759[b]	11	7,285

Sources: Banco de México and International Monetary Fund, *International Financial Statistics.*

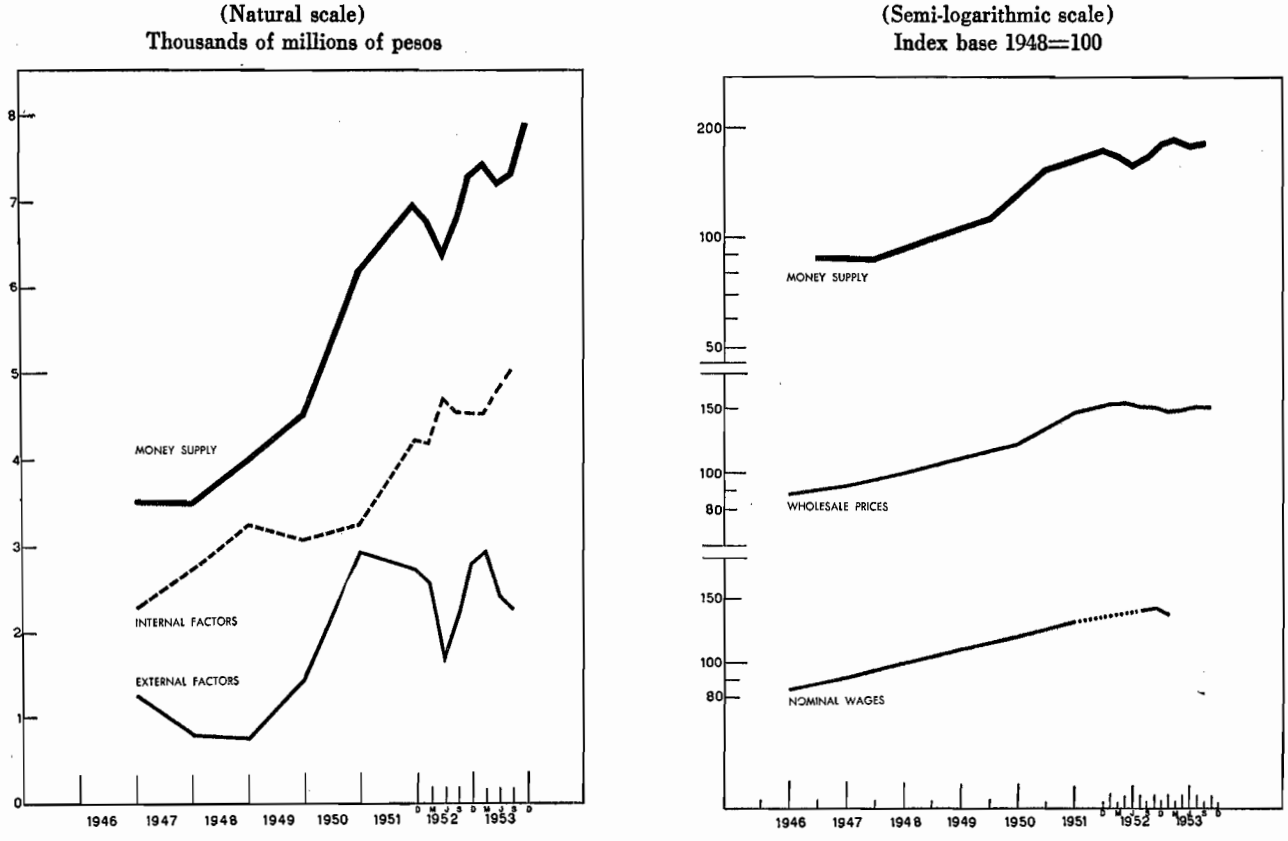
General notes: see table 62.

[a] From 1949, a transfer of 536 millions, from rediscounted bills held by the central bank, was eliminated. They were credited to banks without constituting a new source of lending.

[b] Estimate.

[c] August.

Chart XLVI
MEXICO



Mexican peso was undervalued in relation to the dollar, monetary reserves underwent a heavy increase and were responsible for almost the entire increment in the money supply. There were, in fact, two stages. The first covered the period to mid-1950, during which expansion was gradual, mainly representing the adjustment due to devaluation, and remained within moderate limits through the fiscal policy pursued at that time. The second began with the rapid rise in external prices on the outbreak of hostilities in Korea, causing an increase in the value of Mexican exports and accompanied by a substantial inflow of short-term capital assets.

The subsequent decrease in reserves, between the end of 1950 and September 1952, to a large extent offset the effects of internal factors on the money supply. Except for a fleeting recovery towards the end of 1952, reserves have continued to decline, and internal factors have been exclusively responsible for the creation of the money supply.

Owing to the influence exerted by internal factors, the more or less stable situation prevailing in the first half of 1952 began to show signs of a new inflationary trend in the second half of the year. During that period the public works programme brought about greater purchases of bonds from the Government and official bodies by the *Banco de México* and, on a smaller scale, by private banks. During the same period the continual public demand for credit and the operations connected with agricultural and industrial development gave rise to an expansion for the banking system as a whole.

However, in the course of 1952 the absorption factors of the money supply, which had previously begun to acquire growing importance, continued to exert their influence. The sale of bonds to the public—by semi-official and private financial institutions—was very substantial, savings and time deposits grew, and the capital and reserves of commercial banks increased.

In 1953 the behaviour of the internal factors differed considerably from 1952. Loans to the private sector continued to rise, but the public sector neutralized this growth by reducing its credit supply and increasing deposits in the central bank. The other internal factors of absorption operated in the same manner as formerly.

Between 1947 and 1951 prices followed the upward movement of the money supply, although with a certain delay. They were stabilized in 1952-53, notwithstanding the fact that in the first of these two years there was an increment of some size in the money supply. (See table 85.)

In Mexico both the development of monetary affairs and the course of the inflation, which was checked in 1952-1953, were affected by certain factors with peculiar features. The rise in prices until 1951 was largely influenced by the rate of investment, especially that of the public sector. But the high investment level was not matched by a proportional increase in the gross product, a contrast which explains the variations in the yield per unit of capital. From 1939 to 1945, the obstacles to investment due to the uncertainty of external supplies coincided with profits from previous basic investments, thus providing a high yield per unit of capital. After the war there was a revival of basic investment, at first somewhat unproductive per unit of capital. In addition, the existing capacity was not fully utilized, partly owing to foreign competition and partly because easier investment conditions made it possible for a margin of capacity to be left available for future expansion.[12]

Table 85. Mexico: Indices of money supply, wholesale prices and wages

(1948 = 100)

Years and quarters	*Money supply*[a]	*Wholesale prices*	*Wages*
1946.....	88.0	88	84
1947.....	87.6	93	91
1948.....	100.0	100	100
1949.....	112.5	110	109
1950.....	154.3	120	118
1951.....	173.9	148	131
1952:			
I.....	168.6	155	..
II.....	159.4	156	..
III.....	167.5	153	139
IV.....	182.1	152	142
1953:			
I.....	186.0	148	136
II.....	180.0	150	..
III.....	182.4	153	..
IV.....	..	153	..

Source: International Monetary Fund, *International Financia l Statistics.*

[a] Balances at the end of each period.

As already noted, public investment represented a high proportion of the total. The available data reveal that the substantial public investment was not financed with proceeds from heavier taxation of classes receiving profits, dividends and rents. The source appears to have been both a redistribution of public expenditure favouring investment rather than consumption,[13] and the use of credit facilities, especially from 1947 to 1949.

In addition to these facts, which are themselves of an inflationary nature, there was a decline in consumer goods, while those intended for investment increased. It is thus clear that the increment in the money supply should have been followed by a rise in prices. The fact that the latter was not so sharp as the former, and did not cause the acute inflation existing elsewhere, was due to other factors connected with the redistribution of the gross product, as a consequence of the inflation itself.

Mexico demonstrates a peculiar functional distribution of the gross product, which results in the sector earning profits, dividends and rents maintaining a higher proportion of the total than the working class sector. This provides wide scope for investment in the Mexican economy, since the classes benefiting from the distribution are those with the greatest capacity for saving. But the income distribution itself removes incentives for private investment through its effect upon the demand of the less favoured classes and, consequently, on total demand. This situation does not appear to provide for optimum consumption, so that investment and income record the highest levels consistent with the available real resources and technical progress. Thus the savings of the profit-earning classes have increased only in an absolute sense, owing to higher income, but maintain a more or less steady proportion, that is, they save more, but not at a higher marginal rate.

[12] *Economic Survey of Latin America, 1951-52*, p. 74.

[13] *Ibid.*, p. 88.

Hence, the large share of the gross product represented by investment is mainly determined by the public sector (45 per cent of the total in 1950 and rather more in subsequent years). Public investment also partly fulfils the function of stimulating private investment.

Monetary and banking policy has also played an important part in moderating the pace of inflation in Mexico. Special measures were adopted in September 1949, when the monetary situation was in a state of great liquidity. They required banks from that date to hold cash reserves against increases in deposits at the central bank. An exception was made of up to 70 per cent which banks were authorized to invest in securities and in credit sectors approved by the central bank. Thus began a wider system of quantitative and qualitative credit controls. Modifications were introduced in January and June 1951, and it was finally laid down that 100 per cent of the reserves against deposit increments would remain totally blocked in the central bank. In 1952, without any modification in this system, rediscount facilities were granted in view of the change in the monetary situation.

Open market operations were complementary to this policy. The public purchase and sale of bonds was accomplished in accordance with the supply of currency. Thus, the policy of monetary regulation was almost exclusively directed towards the control of bank cash reserves and the diversion of available resources towards the credit or investment sectors indicated by the monetary authorities. The substantial credit expansion in recent years has probably had less inflationary effects than would have ensued if the above measures had not been adopted.

This background provides an understanding of the change during 1952-53 in Mexican monetary and fiscal policy and their effect upon the domestic economy. Two interesting facts deserve special emphasis, the important role of public investment and the reasonably effective measures to control credit.

The first of these facts accounts for the consequences of the austerity policy undertaken by the authorities, which began, early in 1953, with a temporary paralysation of public works projected and in execution. Official statements declared that this first stage would be followed by a corresponding integration of monetary and financial policies, aimed at maintaining stability without neglecting the credit required for economic development.

In the first half of 1953 there was a substantial reduction in expenditure on public works. The consequences appeared rapidly in the specific form of a contraction in the effective demand. This naturally led to a decline in sales, employment, industrial output, building, the total of wages paid by industry, prices, and so on. (See table 86.)

The decrease in export values also contributed to this state of affairs, mainly owing to the slump in prices, since the quantum remained almost the same as the previous year.

There can be no doubt that lower investments in the public sector influenced those of the private sector, and that there was, in consequence, a downward trend in investment as a whole.

It appears that the aim has been achieved of relieving the public finance situation and attaining stability by cancelling the budgetary imbalance and the inflationary pressures caused in previous years by rapid growth. This was accomplished by a steady and gradual process of compulsory saving.

In contrast, no success seems to have been achieved as yet in maintaining a rate of growth by encouraging private enterprise through a liberalized credit policy. In February 1953, in view of the stabilization of the money supply and the reduction in effective demand caused by the suspension of public works, the proportion of cash reserves which banks were required to deposit with the central bank was reduced to 30 per cent. A sharp increase in loans granted to private enterprise was recorded in consequence.

There is an apparent contradiction between this increase in credit to the private sector and the weakening of the effective demand. The problem disappears, however, when the main purposes of the increment in bank loans are examined. Firstly, a part of these larger credits was used by merchants and industrialists both to maintain stocks and to liquidate debts for previous operations of this nature, which did not, as a general rule, provide fresh income. Greater importance must probably be attributed to the increase in agricultural credit, which, by the end of the year, reached a sum of 500 million pesos, out of the 1,000 millions estimated as the over-all increment for the private sector. For climatic reasons, however, production remained stationary and was not consistent with the expenditure. Of the increment allotted to industrial activities, 200 million pesos seem to have been used to renew uncancelled credits and the remaining 300 millions for the maintenance of stocks.

Thus it is clear that, despite the attempts to revive private enterprise as a means of offsetting the depressive effects of the change in public investment policy, the real factors of the economy entirely prevailed over the monetary element.

Table 86. **Mexico: Indices of economic activity**

(1939=100)

Years[a]	*Sales in commercial establishments*	*Quantum of industrial production*	*Industrial employment*	*Total of industrial wages*	*Building in the Federal District*
1951	372.8	195.9	131.0	420.1	612.4
1952	410.3	195.8	130.3	450.4	720.6
1953	380.6	191.1	125.8	447.4	728.3

Source: Secretaría de Economía, *Barometros Económicos.*

[a] Monthly averages, first nine months.

Table 87. Paraguay: Sources of money supply

(Millions of guaraníes)

Years and quarters	External factors (A)	Internal factors			Money supply absorbed (−) (E)	Net variation in money supply (F)	Aggregate money supply (G)
		Total (B)	Public sector (C)	Private sector (D)			
1946.....	1.3	5.4	− 2.8	8.2	2.3	9.0	65.1
1947.....	− 6.4	25.7	13.0	12.7	−10.2	9.1	74.2
1948.....	− 6.5	36.4	27.4	8.7	− 1.2	28.7	102.9
1949.....	−11.2	54.8	30.1	24.7	12.6	56.2	159.1
1950.....	33.5	56.8	43.4	13.4	− 7.9	82.4	241.5
1951.....	65.3[a]	41.1	39.7	1.4[a]	72.7	179.1	420.6
1952:							
I.....	−13.8	3.9	3.9	..	41.2	51.1	471.7
II.....	−17.5	−43.6	−115.5[a]	71.9	170.2	109.1	529.7
III.....	−14.6	122.0	87.4	34.6	67.8	175.2	595.8
IV.....	− 6.1	181.0	121.8	59.2	41.3	216.2	636.8
1953:							
I.....	− 2.7	181.7	90.0	91.7	..	..	..
II[b].....	3.7	232.4	101.6	130.8	..	..	..

Source: International Monetary Fund, *International Financial Statistics.*

General notes: see table 62.

[a] Refers only to central bank figures, since data from commercial banks is not available.

[b] May.

Two factors which have affected the pattern of domestic prices must not be omitted. Some influence on the downward movement was exerted by Government price controls and subsidies granted to certain products. Bank credit, by being channelled towards payments for the maintenance of stocks and for the restoration of the liquidity of private companies, undoubtedly exerted sufficient influence to prevent the fall in prices from being sharper, and to cause some recovery in mid-1953.

In Mexico, the implementation of the projected programme constitutes an energetic official reaction to irregular economic growth and to the inflationary pressures and imbalance affecting the domestic economy. The proposal to give public investment a role merely complementary to that of private investment will have to face up to the fact of the high proportion which the public sector had accounted for in total investment and to the risk of a perilous economic relapse.

There can be no doubt that the immediate evolution of monetary affairs in Mexico is closely linked to the rate of public investment. Public works were resumed during the second half of 1953, but for the year as a whole there was a definite drop, estimated at some 700 million pesos, in relation to 1952.

10. *Paraguay*

The exceptional upward movement attained by inflation in Paraguay was undoubtedly due to the force of internal factors, which operated almost to the exclusion of all others between 1946 and 1949. During 1950 and 1951, however, external factors caused a substantial increase in international reserves, thus contributing greatly to the growth of inflation. At the same time, internal factors continued to create money at an unabated rate, and this process became far more rapid in 1952 and 1953, when the pressure from external factors weakened and caused losses in reserves. For the over-all period 1946-52 there was thus an exceptional rise, equivalent to 978 per cent, in the currency in circulation. (See table 87 and chart XLVII.)

Among internal factors the public sector was predominant. The increase in the money supply created in that sector during 1952 was particularly heavy, totalling 121.8 million guaraníes as against 39.7 millions in 1951. In May 1953 the figure stood at 101.6 million guaraníes. Bank credit to the private sector also rose considerably during the last two years. The situation is even more striking if cost-of-living indices are included, since they show a rise of 2,105 per cent between 1946 and July-August 1953. (See table 88.)

The experience of Paraguay perhaps represents the best example of an inflation of costs, principally engendered by the fiscal imbalance. Budget deficits, bank loans and occasionally, as seen above, a favourable balance of payments all lead to an extremely simple process, given the strictly parallel movement of the increase in money supply

Table 88. Paraguay: Indices of money supply and cost of living

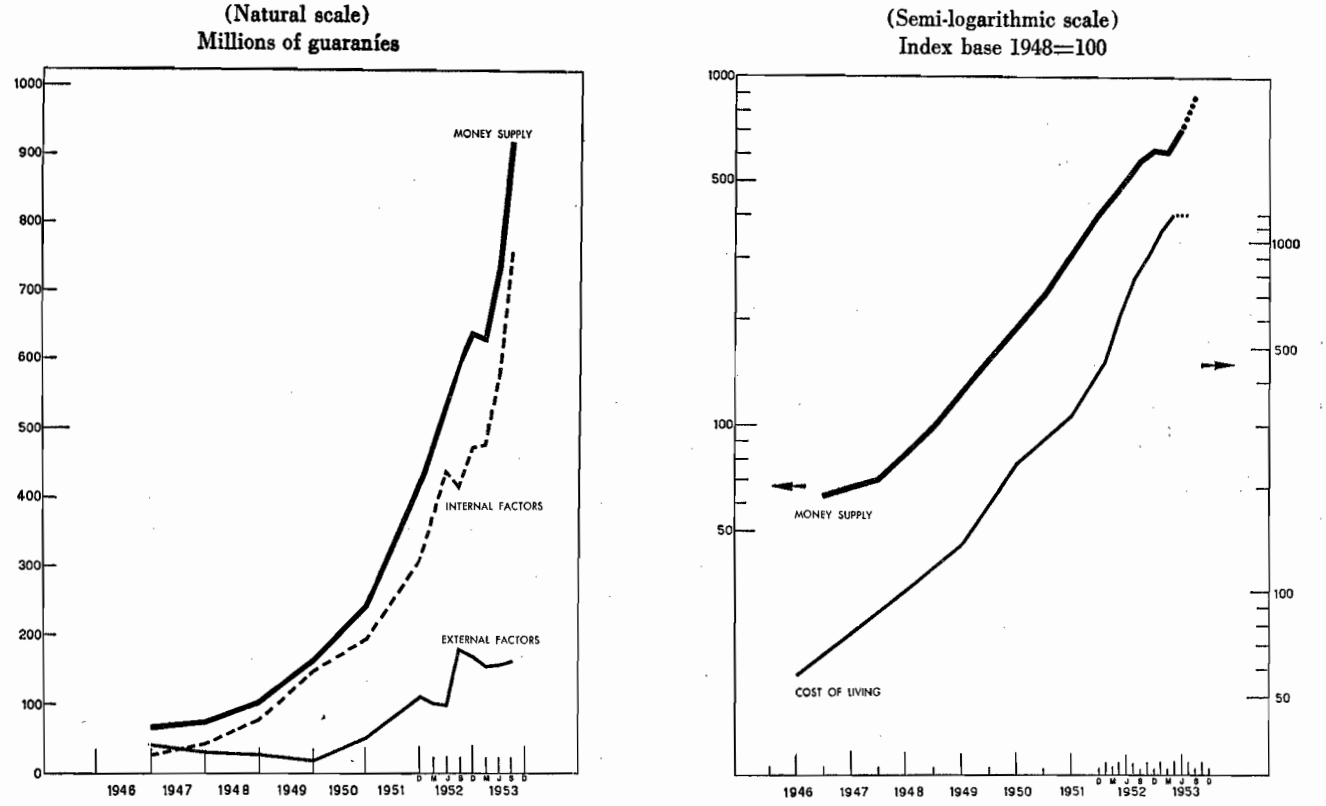
(1948 = 100)

Years and quarters	Money supply	Cost of living
1946.....	63.3	57
1947.....	70.4	75
1948.....	100.0	100
1949.....	154.6	135
1950.....	234.7	231
1951.....	408.7	316
1952:		
I.....	458.4	454
II.....	514.8	613
III.....	579.0	783
IV.....	618.9	899
1953:		
I.....	610.9	1,077
II.....	708.2	1,203
III.....	889.2[a]	1,200[a]

Source: International Monetary Fund, *International Financial Statistics.*

[a] Average, July-August.

Chart XLVII
PARAGUAY



and the rise in prices. All these factors exert pressure in the same way: nominal salaries naturally travel in a similar direction, exerting pressure on prices or being subjected to their upward influence.

Although the funds accruing from the expansion were used to some degree for development purposes, in general such balances were increasingly applied to finance the regular fiscal deficits and the higher wage scales. Apart from the well-known price and wage spirals and the typical phenomena of redistribution, the most significant result was the decline in the national product. According to some estimates the total for 1952 did not even equal the national product figures for 1950.[14] Paraguay thus presents a picture of real impoverishment linked with the most acute inflation in Latin America.

Monetary policy, as such, had only a slight moderating effect on the inflation and had to be concentrated on export trends, prejudiced by high costs, and on imports stimulated by the growth in the money supply. These factors led to the currency devaluations of 1950, 1951 and 1952.

The new Central Bank, whose statutes give it powers far wider than those of a strictly monetary nature, began operations in July 1952. In January 1953 its powers were extended under an economic and development stabilization programme aimed at ensuring a balanced fiscal budget and at limiting new increases in bank credit. A severe restrictive policy achieved a reduction of money in circulation during the first two months of 1953, but a relaxation of these restrictions resulted in a rise in the money supply for the first quarter of that year. This was caused by an increase, which became more intense in the second quarter of 1953, in bank credit to both the public and private sectors. It was estimated that the rise in the money supply in the first eight months of the year was over 44 per cent.

The obvious difficulties of curbing a rapid inflationary spiral abruptly are readily apparent in the case of Paraguay. As a result of high price levels and costs arising from the inflation, the restrictions applied by the Central Bank led, paradoxically, to an acute shortage of money in circulation in the midst of Latin America's most acute inflation.

The freezing of prices and wages, decreed by the Government at the beginning of May 1953, is reflected in the cost-of-living indices, which showed a momentary stabilization and even a slight decline until August. Once this period of control ended, however, and the contained pressure of the inflationary forces was partly freed, there was, with official sanction, an immediate rise in the prices of numerous essential commodities, a rise which reached 100 per cent in the case of meat and 50 per cent for sugar. As a compensatory measure the Government ordered a general increase of 20 per cent in wages and salaries,[15] which was thus additional to the increments granted several months previously.

These measures, linked with others such as the establishment of a Supply Commission which sold foodstuffs in the open market at fixed prices, thus had only a temporary effect. It was necessary to raise the level at which prices were frozen and of official prices.

[14] See Banco Central del Paraguay, *La Renta Nacional del Paraguay en 1952*, Asunción, 1953.

[15] *Fortnightly Review*, 3 October 1953.

However, the price increases were less sharp than the rise in the money supply through the influence of the satisfactory supply of imported goods. At the beginning of August, authorized imports reached a value of over 25.3 million dollars, excluding licences granted for the import of more than 5 million dollars' worth of goods "with private exchange". This was substantially in excess of the total laid down in the foreign exchange budget. Most of the surplus was used for wheat and flour imports.

A further favourable factor in moderating the course of inflation was the sound position of public finances—a situation which had not occurred for many years. This enabled an equilibrium to be maintained between revenues and expenditure and also payments on the public debt to be resumed after more than two years' suspension.

In November 1953 the Central Bank decreed new regulations to restrict bank credit. They limit both the debts which commercial banks may incur with the Central Bank and also the amount of credit which may be granted to individual clients, prior authorization by the Central Bank being required in some cases.

These factors may have a favourable influence on the course of inflation. However, their success will partly depend upon progress in domestic production of consumer goods, affected by adverse climatic conditions, and on the capacity to import, which is threatened for the same reason. The decline in exports was apparent in the first eight months of 1953, when foreign exchange income amounted to only 19.5 million dollars, as compared with a total of 37.6 millions estimated in the budget for the year.

An increase in the production of consumer goods would be one basic solution to the problem of inflation. Certain plans considered by the Government forecast substantial investments, both in dollars and guaraníes, to establish sugar production, an alcohol distillery, a pulp and paper mill, an electric power station, etc., whose results will depend upon the success of their productivity and their financing. If capital is obtained through a fiscal deficit or by means of bank credit, it is obvious that the immediate influence of such investments may be decidedly inflationary and add new force to other expansive factors.

11. *Peru*

In 1953 the influence of internal factors upon the rise in the money supply showed an upward movement, since much heavier losses of international reserves occurred than in 1952. Broadly speaking, this increase continued at the same rate as in the past, when—with the exception of 1946 and 1950—the balance of payments was favourable.

The expansion of the money in circulation and the progress of inflation were very rapid during the war years. They were influenced firstly by higher exports and the import decline and, secondly, by the increase in bank investments, mainly caused by the credit granted to the public exchequer. Prices and the cost of living rose sharply, although to a smaller extent than the money supply. In 1944, owing to the high capacity to import and the plentiful money supply available, the balance of payments became unfavourable, and the Peruvian Government decided to intervene in the foreign exchange market. This decision is worthy of note, since it marks the beginning of a period during which foreign exchange policy varied considerably, culminating in the introduction of a free exchange system.

During the early years of the post-war period the upward movement of the money supply slackened somewhat —although, in 1949, external accounts showed a substantial credit balance—as a result of changes in public finance policy, an increase in savings, and other factors of absorption. (See table 89 and chart XLVIII.)

While, however, the rate of increase of the money supply slackened immediately after the war—at least until 1950—wholesale prices and the cost of living rose far more sharply up to 1951, a year in which there was also a substantial increment in the money supply. Inflation, therefore, became sharper during the period 1946-51.

Table 89. Peru: Sources of money supply

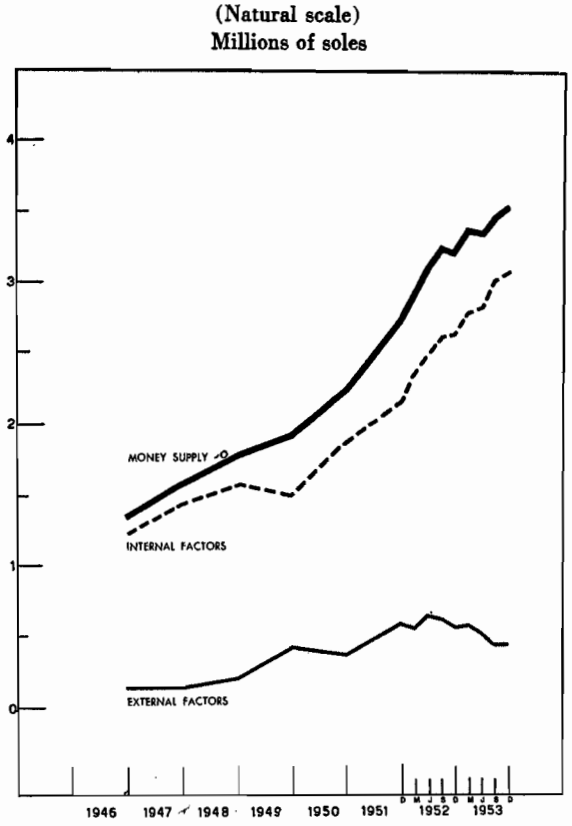
(Millions of soles)

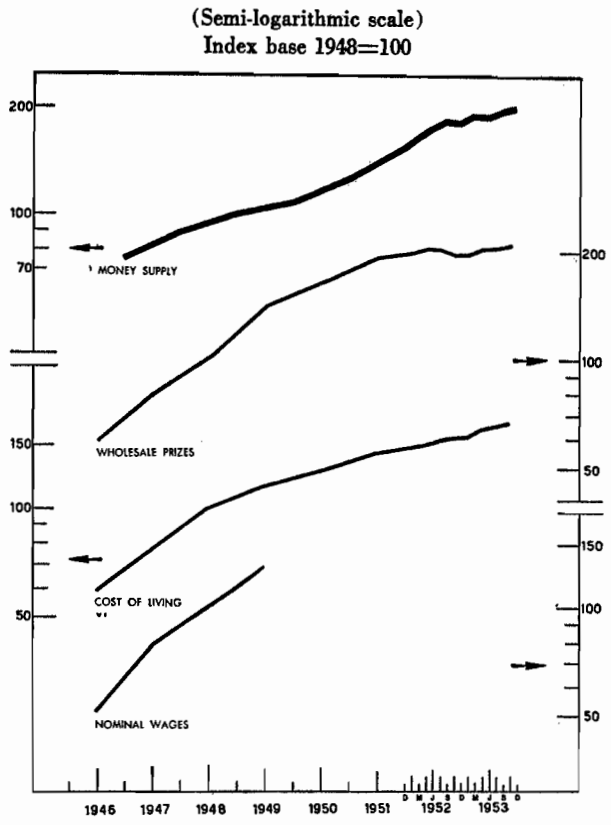
Years and quarters	*External factors* (A)	*Internal factors*			*Money supply absorbed (−)* (E)	*Net variation in money supply* (F)	*Aggregate money supply* (G)
		Total (B)	*Public sector* (C)	*Private sector* (D)			
1946.....	− 11.2	318.3	80.3	238.0	− 25.0	282.1	1,347.7
1947.....	7.4	217.2	72.0	140.7	8.8	233.4	1,581.1
1948.....	59.4	170.0	19.3	150.7	− 31.1	198.3	1,779.4
1949.....	216.9	214.8	− 32.5	247.3	−293.3	138.4	1,917.8
1950.....	− 41.1	280.0	− 96.5	376.5	78.8	317.7	2,235.5
1951.....	219.5	642.8	110.7	532.1	−355.3	507.0	2,742.5
1952:							
I.....	− 29.1	279.4	33.8	245.6	− 69.4	180.9	2,923.4
II.....	50.0	563.7	117.6	446.1	−245.1	368.6	3,111.1
III.....	32.5	676.5	108.0	568.5	−214.4	494.6	3,237.1
IV.....	− 17.3	790.9	152.7	638.2	−310.0	463.6	3,206.1
1953:							
I.....	3.2	220.8	− 59.4	280.2	− 74.2	149.8	3,355.9
II.....	− 57.5	409.9	140.3	269.6	−216.0	136.4	3,342.5
III.....	−132.5	499.0	143.4	355.6	−111.6	254.9	3,461.0

Sources: Economic Commission for Latin America, based on data from the Banco Central de Reserva, *Boletínes* and *Memoria Anual.*

General notes: see table 62.

Chart XLVIII
PERU





Conversely, from 1952 to 1953 the money supply increased 26 per cent, the cost of living rose 18 per cent and wholesale prices only 7 per cent. (See table 90.) These upward movements, especially those of the cost of living, are not inconsiderable, but since they are lower than in previous years they may indicate that the course of inflation is tending to decline. It is, however, not certain that this trend continued during the final months of 1953.

Table 90. Peru: Indices of money supply, wholesale prices, cost of living and nominal wages

(1948 = 100)

Years and quarters	*Money supply*	*Wholesale prices*	*Cost of living*	*Nominal wages*
1946	75.7	59.2	59.1	51.0
1947	88.9	79.7	76.4	78.0
1948	100.0	100.0	100.0	100.0
1949	107.8	139.7	114.8	129.0
1950	125.6	163.1	126.2	..
1951	154.1	192.4	141.8	..
1952:				
I	164.3	199.5	147.6	..
II	174.8	203.8	149.8	..
III	181.9	203.1	153.4	..
IV	180.2	197.3	155.6	..
1953:				
I	188.9	198.3	157.6	..
II	187.8	204.7	165.4	..
III	194.5	204.4	168.8	..
IV	199.0	207.9	169.9	..

Source: Banco Central de Reserva, *Boletín.*

During the recent past, monetary events in Peru have turned on the Government's foreign exchange policy, which found its most significant expression in the abolition of controls towards the end of 1949. It is therefore desirable to give a brief summary of the events leading up to this measure, which constitutes a marked exception to the policy prevailing in Latin America as a whole.

After a long period of relative freedom of exchange, and at a time when the trade balance had become unfavourable, the Government decided early in 1945 to intervene in the market. This it did through a committee responsible for granting export and import licences and for supervising foreign currency sales by banks. In November, a commission to control foreign trade (*Comisión de Regulación del Comercio Exterior*) was established, to be replaced a year later by the National Council of Foreign Trade (*Consejo Nacional de Comercio Exterior*).

Since consumer requirements for imports were very heavy as a result of the perk-up wartime demand and the stimulus provided by domestic inflation, import controls, to judge by the increasing proportion of applications rejected, became steadily tighter. In June 1947, imports regarded as luxury goods—and listed as such—were entirely prohibited, while at the same time foreign currency at the free rate of exchange was granted for foodstuffs and other necessities. Goods neither prohibited nor included in the priority categories could be imported without prior authorization, using free foreign exchange at a rate which was then double the official rate.

This system underwent various changes and reforms which were designed to tighten the restrictions but failed

to achieve the anticipated equilibrium in the trade balance or currency stabilization. The chief obstacle lay in the internal inflationary pressures, mainly exerted by the public sector.

The first step towards slackening controls was taken with the decree of 6 September 1948, establishing a national foreign exchange fund. In addition to foreign exchange from other sources, 65 per cent of all such income from exports was allocated to the fund. The remaining 35 per cent was retained by the *Banco Central de la Reserva* as a deposit against surrender of foreign exchange certificates. Foreign currency in the fund, at the official rate of exchange, was used to import category "A" or essential goods, for foreign exchange payments by the Government and official bodies, for contractual services and costs of non-exporting bodies authorized to be paid in foreign exchange, and for servicing foreign investments in Peru. Foreign exchange certificates could be freely negotiated by exporters, and the exchange received for them was available for the import of goods belonging to less essential categories or for other services. The Central Bank imposed a surcharge of 3.50 or 10 soles per dollar, according to the class of goods to be imported, and the revenue thus obtained was earmarked for the amortization of obligations contracted by the Government with the Central Bank to finance food subsidies, to continue paying these subsidies, and to increase the capital of the development banks. Certificates were negotiable for 30 days, after which time they could be exchanged only at the Central Bank for their value in soles at the official rate of exchange.

Successive modifications of this decree—the first of them only three months after it had come into force—gradually abolished or relaxed controls. In December 1948, the quota of foreign exchange in certificate form was raised to 55 per cent, the surcharges on exchange were discontinued, and the licence to import non-prohibited goods was no longer required. Despite these modifications, the 45 per cent retained by the Central Bank proved to be excessive and resulted in an accumulation of foreign exchange, while the import quota was insufficient. The dollar quotation for certificates which had stood at 15 soles in November 1948 rose to 22 soles in July 1949. This depreciation was also influenced by the downward tendency in world markets, which affected some Peruvian primary commodities, although exporters were compensated by the rate of exchange.

In August 1949 it was decided to abolish the retention of the 45 per cent of export earnings in foreign exchange which the Central Bank declared to be surplus. The pound sterling fulfilled this condtion and, with the addition of similar treatment for mineral exports, 75 per cent of all exports remained in the system of entire payment by means of certificates.

The decree-law of 11 November 1949 suspended the official par value of the sol and raised to 100 per cent the surrender of certificates for all classes of exports. Thus the scope of the market for certificates widened with the greater inflow of foreign exchange, causing a downward trend. Foreign exchange quotations, after the rise in July 1949 to which reference has been made, showed the same tendency. In March 1950, dollar bills were being negotiated at 14.90 soles and certificates at 14.20.

The results of this system, during its four years of operation, are linked to the credit policy of the Central Bank, to the domestic control measures adopted by the authorities, and to the pattern of public finance. It should be noted that the immediate effect was necessarily a rise in prices, since the system sanctioned a devaluation of the sol, thereby increasing import prices. This upward tendency was further strengthened by the abolition of food subsidies (with the exception of wheat), by the repeal of domestic price controls (except on bread and fuels), and by a general increase in salaries and wages of civil servants and Government employees to compensate for the probable rise in the cost of living.

The upward movement of prices was very marked in 1950 and 1951. In addition, it should be recalled that events in Korea led to increases in export and import prices during that period. Thus, when exporters did not sell all their certificates, owing to a surplus in supply, the certificates were absorbed by the Central Bank by issuing currency; the Bank then sold the foreign exchange at a later date or kept it as a reserve. At all events, imports were encouraged, and even more so by a gradual relaxation from the second half of 1950, of the controls then in force. The policy of the Central Bank was inspired by two contradictory requirements. The first was to curb domestic inflation, which was being fostered by the acquisition from exporters of the foreign exchange unused within the appointed term, and the second to avoid disequilibrium in the trade balance. Thus the Central Bank at one time ceased to acquire part of the surplus foreign exchange—a part which exporters could freely negotiate from March to May 1951—and at another (28 May 1951) the period of negotiability was reduced from 60 to 15 days, thus compelling exporters to make effect sales. While in the first case the issue of new money was arrested, in both instances imports received a stimulus, since the hurried negotiation of foreign exchange imposed by the second measure enabled importers to acquire foreign currency more easily.

The pressure of imports resulted in an unfavourable trade balance in 1950 and 1951, but this did not imply absorption of the money supply by external factors. In 1951, for example, the balance of payments was extremely favourable, owing, among other reasons, to an inflow of foreign capital. Internal factors also caused an expansion in the money supply, especially in 1951, through the increase both in bank credit and in loans to the Government.

During 1950 and 1951, therefore, the aims of equilibrium in the trade balance and monetary stability were not achieved. The imbalance and the rise in prices which followed would have been greater still but for the intervention of the credit policy of the Central Bank, which, on occasion, used its authority to vary the minimum obligatory cash reserve of the commercial banks. This occurred, for example, in March 1951, when the commercial banks were required to deposit additional cash reserves. These measures were renewed in December and caused an immediate restrictive effect lasting for several months, for which reason they were no longer applied.

Finally, another factor which encouraged imports was the credit granted by foreign exporters.

The rate of exchange remained at a relatively stable level, owing to the abundant supply of foreign exchange,

and there was even an occasion—at the end of 1950 and the beginning of 1951—when the Central Bank intervened to prevent too high a value for the sol.

During 1952 and the first quarter of 1953, despite a steady increase in the money supply due exclusively to the action of internal factors, greater price stability was achieved. Over the same period the firm equilibrium in the external value of the sol was maintained. Both the very adequate supply of imported goods of all kinds and the ready availability of foreign exchange were the determining factors. In addition, the Central Bank continued to pursue a policy of moderating the expansive forces from time to time. Furthermore, a large proportion of the increase in bank credit was absorbed by the Government. Although this constituted an inflationary factor it deflected monetary resources from the private sector, which was adversely affected by the shortage of funds at a time when intensified business activity required greater liquidity. This was the reason why the Central Bank was unable to continue its restrictive measures over a long period and why those measures were relaxed as soon as some result had been achieved.

In April 1953 the free exchange system began to be seriously put to the test. While it cannot be said that the relative stability was only apparent, it contained potential forces which might at any moment create disequilibrium. This in fact occurred from the spring of 1953, when a change took place in the external factors, which had previously been propitious.

The fall in world prices for some strategic materials affected several staple items in the Peruvian export trade (cotton, lead, zinc, sugar), while it increased the pressure of the import demand. Thus the rate of exchange for the sol began to decline, reaching a quotation of 22 to the dollar in January 1954. The advantage exports derived from this monetary depreciation was insufficient to modify the process, nor was it adequate to curb imports. It is estimated that the debit in the trade balance may have reached 80 million dollars at the end of 1953.

In the domestic sphere, the expansion of the money supply continued through the increase in bank credit, a considerable share of the increment corresponding to the public sector. The plentiful supplies of foodstuffs and imported goods in great variety—in some cases stocks were estimated as adequate for two years—have limited the rise in prices.

The outstanding problem of Peru's present monetary and exchange situation appears to lie in the disproportionate increase in imports and the consequent repercussions on the sol quotation and the trade balance. This is closely allied with the internal factors, however, in so far as inflation stimulates the demand for foreign exchange and imported goods.

To sum up, the factors determining inflation and its course appear to be public finance, investment, bank credit policy, and wages.

If the pattern of public finance is judged only from the viewpoint of balancing the budget, its evolution in recent years presents a favourable aspect. Indeed, after the repeated deficits of the early post-war years, the ordinary budget has closed with consecutive surpluses. (See table 91.)

Another favourable factor is that, judging by the gross product data, the proportion of the ordinary budget to the gross product is tending to diminish or, in other words, the increase in income is greater than that in public expenditure. Despite this trend, net public expenditure almost quadrupled between 1946 and 1952. Furthermore, these data refer to the ordinary budget, in which, since 1951, there is no mention of special or extraordinary expenditure to which resources of the same nature have been allotted. In 1952 these resources amounted to 669 million soles, and are estimated at 1,042 millions for 1953.

Considering the aggregate figures, therefore, it is possible that the budget deficit has not been eliminated. It is interesting to note that in 1953 it was necessary to issue bonds to pay public works contractors and that the Government sought and obtained from Congress authority to raise from 10 to 30 per cent the resources from the advance margin that could be granted by the Central Bank to cover deficiencies in fiscal revenues. The ordinary 1953 budget closed with a deficit of 182 million soles, to which must be added extra-budgetary expenditure of 117.5 millions, the over-all deficit thus reaching 300 million soles.[16] Another example of the lack of liquidity in the national treasury is afforded by the growth of bank loans to the

[16] The President's Message to the Nation of 22 February 1954.

Table 91. Peru: Revenue and expenditure of the normal budget

(Thousands of soles)

Years	Revenue							Expenditure	Balance
	Direct taxation	Percentage	Indirect taxation	Percentage	Monopolies and exports	Percentage	Total revenue		
1946.....	148,860	24.4	374,471	45.1	79,597	13.1	609,226	617,193	— 7,967
1947.....	179,203	19.3	309,762	33.1	104,464	11.2	929,784	934,679	— 4,895
1948.....	245,010	24.0	358,846	35.1	125,822	12.3	1,021,106	1,050,901	—29,795
1949.....	283,379	24.1	441,984	37.6	149,667	12.7	1,175,197	1,138,917	36,280
1950.....	364,406	21.1	826,484	47.8	197,624	11.4	1,728,008	1,681,535	46,473
1951.....	437,357	20.3	1,224,103	56.9	217,393	10.1	2,151,265	1,979,937	171,328
1952.....	611,060	27.7	1,111,607	50.3	226,694	10.3	2,208,662	2,199,911	8,751
1953.....	..	..	..	..	..	..	2,038,000[a]	..	..

Source: Banco Central de Reserva del Peru, *Boletín.*

[a] Approved budget.

public sector. (See table 89.) These factors all warrant the statement that public finance has constituted an inflationary factor in recent years.

The proportion of investments to the gross product is most unusual. No data are available by which to estimate the share of savings in total investment. There can be no doubt, however, that the contribution of bank credit is considerable, as far as public and private investments are concerned. Foreign capital, especially of a private nature, has been invested in mining and petroleum, that is, in the production of export commodities. Meanwhile the Government has financed public works and development projects through a domestic debt issue, largely absorbed by the Central Bank, although the total amounts to a very moderate sum. Private investments have in general been of a speculative nature, as indicated by the accumulation of imported stocks and the boom in building.

In the shaping of bank credit policy the greatest advantages were accorded to agricultural and stock-breeding activities, less by commercial banks or savings banks—whose investment in industry displays a pronounced upward trend—than by the development banks and other institutions. Commerce has received abundant credit facilities.

There are no recent data on the development of wages, which until 1949 showed a substantial rise. The share of wages and salaries in the gross product as a whole does not appear to have been modified over recent years, except for a slight increase in favour of civil servants and Government employees generally.

Recently, certain precautions have been made to prevent a further development of inflation and to correct the disequilibrium in the trade balance, which at the end of September 1953 showed a debit of 61.1 million dollars.

The Superintendency of Banks has reduced the validity of foreign exchange certificates to five days. Once this term has elapsed, only the Central Bank can acquire them, at a discount of 2 per cent. Regulations have also been issued to limit the facilities granted for instalment sales of certain imported goods. During 1953 the Central Bank several times exercised its right to raise the marginal reserve requirements of the banks. Finally, draft reforms of the tax system to raise income tax have been submitted for the consideration of Congress.

Thus, although there are domestic inflationary pressures and sharp tensions in the trade balance, there is no well-defined tendency in the chief factors capable of exercising a decisive influence on an inflationary process which until to-day has been contained within reasonable limits. It should be noted, however, that the Government has officially announced its firm decision to prevent the development of inflation and to maintain the system of free exchange.[17] For this purpose Peru has obtained a credit of 30 million dollars from the International Monetary Fund (12.5 millions), the U.S. Treasury Department (12.5 millions) and a private U.S. bank (5 millions). The Fund thus intends to assist the Peruvian Government in its stabilization programme, allowing it "to maintain an exchange system virtually free of restrictions on trade and exchange transactions".

In addition, the plan outlined by the Government includes, briefly, the following objectives: a budget readjustment to reduce expenditure and increase revenues through new taxes; to limit public works to those already in progress and of an urgent nature, within the resources and specific income available, without resorting to other methods of financing or to the Central Bank; to restrict the growth of the money supply by supervising the growth of bank credit and avoiding the discount of bills in the Treasury.

12. *Uruguay*

During 1953 Uruguay has accelerated the moderate rate of increase in the money supply which has prevailed since 1946. As a general rule, except in 1950, the pressure of internal factors has offset the negative or relatively neutral action of external factors, or when the latter factors were

[17] See the President's message, mentioned earlier, and International Monetary Fund, *International Financial News Survey*, No. 33, 26 Februlary 1954.

Table 92. Uruguay: Sources of money supply

(Millions of pesos)

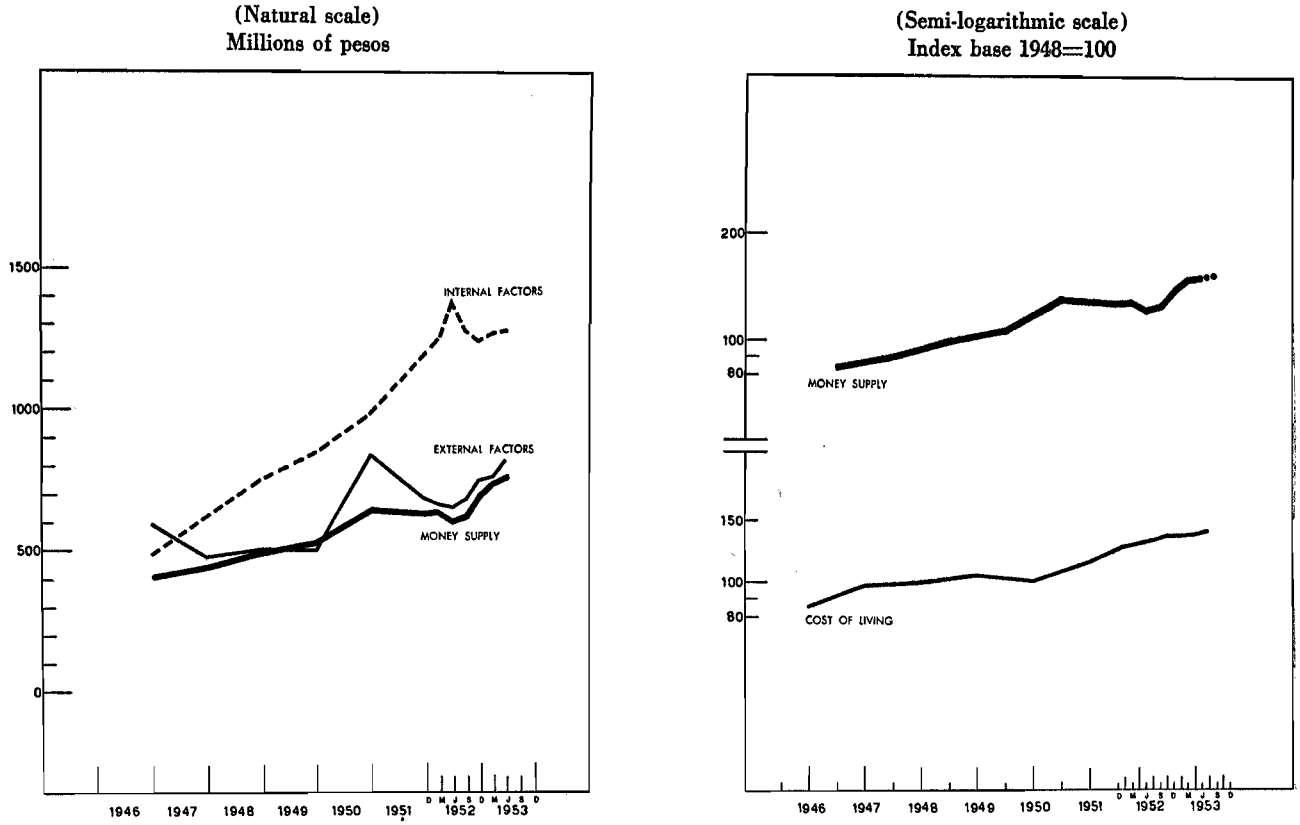
Years and quarters	External factors (A)	Internal factors			Money supply absorbed (−) (E)	Net variation in money supply (F)	Aggregate money supply (G)
		Total (B)	Public sector (C)	Private sector (D)			
1946	15	102	5	97	− 60	57	410
1947	−113	135	31	104	1	23	443
1948	21	130	23	107	−107	44	487
1949	3	98	48	50	− 61	40	527
1950	399	127	30	97	−352	114	641
1951	−115	217	− 4	221	−116	−14	627
1952:							
I	− 27	56	34	22	− 23	6	633
II	− 37	32	9	23	− 20	−25	602
III	− 11	− 4	−16	12	4	−11	616
IV	− 58	−37	−26	−11	39	60	687
1953:							
I	14	25	38	−13	7	46	733
II	74	9	− 8	17	− 22	61	748
III[a]	77	5	−20	25	− 13	69	756

Source: Basic data from International Monetary Fund, *International Financial Statistics.*

General notes: see table 62.

[a] July.

Chart XLIX
URUGUAY



favourable, as in 1952, they compensated for the increments thus generated in the money supply. (See table 92 and chart XLIX.) The very favourable balance of payments, which in 1950 caused a substantial increase in international reserves, coincided with a similar large growth in the money supply from internal factors. However, the absorption of funds (savings deposits, etc.) which took place during that year, while it did not prevent the increase in the money supply from being the highest during this period, prevented the exceptional degree of expansion which would otherwise have occurred.

Uruguay's inflationary situation differs from that of other neighbouring countries. In contrast, a reasonable level of stability has been maintained, as indicated by price indices. Of particular note, in 1947-50, was the firm level of the cost of living, in spite of the increase in the money supply during this period. In fact, while the unit index of the cost of living rose from 98 to 105 in 1949, sinking to 101 in 1950 (1948=100), that of the money supply showed an upward movement, reaching 131.6 in 1950. (See table 93.)

This stability coincided with a rise in nominal wages, particularly marked in 1950, which represented an advance in real wages of 21.8 per cent in relation to 1947.[18] Thus the advantages resulting from the terms of trade, which in 1950 were unusually favourable, largely benefited the wage-earning class. Apparently this transfer of revenue was financed by the entrepreneurs from their profits. The higher costs therefore had no immediate influence on prices.

The fall in wool prices and the paralysation of sales which continued until mid-1952, in addition to the heavy 1951 imports, produced a substantial deficit in the balance of payments, and losses of monetary reserves. Notwithstanding that in 1951 and 1952 internal factors were the

[18] See the section on "Cost of Living" (*Costo de Vida*), *Estudio de Precios y Salarios a través de los años 1943-1952, Ministerio de Industrias y Trabajo*, Montevideo, 1953.

Table 93. Uruguay: Indices of money supply and cost of living

(1948 = 100)

Years and quarters	*Money supply*	*Cost of living*
1946	84.2	85
1947	91.0	98
1948	100.0	100
1949	108.2	105
1950	131.6	101
1951	128.7	115
1952:		
I	130.0	127
II	123.6	129
III	126.5	133
IV	141.1	136
1953:		
I	150.5	136
II	153.6	137
III	155.2[a]	140

Source: International Monetary Fund, *International Financial Statistics.*

[a] July.

source of an abundant money supply, its total was reduced in this period by the absorption caused by increases in savings deposits and other accounts which immobilize funds.

The recovery of wool exports at the end of 1952, which continued into 1953, was insufficient to cover previous losses, despite the facts that Uruguay's exports reached a maximum during the first nine months of 1953, and that the favourable balance in this period stood at more than 89 million dollars.

The fluctuations in Uruguay's foreign trade reflect those in its export commodity prices and in the world market. The need to maintain a high level of activity and full employment has obliged the Government to grant export subsidies through differential rates of exchange which vary according to circumstances. Again, to reconcile the requirements of domestic supply with those of equilibrium in the trade balance it was essential to distribute available foreign exchange between the different types of imported goods, likewise by means of differential rates of exchange. Imports are further subject to anticipatory licences, a system established in 1941, and this requirement was extended, in July 1947, to all categories of imports. It was partially abolished in 1950 owing to the heavy accumulation of foreign exchange in that year and to the outbreak of hostilities in Korea. This restriction was fully restored in 1951. Controls were strictly applied during 1953, preferential treatment being granted to food or health essentials and to the raw materials and equipment required by domestic industry. Exchange profits were applied to finance subsidies on some foodstuffs (meat, milk and wheat) and, to a lesser degree, on the production and export of other commodities.

Certain contradictory factors have affected and are affecting Uruguay's monetary position. The result of this interplay was limited development but freedom from inflation, at least until 1951. In 1952 the rise in prices sharpened, to decline again in 1953. Nevertheless, towards the end of the year the relative stability appeared to weaken with a more rapid increase in the money supply, and the fiscal budget closed with a deficit estimated at 36.5 million pesos. Some pressure of the demand for higher wages was being felt in several labour sectors.

An element which played an important part in preventing the development of intense inflation until 1950 was the rigid system for note issues, established in 1939 and later modified by the 1948 law authorizing rediscounts but limiting them to 50 million pesos. In November 1950, this limitation was abolished for certain bills, but the rediscount portfolio of the *Banco de la República* did not rise above the prescribed sum until the end of 1952, and to a somewhat greater extent in 1953. In other words, a policy of moderation was also followed by the Central Bank. Nevertheless the recent policy of the Central Bank appears to be aimed at an increase of its power of issue. The 1950 law laid down new regulations for discounting bills and established a time limit of two years so that the portfolio of rediscounted bills could be adjusted to the new conditions in accordance with the law of 1948. However, the time limit was extended to November 1954 at the request of the Central Bank. The Central Bank also asked for additional capital to raise its power of issue. Uruguay's monetary system has, however, not provided the Central Bank with the means to control the credit policy of the commercial banks. The only measure of this nature was introduced under the law of November 1944, which allowed the Government to modify the marginal reserve requirements for two years; it lapsed in November 1952, after several extensions.

The factors most favourable to inflation, however, reside in public finance, together with the structure of the budget, its size and its deficitary nature.

In spite of the excess profits tax, the tax system may be described as regressive, in view of the predominance of indirect taxation, income tax being non-existent. A high proportion of the budget expenditure is accounted for by civil service wages and pensions, and it has been estimated that, out of a gainfully employed population of 1.2 millions, as many as 350 thousand are State employees or pensioners.

Revenue accruing to the Treasury has shown a sharp increase in recent years, and the 1946-48 surplus has been followed by repeated deficits. (See table 94.)

Table 94. Uruguay: Fiscal revenue and expenditure

(Millions of pesos)

Years	*Revenue*	*Expenditure*[a]	*Balance*
1945.....	124.8	146.4	−21.6
1946.....	169.2	167.4	1.8
1947.....	192.6	190.1	2.5
1948.....	232.5	231.5	1.0
1949.....	244.7	256.9	−12.2
1950.....	280.0	306.6	−26.6
1951.....	357.5	367.0	− 9.5
1952.....	322.9	355.6	−32.7
1953[b].....	370.0	406.5	−36.5

Source: Official communications to parliament.

[a] Total of general budget.

[b] Estimates.

There are no data from which to establish the ratio of the fiscal budget to the gross product, but according to some estimates[19] it was recently about 25 per cent. This is obviously a high proportion in comparison with that of the other Latin-American countries.

It should be recalled that the ordinary budget covers only 50 per cent of all expenditure, since outlays for road building and upkeep, housing projects and social security funds are not included, nor is expenditure on exchange subsidies, public works investments financed with bonds, and municipalities or nationalized entities.

The increases in public expenditure have mainly followed rises in wages and salaries of civil servants and other Government employees.

The inflationary potential of these features is partly offset by the fact that fiscal deficits are not financed by the banks. Uruguay periodically consolidates its debt with only the minimum of recourse to bank credit. Nor is the consolidated public debt absorbed by the banks; it is covered by insurance and social security funds, and also, on

[19] Edison D. Zayas: "Financial Institutions and Movement of Savings in Uruguay" (*Las instituciones financieras del Uruguay y la movilización de los ahorros*), *El Trimestre Económico*, Mexico, Vol. XX, No. 2, p. 245, note 1.

a smaller scale, by the public. In other words, the fiscal deficit is definitely financed from the savings of the community.

Another anti-inflationary factor to be emphasized is the spread and growth of private savings. It should be observed, however, that not all savings deposits are strictly of this nature, since they are partly retained as available cash and are transferred as sight deposits.

In the final analysis, the evolution of Uruguay's monetary affairs appears to depend upon the external results of wool exports, and, on the domestic scene, upon public finance. Herein probably lies the major risk to the country's stability, which was still maintained at the close of 1953 despite the inflationary symptoms which were then becoming evident.

13. *Venezuela*

Venezuela's money supply, having experienced a very moderate upward trend until the end of 1952, remained almost unchanged in 1953. During the war there had been a substantial monetary expansion, due to greater petroleum exports and a falling-off of imports. The favourable balance of payments was transformed into an accumulation of international reserves, and the money supply increased by 126 per cent during the period 1940-45. Although imports rose sharply, after the war, the accumulation of reserves persisted owing to the large petroleum exports—which continued rising except for a temporary decline in 1949—and to the investments and re-investments of foreign companies. Except for 1950, when reserves were depleted because the foreign companies withdrew their investments, external factors have led to further increases in the money supply, exerting particularly strong pressure in 1948-49 and 1952. (See table 95.)

Chart L shows that internal factors have tended to weaken the effects on the domestic money market of fluctuations in the balance of payments.

Among the internal factors, the public sector has tended to play a moderating role, not only in the more usual sense of arresting the increase in the money supply, but also by preventing a contraction in the money in circulation when it was necessary to offset the effects of an extremely adverse balance of payments, which occurred in 1950.

On the other hand, the private sector caused a fairly uniform supply of money, with a certain downward trend in 1948-51. Since that time, and until the end of 1953, there was a sharp rise in bank loans granted to this sector.

Finally it should be noted that, throughout the period under review, factors leading to absorption of the money supply have played their part and have tended to set the pace with regard to increases in the money supply. This is particularly true of private savings.

As to prices, Venezuela has shown marked stability since 1948. During the Second World War a similar price pattern was visible, since prices increased less than the money supply. This was apparently due to several factors. They include, firstly, a higher domestic production, secondly, a wise financial policy on the part of the Government, which accumulated reserves, and, thirdly, unequal income distribution, causing the purchasing power of the population to be restricted and avoiding any exaggerated growth of demand. (See table 96.)

These same factors continued to take effect to some extent, in the post-war period, but with the addition of two others of importance: the more moderate increase in the money supply, and the expansion of imports.

As regards public finances, the outstanding features were the reserves with which the Government was able to meet greater expenditure, and the unilateral source of much of its revenue.

Adverse and favourable balances were not large, and alternated every two years. (See table 97.) Consequently

Table 95. Venezuela: Sources of money supply

(Millions of bolívares)

Years and quarters	External factors (A)	Internal factors			Money supply absorbed (−) (E)	Net variation in money supply (F)	Aggregate money supply (G)
		Total (B)	Public sector (C)	Private sector (D)			
1946	73	204	92	112	− 52	225	1,000
1947	13	68	17	51	16	97	1,097
1948	404	25	− 93	118	−146	283	1,380
1949	174	35	− 62	97	− 52	157	1,537
1950	−298	312	213	99	24	38	1,575
1951	98	8	−69	77	− 34	72	1,647
1952:							
I	1	7	− 8	15	12	20	1,667
II	180	−122	−178	56	− 47	11	1,658
III	236	− 58	−155	97	−103	75	1,722
IV	200	137	− 48	185	− 75	262	1,909
1953:							
I	−113	144	75	69	− 56	− 25	1,884
II	55	48	−111	159	−106	− 3	1,906
III	117	48	−152	200	−175	− 10	1,889
Oct	..	..	..	231	..	− 16	1,893
Nov	..	..	..	260	..	..	..

Source: International Monetary Fund, *International Financial Statistics.*
General notes: See table 62.

Chart L
VENEZUELA

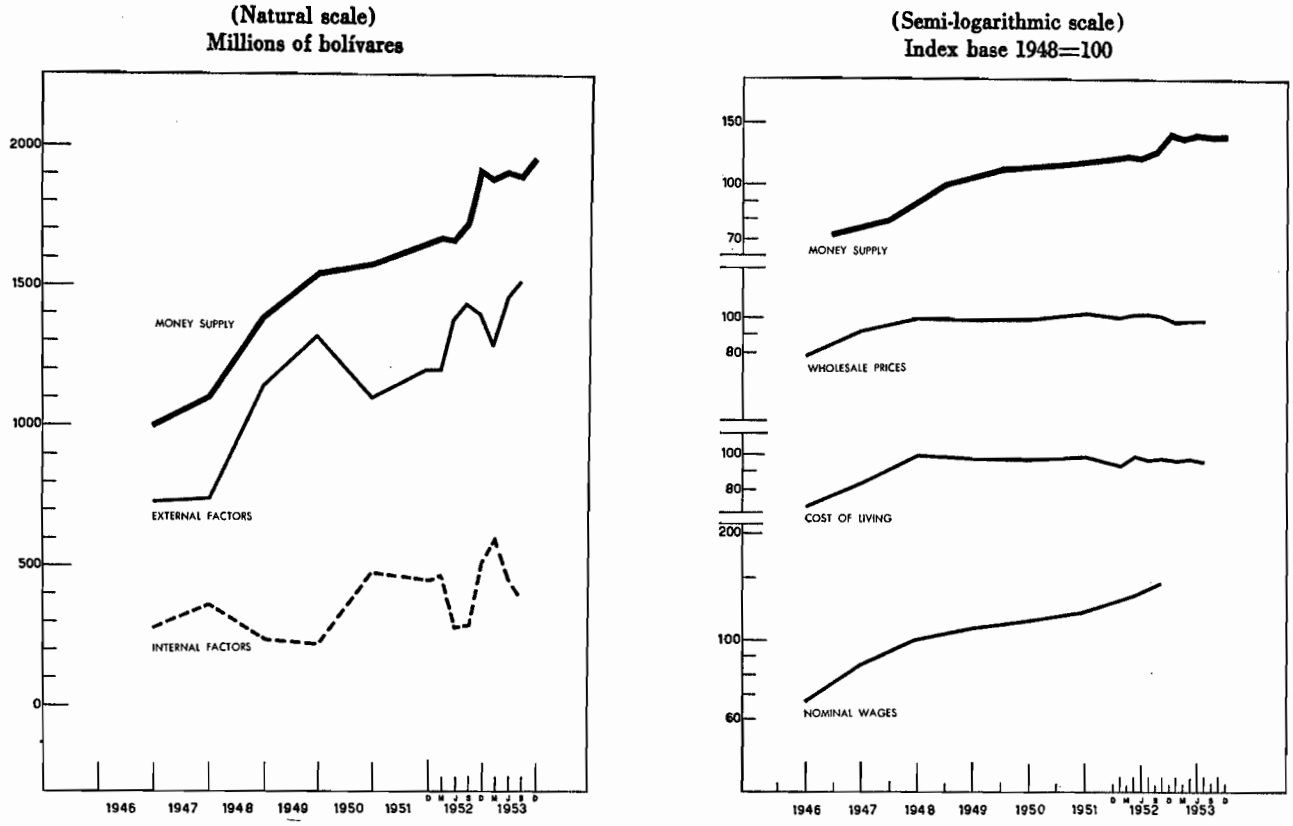


Table 96. Venezuela: Indices of money supply, wholesale prices, cost of living and nominal wages

(1948 = 100)

Years and quarters	*Money supply*[a]	*Wholesale prices*	*Cost of living*	*Nominal wages*
1946.....	72.5	78.7	72	67.2
1947.....	79.5	93.0	83	84.8
1948.....	100.0	100.0	100	100.0
1949.....	111.4	99.9	98	108.1
1950.....	114.1	100.1	97	113.5
1951.....	119.3	104.3	99	120.8
1952:				
I.....	120.8	101.5	94	..
II.....	120.1	103.4	100	135.3
III.....	124.8	103.7	97	..
IV.....	138.3	103.2	98	146.4
1953:				
I.....	136.5	99.2	97	..
II.....	138.1	99.8	98	..
III.....	137.6	99.8	97	..
IV[b].....	137.2	..	..	..

Source: Banco Central de Venezuela, *Memorias.*

[a] Balances at the end of each period.

[b] October.

the budget balance was maintained and normal resources have been sufficient to cover the Government's current expenditure and investments without any recourse to bank credit or bond issues. It is well known that Venezuela has practically no public debt, its amount being insignificant. A new bond issue, which had been authorized in 1950, to cover certain special obligations appeared only in 1953. This is particularly interesting in view of the considerable capital expenditure included in the budget, the figures being 40.30 and 40.61 per cent respectively in the fiscal years 1950-51 and 1951-52.

The sound position of public finances is due to the abundant revenue obtained directly or indirectly from petroleum. In this way the fiscal structure shares the risk of Venezuela's entire economy, which is exposed to variability in the production, exports and price of a single commodity. (See the composition of budgetary revenue in table 98.)

Table 97. Venezuela: Fiscal revenue and expenditure[a]

(Thousands of bolívares)

Years	*Revenue*	*Expenditure*	*Balance*
1946.....	855,519	952,008	— 96,489
1947.....	1,281,001	1,297,420	— 16,419
1948.....	1,776,438	1,643,787	132,651
1949.....	1,979,620	1,955,078	24,542
1950.....	1,917,009	2,073,473	—156,464
1951.....	2,266,541	2,287,310	— 20,769
1952.....	2,395,680	2,356,650	39,030
1953[b].....	2,131,620	1,979,880	151,740

Source: Banco Central de Venezuela, *Revista* and *Boletines.*

[a] Since the fiscal year (1 July to 30 June) does not correspond to the calendar year, the figures given are not fiscal year balances.

[b] Ten months.

Table 98. Venezuela: Composition of fiscal revenue

(Millions of bolívares)

Years	Customs duties	Percentage	Mines and hydrocarbons[a]	Percentage	Income tax and other direct taxes[b]	Percentage	Others	Percentage
1949.....	467.70	23.6	1,078.48	54.5	102.05	5.1	331.39	16.8
1950.....	429.55	22.4	882.96	56.1	106.07	5.5	498.43	26.0
1951.....	352.93	15.6	1,258.48	55.5	110.31	4.9	544.82	24.0
1952.....	378.33	15.8	1,347.22	56.2	124.55	5.2	545.58	22.8

Source: Banco Central de Venezuela, *Memoria.*

[a] Includes income tax paid by petroleum companies.

[b] Excludes income tax paid by petroleum companies.

Any evaluation of the influence of the public sector on the monetary situation must certainly indicate the combination of opposing factors. On the one hand there are factors favouring stability, such as the stable financing of expenditure, the accumulation of some reserves, the virtual absence of any public debt and the slight significance of domestic taxation on consumption. On the other hand, inflationary forces exist in the high and increasing public expenditure, including that on investments which, by their very nature, increase the goods available for consumption only over the long term. In this connexion it should be noted that Venezuela's substantial reserves accruing from the petroleum industry are mainly incorporated into the economy by fiscal means through taxation and royalties. In any case, the intervention of the stabilizing factors indicated above have largely offset the inflationary power of expenditure.

With regard to wages, available indices show that they rose more sharply than the cost of living, and there was thus a considerable improvement in real wages. Judging by wage levels, it would seem that the unequal distribution of income, which, during the war, prevented any exaggerated expansion of demand and curbed the rise in prices, has been corrected to some extent. These indices refer only to the Federal District, however, and it is not certain that they provide an accurate indication of the position elsewhere. It has already been seen that there is a relatively high rate of saving.

Production of domestic consumer goods, which reached a high level in 1946-47, experienced a fall thereafter and did not begin to recover until 1951. As a result, domestic output has contributed little to increasing the supply of goods. The high level of Venezuela's gross product is due exclusively to export production—which consists almost entirely of petroleum—and to the terms of trade, which, despite some deterioration in recent years, are still very favourable as compared with 1945. This is also the origin of the large investments and the high capacity to import.

Imports of consumer goods form a substantial proportion of all imports and are probably the most decisive factor in the price stability recorded since 1948. These imports exert pressure in two ways, through the abundance of goods available to consumers—the direct result of such imports—and through their price levels.

The high capacity to import provided by petroleum exports, and the ruling exchange system have been responsible for the growth in Venezuela's imports. Although import permits are required in some cases, it may be said that no exchange control exists in Venezuela.[20] Imports of every type of commodity can be made without any restriction other than the availability of foreign exchange.

The fact that imported goods constitute a high proportion of all goods available to the community[21] make their price the decisive influence on the level of domestic prices. It is not surprising, therefore, that they show—although with more moderate fluctuations—similar tendencies to those of exports from the United States, Venezuela's chief supplier.

14. *Central America*

(a) *General considerations*

The analysis of monetary developments by country effected in the foregoing pages requires a special approach in the case of the countries of Central America. Broadly speaking, these countries present certain common characteristics which must be emphasized before turning to a description of recent and individual monetary developments. The relation between national savings and investments in Central America differs from the general rule in most Latin-American countries, where savings are insufficient to meet investment needs and Governments were obliged to resort to other sources for their development programmes. In contrast, although investments in Central America are far from adequate to satisfy development needs, they are lower than savings, which have reached a relatively high level.

This unusual situation warrants different treament from that used in the rest of the chapter. It is also worthy of note that these countries are of special interest as a combined unit. This is apparent from the studies on the economic integration of this area carried out by the Economic Commission for Latin America since 1951, which have led to the practical measure of creating the Committee for Economic Co-operation in Central America.

During recent years, the Central American countries enjoyed a high quantum of exports and excellent prices for their staple products, which have stimulated their domestic economies. Although imports showed an upward movement, the rate of their increase was lower than that of the capacity to import. In other words, this capacity was

[20] Coffee and cocoa exports enjoy preferential exchange rates, as do Government imports. The foreign exchange of the petroleum ocmpanies is, however, purchased at less favourable rates.

[21] Venezuela's gross product in 1952 amounted to 2,387 million dollars, while imports stood at 768 million (both expressed in 1950 dollars).

not used to its fullest extent, with the result that the differences on current account of the balances of payments became firmly and progressively positive. As a result, aggregate Central American monetary reserves, amounting to 118 million dollars in 1948, rose to 212 millions in August 1953; it was estimated that the latter figure had more than doubled by December 1953, when coffee exports from the 1953/54 crop began.

It is natural that this partial utilization of the capacity to import—or, as viewed from another angle, the heavy accumulation of reserves—is related to the over-all domestic growth of income levels, to aggregate expenditures and to their distribution between consumption and real investment.

The favourable evolution of the terms of trade exerted a decisive influence upon the income level, causing it to rise at a much higher rate than if it had remained exclusively subordinate to the growth of domestic activity and productivity. The first impact of this favourable influence was felt by the export sector, and, in the case of coffee, by the entrepreneur. It later spread to the rest of the economy through greater expenditures in this sector, and also through export duties collected by the Governments and spent on development projects.

The internal growth of monetary income caused an increase in both private and public savings, part of which were maintained liquid. Combined with the very small increment in the money supply due to internal factors, it made possible the definite establishment of larger reserves.

The countries of Central America were thus able to operate with budget surpluses, because either higher proceeds from the export sector yielded a larger fiscal revenue or coffee exports were more heavily taxed—as in El Salvador and Guatemala. In other words, savings in the public sector followed a rising trend.

This trend also continued in savings in the private sector. It may be assumed that, since the income growth has principally favoured entrepreneurs in the export field, their savings must have grown substantially, and at a faster rate than their income. At the same time, the rise in domestic prices made it necessary for companies to maintain a higher liquidity in order to operate normally.

Nevertheless, in order to justify or explain the growth of reserves it is not sufficient to show that the volume of savings increased, or that consumption grew at a slower rate than income. As in fact occurred, a proportion of these savings was not physically invested, that is to say in purchases of productive equipment and supplies. Alternatively, through the domestic use of savings to pay for equipment, raw materials, wages, and so on, the demand for consumer and capital goods, a large proportion of which come from abroad as a result of the pronounced import tendency of these countries, would have risen.

Since, however, a proportion of savings was in liquid form, in spite of heavy domestic investment, it was possible to achieve reserve increases. The mechanism which accounts for this circumstance is very simple. As the greater inflows of foreign exchange were not generally used—there were, of course, exceptions—for capital outflows, they were transferred by entrepreneurs to central banks in exchange for national currency. To the extent that these balances in national currency were not used for internal expenditures and remained liquid, monetary authorities were able to add net amounts to reserves, taking advantage of the fact that no substantial simultaneous expansion of bank credit occurred. If such a rise in internal bank credit had been produced, thus causing additional demand, the effects of liquid savings would have disappeared.

The balance of payments exerted a direct inflationary influence. However, the first impulse was not followed by secondary expansive effects, as might be assumed when the banking system of each country showed substantial liquidity and consequently acquired a strong capacity for expansion. The internal factors absorbing the money supply operated in the meantime through deposits made to guarantee foreign exchange allocation applications and with savings or fixed term deposits, or alternatively, through budgetary surpluses and the consequent increase of Government deposits in the central banks and the decrease of credits granted to the fiscal systems.[22]

This entire situation was, in the final analysis, possible because larger proceeds and consequent higher savings enabled both export entrepreneurs and Governments to achieve substantial freedom from dependence on bank credits, a fact which, together with the unwillingness of banks to increase credit to other private sectors, contained the expansion of the money supply through internal factors.

Thus, fiscal policies and the money in circulation—strongly influenced in Central America by this policy—have in general remained within the orthodox monetary limits of domestic stability and external security. On the other hand, they have had little bearing on the fostering or financing of economic development. This is so because, in the final analysis, the whole process implied that recent savings in these countries were higher than real domestic investments, and the difference is exactly equal to the positive credit of the balance of payments on current account.

These conclusions contain all the necessary elements for an understanding of the manner in which the progress of economic development has avoided creating problems of internal or external instability. It does not follow, however, that an intensification of this process cannot cause them in the future.

The size of the reserves accumulated in the course of a few years is evidence that there have been no problems of external imbalance to date. In addition, currency quotations have remained steady, and in the case of Costa Rica, where there had previously been an acute depreciation, the colon began to rise in value, the dollar rate on the controlled free market rising from 8.90 colones in 1949 to 6.65 in 1952 and 1953. At the same time exchange surcharges, which had amounted to 100 per cent in some cases, were reduced.

However, a development policy must be carried out through increasing imports of capital goods, that is, through using accumulated foreign reserves, whether investment is made through the movement of liquid savings or whether it is accomplished by expanding bank credits. The first course theoretically represents the soundest form of growth for these economies, particularly since the rela-

[22] In addition, at least in Costa Rica, commercial banks and the public absorbed Government securities which had previously been held by the Central Bank.

tive scarcity of capital in these countries causes any net addition to real capital to yield very high marginal productivity. The appropriateness of a process of this nature would seem to be the greater for the fact that the aggregate current monetary reserves of all five countries amount to approximately 75 per cent of their combined annual imports, a proportion which is deemed to be sufficient to cover, with prudence, the requirements of the deficit sides of the balances of payments.

However, this is not a mere distinction between satisfying a psychological desire for security through amassing substantial monetary reserves—which appears to be the strong preference in Central America—and the maintenance of more modest reserves accompanied by a greater impulse to internal economic development. In reality, the fear of disequilibrium is logically based on uncertainty as to the continuation of the favourable external factors which have enabled the reserves to be accumulated. Economies whose foreign exchange revenue depends upon exports of a few primary products are exposed to abrupt fluctuations on the world market and cannot base development prospects solely upon a continuation of circumstances which are unstable, as has been shown by the experience not only of Central America, but also of other countries such as Bolivia, Chile and Cuba. To the risk of disequilibrium itself must be added the inherent threat to the value of the currency, whose influence has moderated the rise of domestic prices in recent years.

Nor is it to be presumed that the expansion of bank credit, which a policy encouraging greater economic development would certainly necessitate, might be accompanied by a parallel movement of reserves, since the new investments would presuppose an increase in capital goods imports as has been pointed out. In this case, an imbalance in external accounts would pose the alternatives of an inflationary process or a sharp contraction of economic activity.

These ideas do not attempt to oppose the fitness of more intense economic development in Central America or to contrast it, to its detriment, with the benefits of monetary and exchange stability. In the face of the need for economic growth—recognized at all times as of primary importance —the aim has simply been to suggest some of the problems which may arise from an investment policy based on accumulated monetary reserves. Many arguments linked with this theme have been omitted, among them the importance of the co-operation of foreign capital, whether from private, or from international institutions. Furthermore, it is obvious that the channelling of investments with the aim of substituting imports would play an important role in the success of a development policy.

It is advisable to establish the different position of each country in regard to these prospects for greater development. They have so far been analysed in the aggregate, but these countries differ from each other as to growth of income, real investment, monetary expansion and capital outflows. Three countries fitting into the framework outlined above may be cited: Costa Rica, Honduras and Nicaragua. There are also two divergent and mutually opposite cases: El Salvador and Guatemala.

El Salvador appears to hold first place for the highest relative rise in income, a rise due both to favourable terms of trade and to internal development. The volume of savings—derived from this higher income and its distribution —also seems to have been the most substantial in Central America. But the accumulation of monetary reserves advanced at the moderate annual rate of little over 1.5 million dollars, excluding the sharp increments in 1949 and the first half of 1953 for seasonal causes. Except during these latter periods, there was simultaneously an improvement in the capacity to import, an expansion of bank credit, and a certain outflow of capital representing private savings placed abroad. The first two factors largely resulted in a domestic demand for capital goods—and in part for consumer goods—through bank credits, which offset the tendency in certain sectors towards liquidity in savings. In other words, it seems that, through its monetary policy, El Salvador was the country which made the most use of prevailing economic conditions to stimulate economic development.

In Guatemala, on the contrary, both real income and the capacity to import grew at a distinctly lower rate than in El Salvador. There were thus few possibilities of increasing both savings and reserves. To this situation must be added psychological factors which emerged after 1951 and caused substantial capital transfers. In view of the condition of savings and reserves, these outflows contributed to a marked reduction in the proportion of the gross investment of the private sector to the aggregate gross national product. Furthermore, this investment was lower in absolute values in 1952 than in either 1950 or 1951.

All these circumstances combined to produce in Guatemala, a far lower rate of private investment in 1952, and presumably in 1953, after a loss of 4 million dollars in reserves between 1948 and 1953. Unfortunately, no data on public investments are available, but there is every indication that this sector has not been able to offset the decrease, despite more substantial Government investments during 1953.

The favourable evolution of export commodity prices had a strong influence on the growth of monetary income in Central America and would have implied a correlative increase of real income if the consequent rise in the capacity to import had been utilized for actual purchases of goods abroad. Since, however, the increase in the capacity to import was used to raise the volume of monetary reserves or for capital outflows, it produced a greater growth of monetary income than of real income. At all events, the increase of nominal income caused an expansion of total demand, which in so far as it was directed abroad to secure imports, did not result in a greater abundance of goods—in the countries with fixed rates of exchange—since it was offset by the price increases for those goods in the country of origin. This increase was more or less steady until 1951, but with modifications in the foreign exchange rates, imported goods in Nicaragua and Costa Rica suffered an additional surcharge in proportion to the devaluation of their multiple rates. In 1952, the revaluation of Costa Rica's currency, with the elimination of some surcharges, contributed to the subsequent drop in imported goods.

Conversely, when the demand, reinforced by an increase of monetary income, was directed towards domestic products, it must have caused substantial price increases for those goods the supply of which is relatively inelastic. In the case of Nicaragua, for example, the rise in domestic commodity prices was greater than that of foodstuffs, many of which are imported. In Guatemala, likewise, the price increase on domestic goods was 25 per cent above the level reached by imported goods.

In brief, it may be said that the influence of import prices on the rise of domestic prices has been halted, at least while the downward trend of these prices persists in the supplying markets. Nevertheless, while export prices, mainly for coffee, continue to exert their present influence on the progressive increase of income and of the demand for domestic goods, they will maintain permanent upward pressure on the prices of the latter.

(b) *Costa Rica*

From 1950 and until the first half of 1953, a remarkable change took place in the monetary and fiscal policies of Costa Rica. They are now coherently linked as an instrument to foster the economic development of the country without unduly exaggerating inflationary tendencies. From 1950 onwards the expansion of the money supply was due both to larger reserves and to the credit granted to private activities, while the public sector acted as an absorption factor through budgetary surpluses and a marked contraction in loans to the Government by the banking system. This situation differs from that existing before 1950, when the principal determining element was usually the budgetary deficit, which had a more powerful effect than foreign exchange reserves and bank loans to the private sector.

However, the money supply, which rose between 1946 and 1950 at an average annual rate of 10 per cent, grew faster in 1952-53, almost exclusively on account of the increase in monetary reserves. The drawing down of these reserves caused a contraction in the third quarter of the year. (See table 99 and chart LI.)

During 1946-50, internal factors led to an increase in the money supply, despite attempts at credit restrictions on several occasions. Loans to the public and private sectors also contributed to the expansion, although the public sector accounted for the larger share. In contrast, during the years following 1949, when the expansion of credit to the private sector accelerated, Government finances acted as a means of absorption, so that internal factors as a whole had very little influence on the increase in the money supply. After repeated fiscal deficits, a balanced budget was achieved in 1949, and in the three subsequent years there were surpluses of 11.2, 19.2 and 24.3 million colones respectively. During the first half of 1953 the surplus reached 8.2 million colones. Simultaneously, the internal debt was reduced from 267.8 million colones in 1949 to 200.1 millions in June 1953, and Government bonds and drafts with the central bank decreased from 20.3 millions in 1949 to 6.8 millions in June 1953.

There was a contrast between this absorption caused by the Government's monetary policy and the credit expansion in the private sector, where loans and investments of the banking system rose from 172 millions in 1949 to 244 million colones in December 1952, falling in June 1953, from seasonal causes, to 236 millions.

During the period between 1951 and mid-1953, the balance-of-payments position, and therefore the influence of external factors on the money supply, differed fundamentally from the situation in former years. While the increase of monetary reserves exerted an inflationary pressure on the money supply during the later period, between 1944 and 1950 the influence was slight and even negative.

Exchange controls were established in 1944, when reserves had fallen rapidly and foreign commercial debts had accumulated to a value of 4.2 million dollars. The position did not improve during the next two years, since reserves stood at 7.7 million dollars and commercial arrears at 16.7 million dollars in 1947. Various measures were then adopted, such as ceilings for bank portfolios and the requirement of prior deposits by importers according to the value of their exchange applications. As the situation still persisted, new exchange laws to reduce imports were passed in 1948, under the guidance of the International Monetary Fund. At the beginning of 1950, commercial arrears amounted to 20.5 million dollars and pending exchange requests to 9.7 millions, while reserves stood at only a little over 8 million dollars.

From mid-1950, however, owing to the rise of export prices—particularly for coffee—and the effects of new leg-

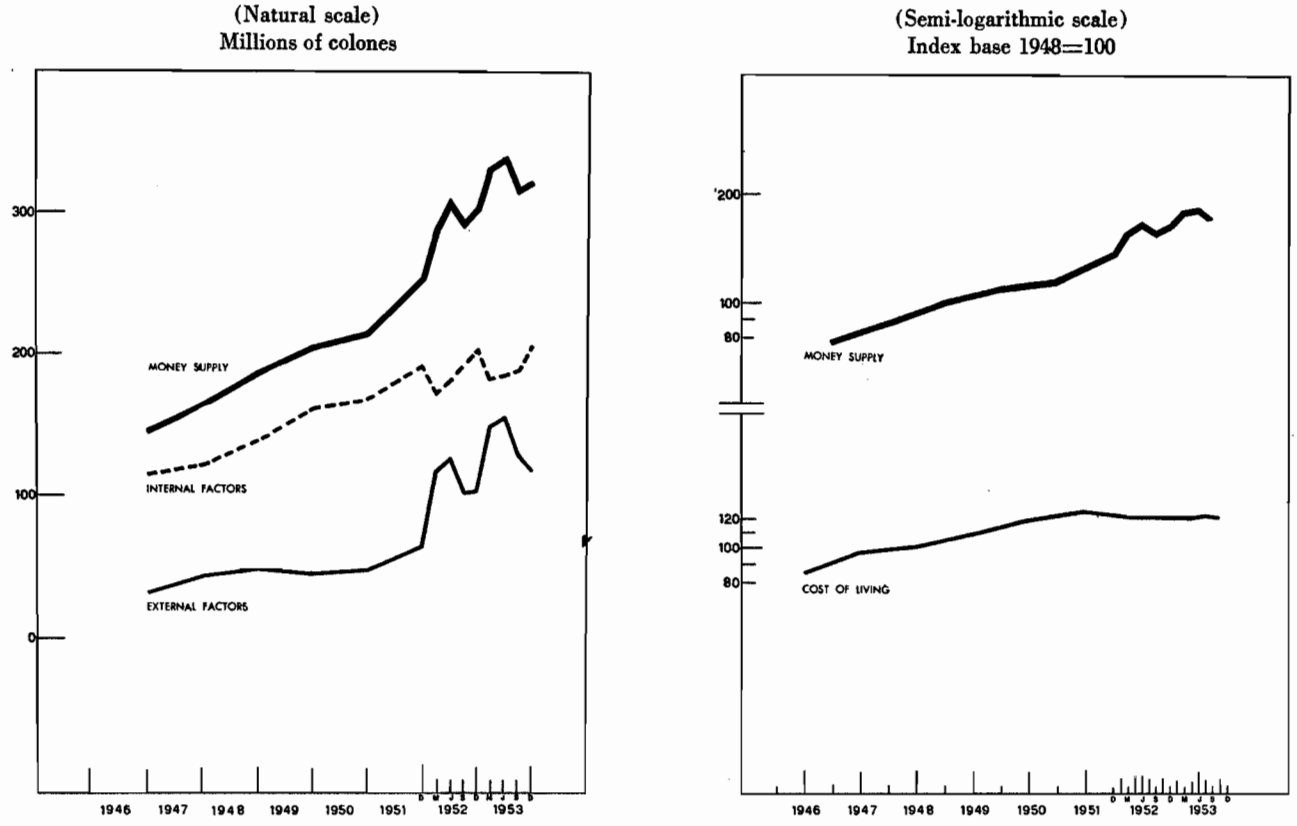
Table 99. Costa Rica: Sources of money supply

(Millions of pesos)

Years and quarters	External factors (A)	Internal factors			Money supply absorbed (−) (E)	Net variation in money supply (F)	Aggregate money supply (G)
		Total (B)	Public sector (C)	Private sector (D)			
1946	−22	31	12	19	− 3	−6	145
1947	13	18	2	16	−12	19	164
1948	5	26	22	4	−10	21	185
1949	−5	52	26	26	−28	19	204
1950	4	− 1	−21	20	7	10	214
1951	16	− 8	−30	22	31	39	253
1952:							
I	52	−17	—	−17	− 1	34	287
II	62	2	7	− 5	−11	53	306
III	36	15	− 3	18	−13	38	291
IV	37	24	− 6	30	−12	49	302
1953:							
I	47	−11	—	−11	− 9	27	329
II	53	−10	−10	—	− 8	35	337
III	26	2	−15	17	−15	13	215

Source: International Monetary Fund, *International Financial Statistics.*
General notes: see table 62.

Chart LI
COSTA RICA



islation governing foreign transactions, which had entered into force in April 1950, the exchange crisis was overcome. Under the new legislation exchange surcharges of from 10 per cent for essential articles to 100 per cent for luxury goods were applied. Similarly, the Central Bank provided foreign exchange only for essential goods. Other imports could be made only with foreign exchange from the free market, the rates of which were up to 60 per cent higher than official rates, excluding the surcharge. From this date it was possible to reduce many of these exchange surcharges, and a revaluation of exchange rates was effected. Thus the dollar quotation rose from 11 and 13 colones (according to categories) in September 1951 to 5.67 and 7.52, and the latter rate, which corresponds to the free market, increased in July 1952 to 6.65, where it still stands.

Table 100. Costa Rica: Indices of money supply and cost of living

(1948 = 100)

Years and quarters	*Money supply*	*Cost of living*[a]
1946	78.0	85
1947	88.2	97
1948	100.0	100
1949	109.7	108
1950	115.1	119
1951	136.0	127
1952:		
I	154.3	123
II	164.5	122
III	156.5	122
IV	162.4	122
1953:		
I	176.9	122
II	181.2	122
III	169.4	123
IV	..	121

Source: International Monetary Fund, *International Financial Statistics.*

[a] For San José.

After mid-1950, there was a rise in prices in Costa Rica which continued until 1951. From the end of 1951, through 1952, and particularly during the first half of 1953, this trend reversed, so that both wholesale prices and the cost of living began to decline. (See table 100.)

A combination of factors contributed to the decline. Among them were the fall in export prices from the last half of 1951 and the gradual revaluation of exchange rates applicable to imports, which arose from the improvement in monetary reserves and the reforms introduced by the Government. At the same time the supply of all classes of imported goods improved remarkably, since exchange and import restrictions were considerably relaxed.

Public finance patterns have changed radically since 1949. From that date the Government has constantly achieved surpluses, in contrast to the heavy deficits during former years. (See table 101.)

(c) *El Salvador*

From 1950 there was a change in the monetary policy of El Salvador also. That policy abandoned its neutral role and strongly influenced the expansion of the money supply

Table 101. Costa Rica: Fiscal revenue and expenditure

(Thousands of colones)

Years	Revenue	Expenditure	Balance
1946.....	62,923	78,727	−15,804
1947.....	88,048	96,658	− 8,610
1948.....	90,079	114,863	−24,784
1949.....	125,423	125,397	26
1950.....	137,987	126,792	11,195
1951.....	160,067	140,890	19,177
1952.....	189,481	165,213	24,268

Source: Banco Central de Costa Rica, *Tercera Memoria*, 1952.

through bank credits to private enterprise. The public sector, with balanced budgets and sometimes even with a surplus, generally continued to act as an element of absorption, although not to a very marked extent. Monetary policy had shown no definite aims in this direction prior to 1950, so that fluctuations in the money supply during the post-war period were slight until 1949, when there was a substantial expansion due to the increase of monetary reserves. The smaller positive differences in the balance of payments still influenced the money supply, though less intensely, throughout the period 1950-52, with the result that the rate of increase grew in December 1952, reaching a level 43 per cent higher than in 1949. The money supply had risen still further by March 1953, to decline from June of the same year. During this period (1950-1952), however, internal factors were the main cause of the increase in the money supply. The only factor to participate in this expansion of internal origin was the bank credit granted to the public, which almost doubled, since it grew from 55 million colones in 1949 to 108 millions in 1952. The expansion derived from these loans was offset only very slightly by internal measures of absorption, the principal element being the sale of bonds to the public. A small increase in government deposits with the central bank also had the same influence. (See table 102 and chart LII.)

An analysis should be made of the pattern of these elements during the first half of 1953, allowing for the seasonal variations which affect them, since it is in El Salvador that they act with the greatest intensity and are most characteristic.

The bulk of the coffee exports are shipped between December of one year and March or April of the next. Entrepreneurs receive substantial liquid assets, enabling them to avoid credit and even to repay previous bank commitments. Loans to the public therefore decline sharply during this period of the year. Later, from May to November, plantation overheads cause a revival in the use of credit and an expansion of loans of this nature by the banking system. Monetary reserves behave quite differently, however. They accompany the rise of exports at the beginning of the year, and gradually decline as they are drawn upon to meet debit items of the balance of payments, which, like imports, are uniformly distributed over the calendar year. It is not surprising, therefore, that bank loans to the public during the first quarter of 1953 decreased by 16 million colones, and somewhat further during the second quarter, but closed the year with an increase of 10 millions.

The pattern of external factors was different. The marked and continuing rise in coffee prices since 1949 caused a substantial increase in the value of all exports. Simultaneously, however, imports grew in both volume and value, so that the balance of payments had only a small net influence on the increase in the money supply. For the above reasons this factor became of great importance in the first half of 1953, causing a gross expansion of 42 million colones, which had been cancelled by the end of the year.

Nevertheless, these positive balances had an indirect effect on the expansion, since they increased the liquidity of the banking system and provided it with a high capacity for growth which was amply utilized during 1950-52. As noted earlier, this was due to the change in the monetary policy.

There was a sharp price increase in El Salvador during 1950. Since that date the rise has been less acute, and in

Table 102. El Salvador: Sources of money supply

(Millions of colones)

Years and quarters	External factors (A)	Internal factors			Money supply absorbed (−) (E)	Net variation in money supply (F)	Aggregate money supply (G)
		Total (B)	Public sector (C)	Private sector (D)			
1946.....	2	6	−1	7	− 6	2	89
1947.....	−2	11	—	11	− 3	6	95
1948.....	—	− 3	—	− 3	4	1	96
1949.....	24	1	—	1	7	32	108
1950.....	6	27	2	25	−20	15	143
1951.....	3	15	1	14	− 5	13	156
1952:							
I.....	32	− 3	—	− 3	2	31	187
II.....	26	− 9	—	− 9	4	21	177
III.....	—	2	—	2	8	10	166
IV.....	5	15	1	14	7	27	183
1953:							
I.....	54	−18	−2	−16	− 1	35	218
II.....	42	−17	1	−18	− 3	22	205
III.....	15	− 2	3	− 5	− 4	9	192
IV.....	—	16	6	10	− 6	10	193

Source: International Monetary Fund, *International Financial Statistics.*

General notes: see table 62.

Chart LII
EL SALVADOR

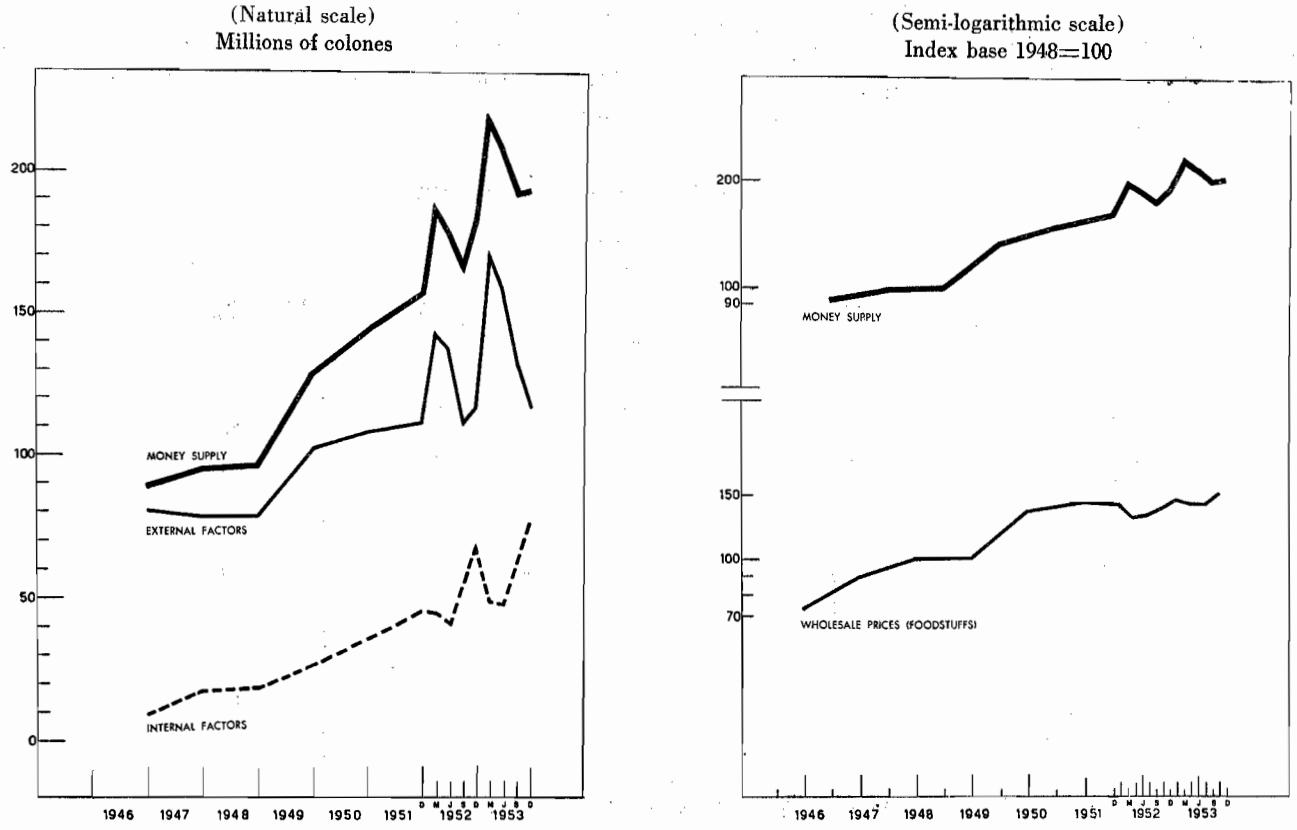


Table 103. El Salvador: Indices of money supply and wholesale prices of foodstuffs

(1948=100)

Years and quarters	*Money supply*	*Wholesale prices (foodstuffs)*
1946	92.7	73
1947	99.0	89
1948	100.0	100
1949	133.3	101
1950	149.0	136
1951	162.5	144
1952:		
I	194.8	142
II	184.4	131
III	172.9	133
IV	190.6	139
1953:		
I	227.1	146
II	213.5	143
III	200.0	143
IV	201.1	153[a]

Source: International Monetary Fund, *International Financial Statistics.*

[a] Average, November-December.

1952 there was a drop during the second quarter. In 1953, after the initial rise, stability prevailed. (See table 103.)

The lower rate of increase in prices at a time when the expansion of the money supply was at its peak was primarily due to the fall of world prices—with the exception of coffee—since mid-1951, and to a satisfactory supply of imported goods.

(d) *Guatemala*

Between 1946 and 1951, Guatemala's monetary policy was aimed at relative stability of the money supply, which advanced at an annual average rate of 5 per cent.

In 1952 there was an outflow of capital, beginning in the month of May. Reserves dropped from 54.5 million quetzales in March to 42.1 millions in September. This immediately produced a heavy decrease in the holdings of commercial banks, reaching its lowest point in June, with only 109,000 quetzales cash surplus over the legally required minimum. Nevertheless, bank credits remained at the same level and even increased slightly after July, since the central bank increased credit to the banking system from 6.1 millions in June to 10.8 millions in September 1952. As a result, the money supply, although it dropped between June and September 1952, increased by 5 million quetzales at the end of the year.

Although the psychological factors of 1952 still operated with relative intensity during the first half of 1953, they did not produce any visible effects on bank holdings and money supply. Early in the year substantial foreign exchange, due principally to coffee exports, entered the country, affecting monetary reserves, which, owing to the outflow of capital, did not show the customary seasonal increase.

The stability of the money supply in Guatemala resulted from the small inflationary influence exerted both by external and internal factors.

The level of monetary reserves is still fairly satisfactory, in relation both to internal circulation and to the normal debit in the balance of payments current account. It dropped between 1947 and December 1952 by 9 million quetzales, and between the latter date and September 1953 by 14 millions, a reduction which was particularly caused by the debit balances during 1948 and 1949. (See table 104 and chart LIII.) Since those years, monetary reserves have increased very little and have influenced the money supply only slightly. Although export values generally continued to rise, imports also maintained high levels. In this way, external factors operated as stabilizing elements for Guatemala.

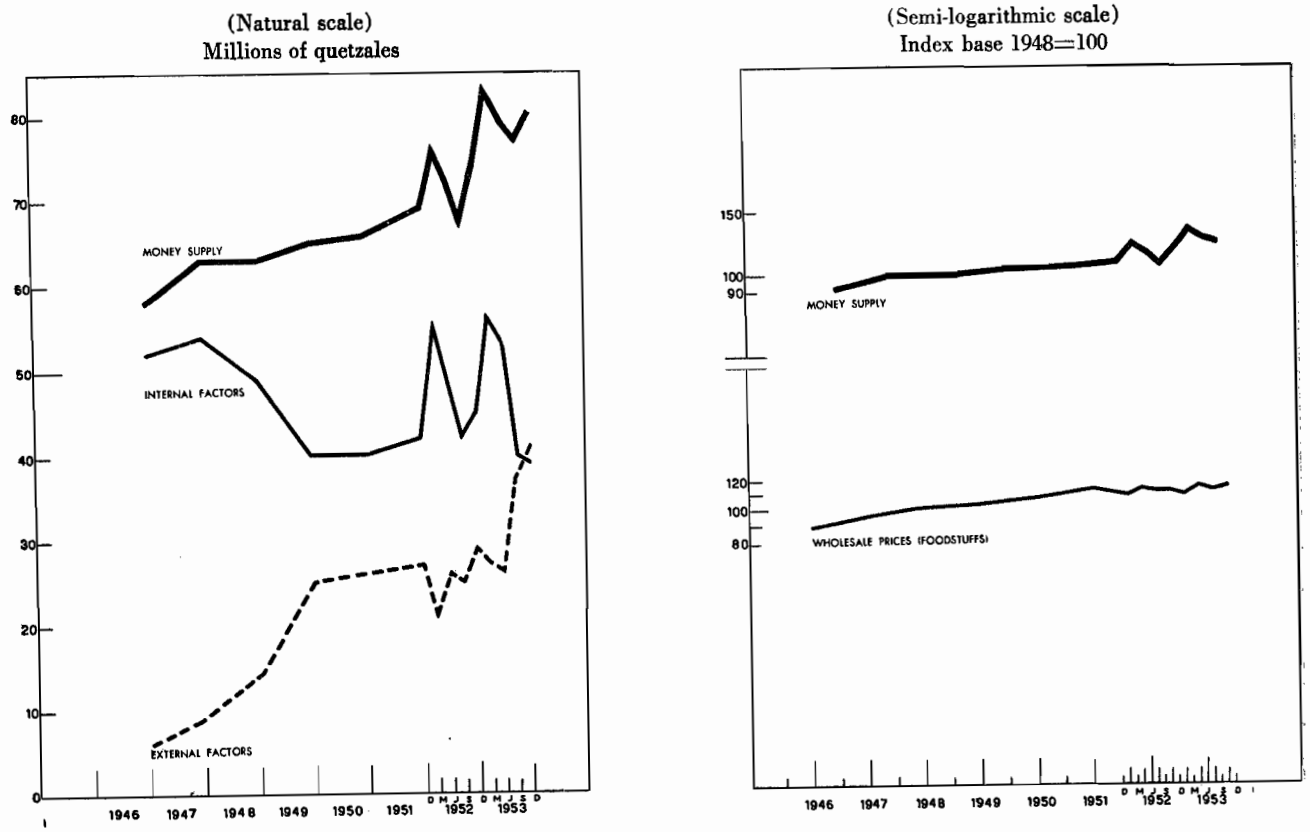
Table 104. Guatemala: Sources of money supply

(Millions of quetzales)

Years and quarters	External factors (A)	Internal factors			Money supply absorbed (−) (E)	Net variation in money supply (F)	Aggregate money supply (G)
		Total (B)	Public sector (C)	Private sector (D)			
1946	10	7	−5	12	−2	10	58
1947	2	3	7	2	—	5	63
1948	−5	8	—	8	−3	—	63
1949	−9	12	7	5	−1	2	65
1950	—	−2	—	−2	3	1	66
1951	2	..	..	5	..	3	69
1952:							
I	13	..	..	−2	..	7	76
II	6	..	..	−1	..	3	72
III	—	..	..	—	..	−2	67
IV	3	..	..	—	..	5	74
1953:							
I	11	..	..	−1	..	9	83
II	8	..	..	1	..	5	79
III	−5	..	..	5	..	3	77

Source: International Monetary Fund, *International Financial Statistics.*
General notes: see table 62.

Chart LIII
GUATEMALA



Internal expansive factors also behaved in the same way. Since the gross expansion of 8 million and 12 million quetzales in 1948 and 1949 respectively, their influence on the money supply has been somewhat weak.

Since 1951 the credit granted by the banking system has shown marked stability at about 39 million quetzales, some 5 millions and 3 millions higher than in 1950 and 1949 respectively. About 30 per cent of all these loans were for agriculture, and there was a small increase in credits for this sector in 1952 and in the first half of 1953, with a slight corresponding reduction of credit granted to other activities. The only increase in bank investments in private securities occurred in 1952 and 1953.

By contrast, in the public sector it was noted that expenditure financed by bonds—placed in the central bank—increased by 3 million quetzales in 1952, a rise which was maintained during the first quarter of 1953. This movement coincided with a strong tendency towards a balanced budget, which had been apparent since 1950 and reached a peak in the fiscal year 1951-52 with a surplus of 5.45 million quetzales. (See table 105.)

Table 105. Guatemala: Fiscal revenue and expenditure

(Thousands of quetzales)

Fiscal years	*Revenue*	*Expenditure*	*Balance*
1946/47	40,536	31,508	9,028
1947/48	39,631	41,710	−2,079
1948/49	44,452	47,162	−2,710
1949/50	42,815	46,758	−3,943
1950/51	47,436	47,022	414
1951/52	57,415	52,522	4,893
1952/53	61,511	66,962	−5,451

Source: Banco de Guatemala, *Boletín Estadístico.*

Nevertheless, despite the tariff increase on coffee exports, which enabled greater budget expenditures to be met, the deficit again emerged in 1952-53. Basically, all that happened was a transfer of purchasing power from the coffee-growing to the public sector.

Price increases in Guatemala were not as sharp as those noted elsewhere in Central America. The rise has been moderate since 1949 and even showed some downward movements. In 1953, prices stood at similar levels to those of 1952, which were already lower than 1951. (See table 106.) The movement was similar for wholesale prices of both imported and domestic goods, and this was partly reflected in retail prices for foodstuffs.

The drop in import prices since the close of 1951, the satisfactory supply of imported goods, and the low rate of increase in the money supply, appear to have been the main factors determining price stability.

(e) *Honduras*

Up to and including 1951, both monetary and financial policies in Honduras were aimed at stabilizing the money supply. Up to that year, expansive effects were caused solely by the balance of payments, but were often offset by internal absorption factors and by the fluctuations of credit granted to private enterprise.

Table 106. Guatemala: Indices of money supply and wholesale prices of foodstuffs

(1948 = 100)

Years and quarters	*Money supply*	*Wholesale prices (foodstuffs)*
1946	92.1	88
1947	100.0	95
1948	100.0	100
1949	103.2	102
1950	104.8	107
1951	109.5	113
1952:		
I	120.6	109
II	114.3	114
III	106.3	112
IV	117.5	112
1953:		
I	131.7	109
II	125.4	115
III	122.2	112
IV	..	115

Source: International Monetary Fund, *International Financial Statistics.*

However, since the end of 1951, although the public sector has continued in its stabilizing role by producing budget surpluses, there has been some change in the monetary policy, which offered a certain liberality in credit facilities and began to influence the expansion of the money supply, but with the clear aim of developing the economy.

The laws setting up the *Banco Central* and the *Banco Nacional de Fomento* were adopted in 1949, and these institutions opened their doors in mid-1950. A modern system was integrated with these two banks, to which the first programme of controlled agricultural credit was added in 1952. In addition to assuming authority for monetary policy, the centralization of reserves and the issue of currency, as well as acting as the Government's financial agent the *Banco Central* was permitted to make loans to the *Banco de Fomento.* The capital of this latter bank rose from 2.2 million lempiras in 1950 to more than 5 millions in 1953, while its loans, investments and discounts amounted to over 3 millions during the year. These were short, medium and long-term cerdits and were thus not limited to money advances, but in almost 60 per cent of all cases were also devoted to the financing of agricultural and industrial activities. In this way, the monetary policy of Honduras assumed an economic development function which it had never formerly possessed to any marked extent.

The money supply, which had shown pronounced stability up to 1950, began to increase from early 1951, but between that year and September 1953 it rose by 62 per cent. (See table 107 and chart LIV.)

Until 1951, the balance of payments was the determining factor in the expansion of the money supply, owing to surpluses in the trade balance through the increase of the export value and in spite of a high level of imports. The balance of payments was at an equilibrium in 1952 as the consequence of an export contraction and a growth of imports, but it improved during the first half of 1953.

Until 1950 internal factors had little influence, except in 1947 when they offset the loss of reserves. But in contrast,

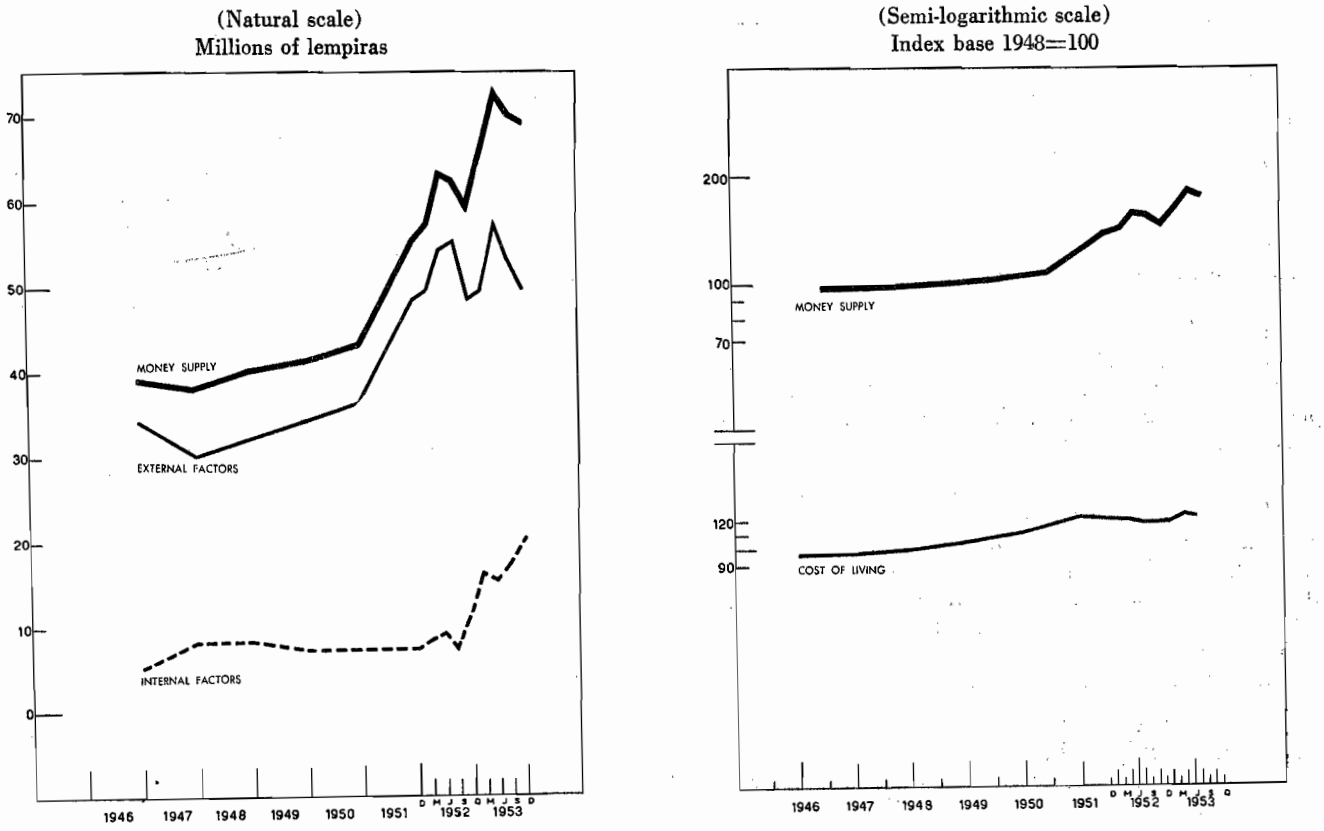
Table 107. Honduras: Sources of money supply

(Millions of lempiras)

Years and quarters	External factors (A)	Internal factors			Money supply absorbed (−) (E)	Net variation in money supply (F)	Aggregate money supply (G)
		Total (B)	Public sector (C)	Private sector (D)			
1946	—	..	..	3	..	3	39
1947	−4	..	..	6	..	−1	38
1948	2	..	..	—	..	2	40
1949	2	..	..	2	..	1	41
1950	2	..	..	1	..	2	43
1951	12	−1	—	−1	1	12	55
1952:							
I	1	1	—	1	—	2	57
II	6	2	—	2	—	8	63
III	7	2	—	2	−2	7	62
IV	—	4	—	4	—	4	59
1953:							
I	1	2	2	2	3	6	65
II	9	2	3	2	2	13	72
III	5	4	1	4	2	11	70

Source: International Monetary Fund, *International Financial Statistics.*
General notes: See table 62.

Chart LIV
HONDURAS



during both 1952 and 1953, they exerted a pronounced expansive pressure. During the whole post-war period, with the exception of the 1947-48 financial year, fiscal budgets have shown a surplus. (See table 108.) The rise of loans to the public sector in 1953 underlined a deterioration in public finances. Since there was also an increase of credit to the private sector and an upward movement in monetary reserves, all these factors combined to produce an expansive trend. This is the explanation of the 18.6 per cent increment in the money supply between December 1952 and September 1953.

After the advance of the cost of living between 1950 and 1951, this index tended to become more stable in 1952

Table 108. Honduras: Fiscal revenue and expenditure

(Thousands of lempiras)

Fiscal years	Revenue	Expenditure	Balance
1945/46	17,147	16,760	387
1946/47	22,698	20,715	1,983
1947/48	25,625	27,942	−2,317
1948/49	27,267	26,538	729
1949/50	32,777	31,975	802
1950/51	40,005	35,220	4,785

Source: Banco Central de Honduras, *Primera Memoria*, 1940–51.

and in the first quarter of 1953, at a slightly lower level than in 1951. There was a rise in the second quarter of 1953. (See table 109.)

Since the domestic economy has obviously depended upon the external sector for the supply of a great proportion of the available consumer and capital goods, internal prices have mainly been influenced by the high volume of imports and the drop in world prices which—with the exception of coffee—began in mid-1951.

(f) *Nicaragua*

In 1951, the exchange crisis which had affected Nicaragua during the post-war period was finally overcome. This was achieved through the increase in the value of exports and the radical exchange control reforms of 1950, which led to the raising of tariffs on less essential imports and modifications in the system of allocation of foreign exchange. In 1950, there was also a change in fiscal policy, which transformed budgetary deficits into surpluses. During the 1952-53 financial year the favourable balance amounted to 13 million córdobas. The public sector thus no longer continued to exert pressure towards the expansion of the money supply, and this pressure was felt only from the balance of payments and credit to the private sector. The more favourable situation originated in the modified monetary and financial policies, which have now been combined to foster the economic development of the country.

The growth rate of the money supply was more rapid in 1951-52, and even more so during 1953, when there was an increment of 32.5 per cent. (See table 110 and chart LV.)

The balance of payments, which was invariably unfavourable before 1950, began to improve at the end of this year and showed large credit balances in the following years. Reserves grew from 17 million córdobas in 1950 to 165 millions in June 1953, or a rise of 3.4 to 28.0 million

Table 109. Honduras: Indices of money supply and cost of living

(1948=100)

Years and quarters	Money supply[a]	Cost of living
1946	97.5	97
1947	98.8	98
1948	100.0	100
1949	102.5	105
1950	107.5	111
1951	137.5	123
1952:		
I	142.5	121
II	157.5	121
III	155.0	119
IV	147.5	119
1953:		
I	162.5	120
II	180.0	125
III	175.0	122

Source: International Monetary Fund, *International Financial Statistics.*

[a] Balances at the end of each period.

Table 110. Nicaragua: Sources of money supply

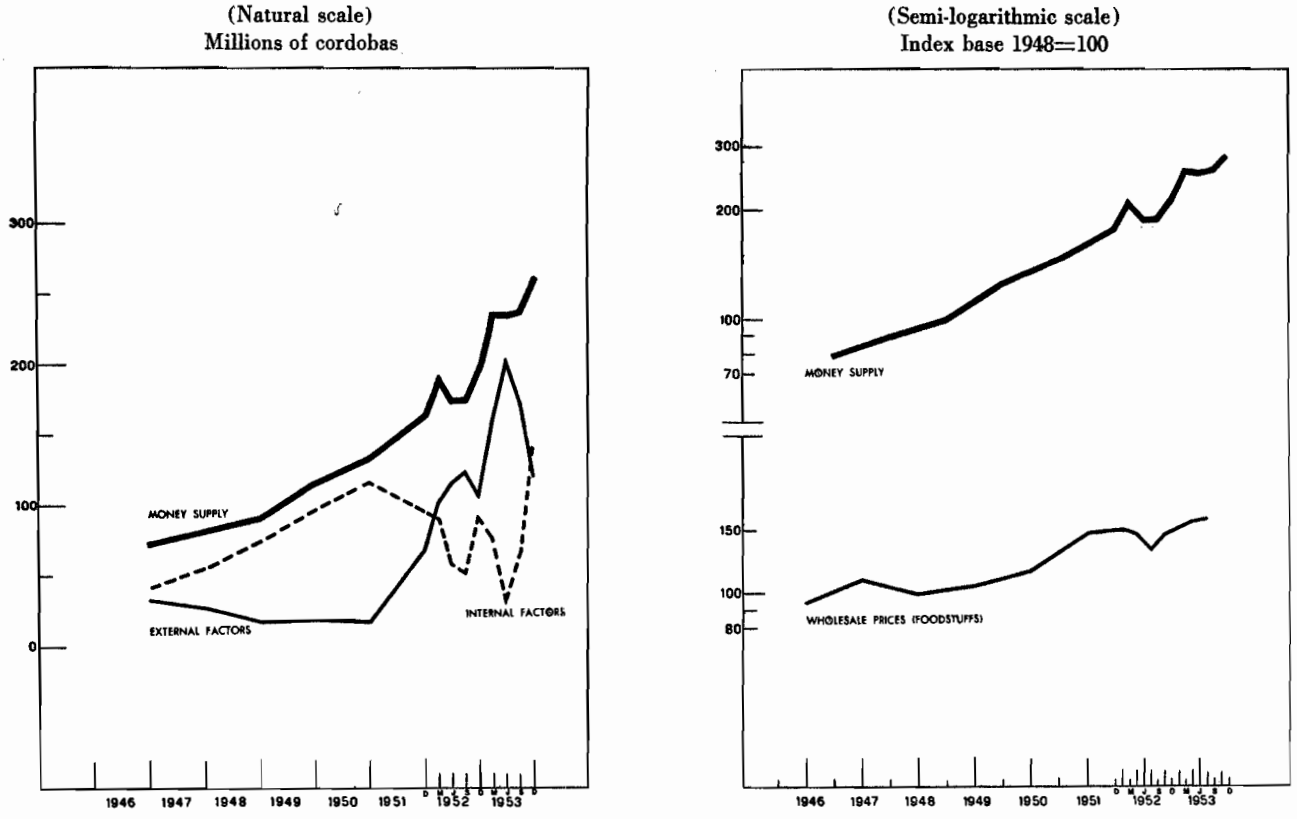
(Millions of córdobas)

Years and quarters	External factors (A)	Internal factors			Money supply absorbed (−) (E)	Net variation in money supply (F)	Aggregate money supply (G)
		Total (B)	Public sector (C)	Private sector (D)			
1946	− 2	18	13	5	− 5	−11	73
1947	− 5	4	17	−13	10	9	82
1948	−10	22	0	22	− 3	9	91
1949	2	14	7	7	8	24	115
1950	− 2	27	−3	30	− 7	18	133
1951	51	33	−6	39	−54	30	163
1952:							
I	33	2	−2	4	− 7	28	191
II	47	−17	−3	−14	−20	10	173
III	55	− 9	−6	− 3	−35	11	174
IV	38	26	−7	33	−30	34	197
1953:							
I	53	3	−1	4	−18	38	235
II	96	−31	−4	−27	−27	38	235
III	67	15	−5	−20	−41	41	238
IV	13	73	−7	80	−22	64	261

Source: International Monetary Fund, *International Financial Statistics.*

General notes: See table 62.

Chart LV
NICARAGUA



dollars. The determining factors in this situation were a higher value of exports and stability in the level of imports, which increase substantially in both quantum and value only at the end of 1952.

The rate of exchange for less essential imports, which, until November 1950, was uniform for all purchases abroad—5.29 córdobas per dollar (with tax)—rose to 8.05 and 10.05, according to the degree of indispensability of the imports. These rates of exchange were maintained in spite of the improvement of monetary reserves. Furthermore, the rate in the free market—which accounts for a limited number of transactions—rose from 7.30 córdobas per dollar in December 1952 to 7.85 in June 1953.

The expansion in the money supply caused by the great increase in reserves could not be offset either by the usual means of absorption or by changes in the pattern of public finances.

The public sector entirely lost its expansive influence after 1949. This is evident from the steady decrease of loans to the Government (see table 110) and from the growth of fiscal accounts. (See table 111.)

In contrast, loans to the private sector continued to increase, amounting to 80 million córdobas at the end of 1953, more than double the 1951 peak level, the highest hitherto recorded.

Between 1946 and 1950 the rise in prices was moderate, and was less than the increment in the money supply. In 1951, however, there was a sharp rise, equivalent to an annual average of 26.7 per cent above the level of the previous year. (See table 112.) Higher world prices and

Table 111. Nicaragua: Fiscal revenue and expenditure

Fiscal years	*Revenue*	*Expenditure*	*Balance*
1945/46.....	83,077	82,697	380
1946/47.....	96,509	92,236	4,273
1947/48.....	92,313	97,103	−4,790
1948/49.....	105,371	111,916	−6,545
1949/50.....	108,470	105,024	3,446
1950/51.....	121,719	116,103	5,616
1951/52.....	155,600	149,680	5,920

Source: Banco Nacional de Nicaragua, *Revista Trimestral*, January-March 1953.

revaluation of the exchange rate, to which reference has been made, contributed to the rise, given the dependence of domestic supply upon purchases abroad.

In 1952 there was a drop in prices, which became fairly substantial in the third quarter through the influence of an import boom and the decline in world prices. By the end of 1952 a recovery in domestic prices was discernible, which continued and became more pronounced in 1953, corresponding to an increment in the money supply and an expansion of credit to the private sector.

III. Overvaluation, foreign trade and exchange reforms

A number of countries introduced modifications in their exchange system during 1953. In some cases, direct devaluation of domestic currency was achieved by raising

Table 112. Nicaragua: Indices of money supply and wholesale prices of foodstuffs

(1948 = 100)

Years and quarters	*Money supply*	*Wholesale prices (foodstuffs)*
1946	80.2	94
1947	90.1	109
1948	100.0	100
1949	126.4	105
1950	146.2	116
1951	179.1	147
1952:		
I	209.9	151
II	190.1	147
III	191.2	133
IV	216.5	147
1953:		
I	258.2	153
II	258.2	160
III	261.5	163
IV	286.8	..

Source: International Monetary Fund, *International Financial Statistics.*

rates of exchange for imports or exports. In others, such measures as the creation or legalization of a free market, or the extension of those operations which must be negotiated at the highest rates, were adopted, producing the same effect as a devaluation of currency. Elsewhere the different methods were combined. Thus, a tendency already manifest in 1952, and not without even earlier precedents, was prolonged into 1953. The disparity between the internal and external values of Latin-American currencies has become more pronounced, and therefore more intense, as a result of high costs due to inflation or the world price decline, especially for primary commodities, with its normal repercussions on the export trade of these countries.

In spite of the action of internal forces, which are of such great consequence in monetary affairs, particularly in the way theey affect the course and development of inflation, the influence of external factors continues to be decisive. Apart from movements of foreign capital, which were extremely important in certain countries, aggregate international monetary reserves fluctuated according to the tonnage and value of foreign trade. In turn, by a familiar process of interplay, monetary phenomena, among them the aggregate reserves, influenced imports and exports.

The post-war import increase throughout Latin America was due to either permanent factors or circumstantial causes. The former include the requirements of economic development, which oblige Latin-American countries to acquire more capital goods, raw materials, fuels and, in a good many cases, consumer goods essential to the maintenance of normal supplies. The circumstantial causes made their appearance chiefly at the end of the war, when normal imports—to which must be added the deferred demand pent up during the enforced isolation of the war years—were renewed. Later, the fear of possible shortages due to events in Korea gave a new and stronger impulse to imports. In the first case, imports could be financed by exports and accumulated reserves; in the second, they were paid for in the same way, but with the further assistance of short-term credits, and, in some instances, at the cost of heavy losses to reserves, with the risk of their rapid exhaustion. In addition, the favourable contribution of an improvement in the terms of trade during the period from 1947 to 1951 should not be overlooked.

Until 1950, the post-war growth in exports was slow and underwent frequent fluctuations. For some years the trade balance had a deficit in several countries owing to the increase in imports. Except in 1949, Mexico showed a constant deficit offset only by surpluses in other accounts, especially services; Brazil had an unfavourable balance in 1947 and 1949; Peru in 1947, 1948 and 1949; Uruguay in 1947 and 1948, and Argentina and Chile in 1949.

In 1950, peak exports began, enabling all the Latin-American countries, with the sole exception of Mexico, to achieve a favourable trade balance and to increase their monetary reserves. Nevertheless, the pressure of imports grew stronger in 1951, and many countries found themselves faced with a deficit or a substantial reduction in the favourable balance. This had repercussions on the balance of payments and involved losses in reserves. Mexico's adverse trade deficit stood at 268 million dollars, and the surplus in the balance of payments, which had amounted to 208 millions in 1950, fell to 27 millions; Argentina showed deficits of 264 millions in her trade balance and of 204 in the balance of payments; Brazil witnessed the reduction of a favourable trade balance of 425 millions to only 68, while the balance of payments, with assets of 52 millions in 1950, returned a debit of 310 millions in 1951; Uruguay had a deficit of 76 millions in the trade balance and 64 millions in the balance of payments, which in 1950 had shown a surplus of an equivalent amount. On the other hand, other countries — Bolivia, Colombia, Cuba, the Dominican Republic, Guatemala, Honduras and Venezuela —improved their position.

During 1952 the trend towards a deficit became sharper in some countries and appeared in others, so that Government policy aimed at restricting imports and encouraging exports. But the former provided better methods for correcting the imbalance than the latter, except in special cases.

In fact, as had occurred for many years, there was an evident tendency—aggravated in 1952 by a deterioration in the terms of trade—for exports to increase less rapidly than the gross product. This tendency was due to structural causes which have been analysed elsewhere, but it presents an interesting factor in the monetary field which also affected imports.

The over-all rise in prices caused by the inflation makes it difficult for Latin-American exports to compete in world markets. This fact, the increase in the gross product, and the requirements of economic development, all exert pressure upon the import trade. Latin America's marked bias towards imports has become clearly evident whenever countries have relaxed the restrictions normally in force. Such was the case, for instance, in Argentina, Brazil, Ecuador, Mexico and Uruguay, when fears as to the dependability of their usual sources of supply led them to adopt various measures to encourage imports in 1951.

The persistence of the downward movement in world prices during 1953, the difficulties encountered by many Latin-American countries in increasing their exports, and the corresponding need to impose severer import restrictions, added more countries to the list of those that had already modified their exchange systems. The changes were

in the form of approximating quotations to the domestic currency value, at least in part, and particularly in relation to those sectors where high production costs, influenced by inflation, obstructed the sale of exportable balances. The exchange reforms do not, however, disregard either the necessity of ensuring basic supplies—especially those connected with economic development—by offering them preferential rates, or the need to stimulate the influx of foreign capital.

In *Argentina* recognition of the overvaluation of the peso took concrete form in 1952. The authorities granted better rates of exchange or special facilities for the export of cheese, butter, casein, frozen and tinned meat, wool, extract of *quebracho* and other commodities. Furthermore, new restrictions on imports were established in June of the same year. The same policy was followed in 1953, providing some exports with even more favourable rates of exchange.

In 1951, at a time when monetary reserves were increasing, *Bolivia* in fact devalued the boliviano, including certain groups of imports in higher rates of exchange, attempting to offset the unfavourable influence of high domestic costs on exports. The devaluation attained more specific and concrete form on 13 May 1953, when the par value was fixed at 190 bolivianos per dollar, replacing the previous basic rate of 60 bolivianos. The new system replaced all the multiple rates by this single rate and at the same time created a legal free market in which the boliviano is permitted to fluctuate and all transactions not specifically reserved for the official market may be effected. The official market is reserved for all trade transactions, Government payments, registered capital and certain specified invisibles. *Ad valorem* taxes of 50 and 100 per cent were applied to less essential imports and a tax of 35 bolivianos per U.S. dollar was levied on exports of the Government-owned mining corporation. Since rates higher than the basic one—reaching as much as 247 bolivianos per dollar for certain invisibles and unregistered capital —had existed under the old system, the size of this devaluation was in reality considerably less than the difference between the 60 and 190 boliviano rates. Perhaps the most important aspect of the new system has been the unification of the exchange rates and the creation of a free market.

In *Brazil* two important exchange reforms took palce. The first came into force in February 1953, undergoing some modification in August, and a second replaced it in October. Both had the double significance of devaluation and a diversification of the rates of exchange. In 1952, the fall in world prices convinced the authorities that the cruzeiro was overvalued. An indication of this situation was the discrepancy between the cruzeiro exchange on the official market (18.72 per dollar, purchase rate, and 20.22, sales rate with tax) and the quotation on the parallel market (37.50 in October 1952). It was considered that, although overvaluation had not prejudiced exports while prices were high, it placed a premium on imports and upon remittances of foreign capital profits (limited to 8 per cent of the initial capital in January 1952), which thus proved more advantageous than reinvestment. The authorities felt it was indispensable to establish multiple rates of exchange which would favour exports but not encourage the domestic transfer of capital to coffee production, which was still profitable at the prevailing rates. The multiple rates would also restrict imports without hindering the acquisition of capital goods and others essential to maintain the progress of Brazil's economic development.

The new system created two markets, the first official, in which the quotations fixed by the authorities were maintained, and the second a free market in which quotations were regulated by supply and demand. Transactions on the official market covered all exports except those which individually represented less than 4 per cent of the aggregate value of sales abroad during the previous three years. These could be transferred to the free market at the discretion of the Superintendency of Currency and Credit. Similarly, the official market handled most imports, freight and insurance remittances, Government services, loans, credits or subventions of unquestionable value to the domestic economy, and remittances of profits on foreign capital in the case of investments of special importance to the country, particularly those devoted to under-developed zones or the public services. The transfer of interest on loans and credits of the official market was limited to 8 per cent and for profits on foreign capital to 10 per cent. All other imports and remittances were dealt with in the free market, where transactions were not subject to rules and regulations. Imports of goods, however, were controlled by licence and, if necessary, by a *pro rata* division of the entire quota among the various applicants.

Thus the creation of the free market presupposed the existence of a new exchange rate for some transactions, and, given the difference between its quotations and that of the official market, had the effects of devaluation. While this system was in existence throughout 1953, devaluation and the diversification of the rates of exchange sharpened through other commodities being granted access to the free market in proportions amounting in some cases to as much as 50 per cent. The outstanding examples were coffee and cocoa, whose exporters could freely negotiate the foreign exchange revenue obtained in excess of official fixed prices. Thus the scope of the free market was broadened and several rates of exchange were in force, determined by a mixing ratio between the proportions negotiated on the official and free markets. Again, the maintenance of the equilibrium in the balance of payments made it necessary to impose severe import restrictions in both markets and, finally, to adopt, in October 1953, Law No. 2145, known as Instruction No. 70, which introduced radical reforms.

The most important innovation under the new system was the process of bidding or auction established for imports. This aimed at rationing the available exchange for imports among five categories, ranging in order of priority from those considered most essential to luxury goods, and for each of which the central bank assigns a foreign exchange quota. The bidding is for a certificate or promissory note for foreign exchange, corresponding to the category of the imports, which confers the right to purchase foreign exchange at the official rate and to receive an import licence. The actual exchange rate is the sum of the price of the certificate, the official rate of exchange and the transfer tax of 8 per cent. In this way five new fluctuating exchange rates were created, in addition to both the official rate for imports and some Government remittances and the free rate for transactions relating to capital and invisibles.

Exports are still negotiated at the official rate, but benefit by a subsidy of 10 cruzeiros per dollar, with the exception of coffee, on which the subsidy is only 5 cruzeiros. Thus

the effective exchange rates are 28.36 and 23.36 cruzeiros per dollar respectively.

The high quotations reached in the auctions justify the statement that this system has led to a substantial devaluation of the cruzeiro.

Chile made an important amendment to its exchange system in July 1953 as part of an integrated economic plan designed to check inflation. The specific aim of the exchange reform is to limit imports by unifying the selling rate at 110 pesos per dollar. Under the previous system, lower rates existed (31.10 and 60.10 pesos per dollar) for essential goods the consumption of which, encouraged by the exchange subsidy, had increased immoderately, thus causing price disequilibrium on the domestic market. These exchange rates are maintained under the new system, but can be used only for official imports and other Government services. The buying rates (19, 17, 31 and 60 pesos per dollar) have remained unchanged, although here, too, unification is projected. Furthermore, other special rates of 43 and 50 pesos per dollar are still in force for certain Government transactions. In September a restriction was placed on imports of some luxury goods whose import had previously been permitted on condition that foreign exchange for them was obtained from exports of domestic gold output, for which the exchange rate was higher.

Colombia devalued the peso in March 1951. Quantitative restrictions on imports were abolished, only certain prohibitions surviving, and the eleven exchange rates previously in existence were reduced to three: a special rate for coffee exports; a purchase rate of 2.50 pesos per dollar; and a sales rate of 2.51. At the official sales rate, which is tax-free, devaluation represented 22 per cent. The basic rate of 1.95 pesos for coffee was also applied to a proportion of exports which is gradually decreasing, and the remainder had the benefit of the 2.50 rate. Under this procedure, the effective exchange rate for coffee was already 2.335 by 15 July 1953.

Reforms were introduced in August 1952 under which exports of certain secondary products benefit by a special rate equivalent to the quotation in the free market (approximately 3.50 per dollar in April 1953). These exports also conferred the right to certificates, authorizing imports of certain goods on the prohibited list, such certificates being freely negotiable at the open-market rates of exchange.

More goods were removed from the list of prohibited imports in 1953, although licences are granted only when the surplus of certain commodities, such as rice, cement and textiles, has been exported. The certificates obtained from sales of these commodities are freely negotiable and can be used for acquiring permitted imports. The free trade in gold of domestic output and the open negotiation of the foreign exchange obtained by exporting it were authorized in July.

In *Paraguay*, the aim of the devaluation dating from August 1952 was to improve the country's ability to compete on foreign markets, an ability which had been adversely affected by the fall in the world prices of some export commodities. The basic rate of 6 guaraníes for the main exports and essential imports was replaced by a buying and selling rate of 15 guaraníes. Less essential imports are paid for at the rate of 21, and non-essential imports at 30 guaraníes, coupled with exchange surcharges of 6 and 15 guaraníes per dollar respectively. Subsidies were also granted on essential imports of wheat, flour, antibiotics and petroleum (6 guaraníes per dollar), and on some secondary exports (60 per cent). The free market was reserved for minor business. The depreciation has become even greater since January 1953. Imports were reclassified and the number of those at higher rates was increased, while a system of bidding was established for non-essential imports. Foreign exchange accruing from the principal exports, in excess of certain fixed basic values, is negotiable on the free market, and the subsidy granted on some exports because domestic costs had risen or world prices had fallen has been raised to 80 per cent. Certain specific imports must also be dealt with in the free market.

Although *Peru* has not recently modified the exchange system established in 1948 and under the currency reform of 1949, it should be noted that the disappearance of an official market and the freedom from exchange controls have recently led to a slight downward movement in sol quotations. The devaluation caused by reforms in 1948-49 (from 6.50 soles per dollar to 16.10 for certificates in September 1948) substantially stimulated exports. The free exchange system, in turn, encouraged an increase in imports. Since then, Government policy has been aimed at correcting disequilibrium in the trade balance and arresting any depreciation of the sol by means of domestic monetary and fiscal measures or by raising customs duties. Thus, in September 1953, sharp increases in import tariffs were autorized, but were rescinded shortly afterwards.

Uruguay has made use of the existing multiple exchange rates to authorize *de facto* devaluation, either by giving certain exports a partial right of access to the free market —limited in principle to non-commercial transactions—or by granting them higher exchange rates through compensation arrangements. In July 1953, for instance, a compensatory rate of exchange was established for the export of wool tops: 65 per cent at the rate of 2.35 pesos per dollar and 35 per cent at 1.519. Thus the application of this system results in the existence of a variety of mixed rates.

The aim of these devaluations, whether apparent or less manifest, is simple. Firstly, they constitute an attempt to encourage exports when domestic costs, increased by inflation, place exportable products at a competitive disadvantage with prevailing world prices. Secondly, they aim at restricting imports when the quantum of the latter upsets the balance of payments and involves a loss of monetary reserves. Both situations generally reveal a disparity between the internal and external values of the domestic currency. In many cases a greater inflow of foreign capital is being sought, in others the aim is to introduce structural changes in the composition of exports or imports.

The assumption of disparity between the external and internal values is generally based on foreign trade trends which are taken as symptomatic. Declining exports or greater imports are interpreted, apart from special causes affecting individual commodities, as an indication that the prevailing rates of exchange do not correspond to a balanced parity. In most cases there has been in Latin America a pronounced rise in domestic prices over recent years, due to the inflationary process, while United States prices have risen moderately and dollar rates of exchange have undergone only slight increases. These are the three variables which help to determine the relative value

of Latin-American currencies and the dollar, and, broadly speaking, they enable the extent of the assumed overvaluation to be estimated. (See in table 113 a comparative estimate for four countries, which may serve as an example.)

The results obtained from these four countries are interesting. It is confirmed that there was a sharpening of the overvaluation of the currency in Bolivia, Brazil and Chile, and that the draft project on which the latest exchange reforms were based was in principle correct.

The case of Peru is even more interesting. Before the 1948 exchange reform, the overvaluation of the sol—in

Table 113. Indices of monetary over (+) or under (−) valuation obtained by means of the terms of trade in Bolivia, Brazil, Chile and Peru and the wholesale price index in the United States

(1948 = 100)

Countries and years[a]	Wholesale price index	Exchange rate		Wholesale price index in terms of the dollar	Wholesale price index in the United States	Terms of trade with respect to the United States	Monetary over (+) or under (−) valuation
		Monetary units per dollar	Index				
Bolivia:[b]							
1948	100	43.42	100	100	100.0	100	0
1949	110	43.42	100	110	94.3	117	+17
1950	146	63.60	144	101	98.1	103	+ 3
1951	179	63.60	144	124	109.4	113	+13
1952	212	63.60	144	147	106.6	138	+38
Brazil:[c]							
(A) 1948	100	18.38	100	100	100.0	100	0
1949	111	18.38	100	111	94.3	118	+18
1950	127	18.38	100	127	98.1	129	+29
1951	154	18.38	100	154	109.4	141	+41
1952	172	18.38	100	172	106.6	161	+61
1953	184	18.38	100	184	105.6	174	+74
(B) 1948	100	19.66	100	100	100.0	100	0
1949	111	19.66	100	111	94.3	118	+18
1950	127	19.66	100	127	98.1	129	+29
1951	154	19.66	100	154	109.4	141	+41
1952	172	20.22	103	167	106.6	157	+57
1953	184	20.22	103	179	105.6	170	+70
Chile:[d]							
(A) 1948	100	65.55	100	100	100.0	100	0
1949	114	99.08	151	75	94.3	79	−21
1950	134	72.50	111	121	98.1	123	+23
1951	175	90.00	137	128	109.4	117	+17
1952	217	118.59	181	120	106.6	112	+12
1953	275	110.00	168	164	105.6	155	+55
(B) 1948	100	43.00	100	100	100.0	100	0
1949	114	43.00	100	114	94.3	121	+21
1950	134	60.00	140	96	98.1	98	− 2
1951	175	60.00	140	125	109.4	114	+14
1952	217	60.00	140	155	106.6	145	+45
1953	275	60.00	140	196	105.6	186	+86
Peru[e]							
1946	100	6.50	100	100	100	100	0
1947	135	6.50	100	135	122	111	11
1948	169	16.10	248	68	133	51	−49
1949	236	14.81	228	104	126	88	−12
1950	276	14.95	230	120	135	89	−11
1951	323	15.28	235	137	146	94	− 6
1952	339	15.60	240	141	143	99	− 1
1953	346	16.13	248	139	142	98	− 2

Note: This table was prepared according to the method used by the Research Department of the International Monetary Fund in its memorandum, *Measures of Overvaluation and Undervaluation*, prepared by S. M. Christovich (doc. R.D. 857).

[a] The figures correspond in all cases to the month of June.

[b] The exchange rate used was the basic buying rate. For this country, the figures for the cost of living index have been used owing to difficulties in keeping wholesale prices up to date.

[c] Calculations have been made according to exchange rates used: (A) official buying rate, and (B) official selling rate.

[d] As in the case of Brazil, two rates of exchange have been used: (A) controlled bank rate, and (B) basic import rate.

[e] For this country, the free rate of exchange has been used and, unlike the other countries, 1948 was not taken as the base year since in September of that year there was a monetary devaluation.

relation to the previous year—stood at 11 per cent. When the exchange rate moved from 6.50 in the official market to 16.10 for certificates, the overvaluation was converted into undervaluation or a depreciation of 49 per cent in relation to the par value for the base year (1946).[23] Thenceforward undervaluation was gradually corrected, especially by the operation of a rise in the domestic price level, partly influenced by the currency devaluation itself, until in 1952 and 1953 the initial par value was almost attained.

It would thus appear that, through the free operation of supply and demand, the sol gradually sought its own balanced level, adjusted to a parity of purchasing power. However, it should primarily be noted that this level of equilibrium does not really exist, but is simply the level prevailing at a particular period, that of the base year. Again, domestic fiscal and monetary policy enables a comparatively successful correction to be made in the tendencies of overvaluing or depreciating the sol. This explains why variations in the exchange rate were slight while there were sharp upward movements in domestic prices.

This procedure appears to be more accurate than that of assessing the overvaluation by the difference between official exchange rates and those on free markets (when these are legally recognized) or on the parallel market. In point of fact, quotations on these latter markets do not reflect the real tendencies of supply and demand, except within the limited scope of their operations, which represent a very small proportion of the whole.

Such a procedure is theoretically valid for determining the parity (or disparity) of the purchasing power of a currency and for use, in its turn, as an indication of what the equilibrium exchange rate would be. But it cannot be relied upon in determining to what extent prevailing rates of exchange, when unadjusted to this theoretical par rate, adversely affect exports, immoderately encourage imports, or constitute, for these reasons, a hindrance to the structural changes which it may be desired to introduce in one or other.

An initial disadvantage arises from the multiple rates of exchange prevailing in most countries, and, if this method is used, a simple average, or the selection of a rate which is considered to be most representative, introduces an element of arbitrariness. The disadvantage could be overcome by means of averages, weighted by the size of the operations transacted at the various rates, in such a way as to measure the overvaluation (or the undervaluation) more accurately by reference to purchasing power. Even so, apart from the practical difficulties which would be encountered in preparing such averages, the result would be of no great use for the purposes aimed at especially in regard to exports.

It is well known that Latin-American exports are mainly unilateral, that is to say that a large proportion of them is accounted for by one commodity or one group of commodities (coffee, cereals, petroleum, sugar, etc.). Thus the factors that help to determine the suitability or unsuitability of the rates of exchange are inherent in the rates themselves, in the export prices of the commodity concerned and in its domestic costs. When these costs are not to any appreciable degree made up of expenditures in foreign currency, they can be expressed with reasonable accuracy in terms of the domestic price level. Consequently, the problem of overvaluation or undervaluation of a domestic currency is not one of the relation of purchasing powers in general, but of the profitableness of a particular commodity, given its cost, its export price and the buying rate of exchange allotted to it. The belief that the currency is overvalued, which has inspired many of the recent exchange reforms, is, therefore, limited to the idea that the prevailing exchange rate prejudices certain exports, either because costs have risen, or because the world prices have fallen, or because both have occurred simultaneously. The exchange rates have been established by reference to the same circumstantial and historical criteria, with a view to maintaining output levels and ensuring foreign sales.

If overvaluation and undervaluation are calculated within these limits and confined to a single commodity, in order to establish the effects of the development of costs in association with the exchange rate fixed for the foreign currency accruing from its export, the results may be very different from those obtained by comparing purchasing powers in general. (See, for example, the case of Brazilian coffee in table 114.)

Hence it emerges that, while the cruzeiro appeared to be heavily overvalued in relation to price levels in the United States, it was undervalued in relation to coffee prices. The established rate of exchange therefore placed a

[23] The undervaluation was really less, since the rate of exchange for certificates only applied to some exports, the proportion gradually increasing until all exports were included towards the end of 1949. For this reason, and because some imports had previously been granted rates higher than the official level, the devaluation was less than appears to be the case.

Table 114. Measurement of overvaluation and undervaluation of the exchange rate for Brazilian coffee

Years	Wholesale price index	Exchange rate		Wholesale price index in terms of the dollar	Coffee unit value index	Terms of trade for coffee	Monetary over or under (−) valuation
		Monetary unit per dollar	Index				
1948.....	100	18.38	100	100	100.0	100	—
1949.....	111	18.38	100	111	116.3	95	− 5
1950.....	127	18.38	100	127	208.0	61	−39
1951.....	154	18.38	100	154	230.6	67	−33
1952.....	172	18.38	100	172	235.5	73	−27
1953[a].....	184	18.38	100	184	..	..	..

Source: Economic Commission for Latin America, based on official statistics.

[a] June.

premium on coffee exports. However, some remarks as to the interpretation of these conclusions must also be recorded.

The undervaluation of the coffee-cruzeiro is an expression of the change in relation to a previous period taken as the base year, and it may not reflect a balanced par rate. Thus, the process of undervaluation is as likely to display an increase in exporters' profits as a decrease in their losses, an alternative which weakens the figures, since they indicate not the size of profits, but rather relative variations in the coffee trade position. In reality, the remarkable rise in coffee prices between 1948 and 1950—much sharper than in domestic prices—served to hide the overvaluation of the cruzeiro. Since 1950 the upward movement in coffee prices has been less acute, and the undervaluation of the cruzeiro increasingly slight. Coffee planters, in whose relative position there has been an obvious deterioration, were, as has already been noted, able to use the free market for a proportion of their exports in 1953.

When there is only one buying rate of exchange for exports, or when its variations are very limited, the problem of overvaluation often arises in connexion with secondary products the costs of which are high in relation to prevailing world prices. At this point the need emerges to encourage them by means of special rates, either higher or of a different nature. This case may occur as the result of a downward export trend caused by a price fall, or when the commodities concerned are new to the export trade and the incentive of a subsidy is required, that is, when the introduction of structural changes in the composition of exports is attempted.

The modifications in Latin-American exchange rates have been inspired by these practical criteria, normally with a view to offsetting the influence of the fall in world prices for essential commodities. At times devaluation has been openly adopted; on other occasions new and special rates of exchange have been created or mixed combinations of those already in operation have been established. In the latter case—examples of which are to be found in Argentina, Brazil and Uruguay—such measures have involved an increase in the multiplicity of exchange rates. This is in marked contrast to the trend for simplification and unification to be noted elsewhere, in Bolivia and Ecuador, for example.

A special case, in which the exchange rate is almost entirely without significance as an expression of currency equivalencies, is that of exports by foreign companies, in which most of the costs are commonly defrayed in foreign exchange. In this case it may happen that the domestic currency appears to be abnormally overvalued. This occurred with dollar copper revenues in Chile, where the foreign companies are obliged to sell to the Government to obtain the domestic currency for their internal expenditures. It is obvious that here the exchange rate is arbitrary, contractually fixed, and conceals a kind of royalty or fiscal tax.

Overvaluation is more real and more simple in the case of imports. An estimate based on a comparison of the purchasing powers appears sufficient to reflect its magnitude. At the same time, currency devaluation is apparently more effective in limiting or selecting imports. But its effects depend solely upon the extent—which in Latin America is generally slight—to which import prices are elastic.

It should be recalled that currency devaluation of this type has in a greater or lesser degree become a part of the traditional exchange policy of some Latin-American countries. But some refinement in the technique and an increase in the attention paid to the fundamental problems of each nation's economy, in so far as they may be affected by the exchange system, may be noted. In almost every case, devaluation has been carried out to cope with fortuitous circumstances that have been considered unfavourable to the monetary-reserves or the balance-of-payments situation; but the far-reaching significance of the plans and programmes for economic development, with which Governments are concerned nowadays far more than previously, has not been overlooked. In some cases the loss of prestige suffered by quantitative import restrictions through exchange regulations and greater confidence in domestic monetary policy is also apparent. It should not be forgotten that the results which may be more or less immediately caused to the volume, and even to the composition, of foreign trade, influence the symptoms rather than the essence of the economic problems faced by the region at its present stage of development. Thus, for example, devaluation may enable a transitory crisis in traditional exports to be overcome. But this is only a feeble contribution to the essential task of substantially increasing the quantum of exports, whose notorious downward trend is due in part to the rise of domestic consumption as the gross product increases. As is much more obvious, neither a reduction in imports nor the changes achieved in their composition alone can provide permanent solutions in face of the need to increase imports to the level required by the desired rate of development.

In a survey of the results achieved by exchange policies it is not simple to distinguish between the influence of devaluation and the effects of either other fiscal or monetary measures or factors beyond the reach of Government action. In most cases devaluation has been inadequate, alone, to produce positive effects, and its reinforcement by supplementary policies has almost always been necessary.

The inadequacy of devaluation alone was seen in Brazil, where the system which was established in February 1953 but remained in force only until October, failed to achieve any increase in exports. It is true that climatic factors intervened, adversely affecting production; nevertheless, domestic costs were unfavourably influenced by wage increments and higher prices for many imported goods. Foreign capital did not respond to the stimulus of the attractive free market rate, and the very fact of the currency devaluation, accompanied by a sharpening of the inflationary process, operated as an adverse factor. In addition, the devaluation had scarcely been authorized when the favoured sectors claimed greater protection, while others that were excluded, such as coffee, demanded to be included in the new system.

Nor was devaluation sufficient to restrict imports to the limits required by the scaricity of foreign exchange. Attention has already been drawn to the strong bias towards imports common to all the Latin-American countries, in which a high exchange rate is unable to restrain the pressure of demand. The Brazilian authorities were thus compelled to tighten restrictions and to establish the

bidding system, or the auctioning of foreign exchange for imports.

In Colombia, exports increased moderately, perhaps partly as a result of the 1951 devaluation. Imports also rose, despite the devaluation, when the quantitative restrictions were abolished. The pressure exerted on imports by the increase in the money supply and further strengthened by an inflow of foreign capital had to be offset by domestic deflationary measures, the stabilizing role of public finance being particularly noteworthy. In March 1953 there was a rise in the bank cash rate.

Chile's recent devaluation related to imports at the time, and its effect cannot yet be appreciated. It was accompanied by certain porhibitions on luxury goods—the import of which had not been arrested by the exceptional and high exchange rates previously established for them —and by a policy of credit control.

The depreciation of the sol in Peru, which grew more acute in the closing months of 1953, was largely due to the upward movement in imports. The initial devaluation (1948-49) appeared to give substantial incentives to exports, and also influenced imports with the aid of permanent restrictions, a stabilizing fiscal policy and selective credit control. These measures were not able, however, to prevent the recent and more disquieting imbalances, which, although they originate from deeper-lying economic factors, have undoubtedly been aided by the free exchange system.

Part II

THE MAIN BRANCHES OF PRODUCTION

Chapter I

AGRICULTURE

I. General considerations

From the beginning of the 1952/53 farm year, there were important developments in Latin-American agriculture, some of which reacted adversely upon individual economies. Among such factors were the price decline on the world market, a weakened demand for some commodities, the frosts in Brazil which destroyed a substantial proportion of the coffee crop, droughts in both northern and central Mexico and north-eastern Brazil, and the unusually prolonged rainy season in Ecuador's principal agricultural area.

Nevertheless, certain factors offset the unfavourable effects of these phenomena on over-all Latin-American figures, and in 1952/53 permitted a 9.2 per cent rise in the quantum of production in relation to 1951/52 and 35.5 per cent as compared with the pre-war period. (See table 115 and chart LVI.) Among these elements were the sharp upward movement of coffee prices and sustained demand for this commodity on world markets, Argentina's exceptional agricultural recovery, and increasing efforts by some Governments to accomplish their agricultural expansion programmes.

Table 115. Latin America: Indices of the quantum of agricultural output

(1947/48=100)

	1934/38[a]	*1948/49*	*1949/50*	*1950/51*	*1951/52*	*1952/53*
TOTAL AGRICULTURAL OUTPUT	*84*	*100*	*101*	*106*	*104*	*114*
Per capita agricultural output	107	98	97	98	95	101
Total foodstuffs	*77*	*99*	*99*	*105*	*101*	*113*
Per capita foodstuffs	98	97	94	98	92	101
Wheat	94	88	85	93	55	121
Maize	114	87	71	94	88	103
Rice	52	117	126	128	127	134
Other cereals[b]	72	85	67	103	66	169
Roots and tubers[c]	67	103	104	111	106	115
Dry pulses[d]	75	106	102	104	97	112
Edible oil-seeds[e]	71	116	116	118	118	109
Sugar	53	93	96	103	118	106
Cocoa	109	113	134	112	110	116
Fruit[f]	75	107	112	114	127	129
Vegetables[g]	30	109	118	118	124	135
Meat[h]	82	104	107	106	103	103
Wine	72	91	107	100	87	111
Total stimulants	*110*	*103*	*103*	*103*	*106*	*112*
Per capita stimulants	140	101	98	96	97	100
Coffee	120	105	105	102	107	113
Other stimulants[i]	67	96	95	109	101	107
Total industrial oil-seeds[j]	*150*	*68*	*80*	*75*	*59*	*75*
Per capita industrial oil-seeds	191	67	76	70	54	67
Total fibres	*93*	*116*	*129*	*124*	*146*	*134*
Per capita fibres	119	114	123	116	133	120
Cotton	103	130	147	139	173	150
Wool	82	95	98	101	99	103
Other fibres[k]	60	91	105	100	112	121

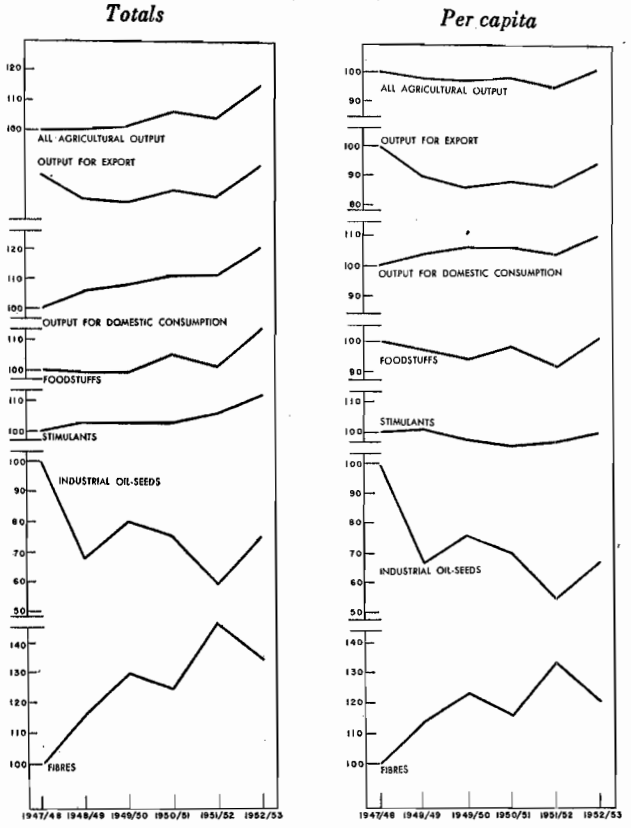
Sources: Official publications and organizations of the respective countries. For more comprehensive information, see the source for table 128 of the *Economic Survey of Latin America, 1951–52*. In calculating the index of agricultural output, the same methods and figures have been used as in the above-mentioned *Survey*, with the exception of the correction made to the preliminary figures for the agricultural year 1951/52 and of the inclusion of the following commodities: tomatoes, fresh and dried chile peppers, pineapples and abacá.

[a] Average.
[b] Oats, barley and rye.
[c] Potatoes, manioc and sweet potatoes.
[d] Beans, chickpeas, lima beans, lentils and peas.
[e] Cotton seed, sunflower seed, peanuts and sesame.
[f] Bananas and pineapple.
[g] Tomatoes, fresh and dried chile peppers.
[h] Beef, mutton and pork.
[i] Tobacco, mate and tea.
[j] Linseed, castor beans, tung, babasú and oiticica.
[k] Sisal, abacá.

Chart LVI

INDEX OF LATIN AMERICA'S AGRICULTURAL OUTPUT

Base 1947/48=100
(Natural scale)



Mexico, the Central American and Caribbean countries —with the exception of Cuba, Nicaragua and Honduras— and all South American countries—excluding Bolivia, Colombia and Ecuador—exceeded the level of the previous year. A number of difficulties were overcome, especially those of a climatic nature in some areas, and the adverse world market position in many cases.

Despite the achievement of high output levels, the situation is not so satisfactory if the rate of growth in population is considered. Indeed, although in 1952/53 the almost constant downward movement of *per capita* production was arrested, with a level 6.8 per cent above the preceding year and 1.3 per cent higher than 1947/48, the 1952/53 figure was still 5 per cent below pre-war *per capita* output levels.

The sharp world price drop—principally affecting cereals, cotton, sugar, hard fibres and oil-seeds—emphasized the negative influence of the mounting inflation in production costs. These latter cause a considerable rise in domestic prices, which placed commodities in unfavourable competitive conditions on the world market, since rates of exchange were maintained which did not reflect the true foreign purchasing power of individual currencies. Efforts were made to correct this situation, through devaluation adopted in varying degrees by a number of countries, but the price problem has shown little change.

As in former years, agricultural financing has not received the necessary impetus to achieve rapid development. Only in isolated cases was a real interest in investment for agricultural activities apparent. Some countries continued to make efforts to enlarge artificially irrigated zones, while elsewhere—especially Argentina—official attention was focused on mechanization. As regards private enterprise, the size of the investment to increase coffee production was outstanding, particularly in the "old" coffee area of Brazil, where the objective is to improve production techniques through the use of modern fertilizing methods, soil conservation, mechanical irrigation, etc.

However, government activities and private enterprise have not yet resulted in sufficient investment or adequate incentives for accelerating the rate of growth. Agricultural credit, despite its expansion in some cases, is insufficient to remedy the pronounced decapitalization in this sector, since it is largely directed towards the incoporation of new land areas, only an insignificant share reaching smallholders. Ceiling price policies established in some countries, together with inefficient marketing and transport systems, are considerable obstacles which have been overcome in only a few cases. The very substantial difference between the prices paid by the consumer and those obtained by the farmer discourage the latter and neutralize his efforts. Furthermore, low productivity must be added to the influence of inflation in raising costs.

The impact of these favourable and adverse factors has differed beteween commodities for export or for domestic consumption. The former have suffered from greater world supply, with a consequent price decline and decreased interest in them, resulting in a substantial curtailment of output. In some cases—linseed, castor oil, and other industrial oil-seeds—a downward movement had been apparent for several years, but in others—sugar, cotton, sisal and certain cereals—the decline is of recent origin and either influenced the last crop or will affect the next harvest.

In contrast, domestic demand for consumer goods and raw materials was not only maintained but in some cases exceeded the previous year. This was due both to rising per capita income and to strict import restrictions on these commodities. Crops grown for domestic consumption have increased over recent years owing to high domestic price incentives, production development policies aimed at self-sufficiency, or the establishment of guaranteed prices. Furthermore, in a number of countries, agricultural expansion programmes have been drawn up, in some cases as isolated projects and in others as an integral part of overall economic development plans, and these programmes tend to raise production levels.

This situation has caused a very pronounced change during recent years in the composition of Latin-American agricultural production, which now favours domestic consumption commodities. In addition, such consumption is absorbing a growing share of other items which were traditional export commodities. Figures corresponding to each production sector show this dissimilar growth. If export crops are considered alone, their output has shown slow progress, since it has for several years remained below pre-war levels. Only in 1952/53 was the quantum of output 6.4 per cent above 1937/38 and 7.9 per cent over the 1947/48 levels. *Per capita* output, however, was 25.3 and 3.7 per cent below these periods. In contrast, crops for domestic consumption expanded much more rapidly. The 1952/53 production level was 59.8 and 17.1 per cent above the pre-war and 1947/48 figures respectively. Similarly, *per capita* output rose by 11.9 and 4.5 per cent. (See table 116.)

Table 116. Latin America: Quantum of output of commodities intended principally for export compared with that of commodities destined almost exclusively for domestic consumption

Commodities	*1934/38*[a]	*1947/48*	*1948/49*	*1949/50*	*1950/51*	*1951/52*	*1952/53*
			I. Value (millions of dollars)[b]				
Total commodities intended principally for export	*3,194.7*	*3,150.7*	*2,984.7*	*2,951.9*	*3,093.5*	*3,070.1*	*3,399.3*
Wheat[c]	544.1	520.0	416.0	411.5	463.7	168.0	605.1
Maize[c]	380.2	228.8	151.8	36.8	117.5	89.8	156.2
Wool[d]	121.8	153.4	143.9	146.5	149.8	145.7	152.7
Linseed[d]	195.2	94.9	52.2	71.3	61.7	43.2	65.4
Coffee[e]	1,023.7	845.0	886.8	887.4	863.1	907.5	954.8
Sugar[f]	373.1	709.4	629.8	658.8	694.7	845.6	686.0
Cotton[g]	371.7	333.0	446.4	486.4	481.9	594.6	499.2
Bananas[h]	111.2	158.1	168.8	157.8	155.3	173.4	171.7
Henequen[i]	34.9	42.0	35.6	34.6	32.6	33.3	38.3
Sisal[j]	..	8.8	7.2	18.0	19.0	21.9	25.0
Castor beans[j]	24.1	33.3	29.0	26.5	25.5	22.8	24.7
Tobacco[k]	14.7	24.0	17.3	16.3	28.7	24.3	20.2
Total commodities destined for domestic consumption[l]	*3,824.1*	*5,220.0*	*5,411.1*	*5,534.4*	*5,741.6*	*5,636.6*	*6,112.0*
			II. Indices (1947/48 = 100)				
Total commodities for export	*101.4*	*100.0*	*94.7*	*93.7*	*98.2*	*97.4*	*107.9*
Total commodities for export, per capita	129.3	100.0	92.7	89.2	91.6	88.8	96.3
Total commodities for domestic consumption	*73.2*	*100.0*	*103.7*	*106.0*	*110.0*	*108.0*	*117.1*
Total commodities for domestic consumption, per capita	93.4	100.0	101.5	101.0	102.6	98.5	104.5

Source: Economic Commission for Latin America, based on official statistics of output weighted by prices in dollars at 1948 values on the world market.

[a] Average.
[b] At 1948 prices.
[c] Argentina.
[d] Argentina and Uruguay.
[e] Brazil, Colombia, Costa Rica, Dominican Republic, Ecuador, El Salvador, Guatemala, Haiti, Honduras, Mexico, Nicaragua, Venezuela.
[f] Cuba, Peru, Dominican Republic.
[g] Brazil, Mexico, Nicaragua, Peru.
[h] Colombia, Costa Rica, Ecuador, Guatemala, Honduras, Mexico, Panama.
[i] Mexico.
[j] Brazil.
[k] Cuba.
[l] Includes all those commodities, which, in the different countries, are cultivated principally for domestic consumption, although, should output exceed consumption, the resulting surplus is exported.

This basic modification, although it allows Latin America's agriculture to be less vulnerable to external fluctuations, hampers the possibilities for the indispensable rise in the capacity to import through greater exports.

This adverse influence will be offset to the extent to which some countries are successful in their efforts to become self-sufficient in those commodities (mainly wheat, rice, sugar, oil-seeds, meat and cotton) which must be imported at the cost of smaller purchases of capital goods and other essential articles. Some republics have attained their objectives and some have even obtained exportable surpluses, examples being sugar in Colombia; rice in Colombia, Ecuador, Peru and Uruguay; cotton in Mexico and Nicaragua, and sunflower seed in Uruguay. In other cases such favourable results have not been attained, either due to technical difficulties, lack of capital or to a faster rate of demographic growth than of production.

Laetin America's agricultural prospects for 1953/54 are not propitious, because smaller crops are anticipated in many sectors. Despite having sown the same aggregate area, and for many crops even more hectares than in 1952/53, Argentina will not obtain such good harvests because adverse weather has damaged several crops. Brazilian cotton output will again move downward and sugar will be restricted—particularly in Cuba—in accordance with the International Sugar Agreement. The most substantial decline, however, will affect coffee production. In Costa Rica, El Salvador, Honduras and Mexico the reduction is estimated at 11 per cent in comparison with the previous year and is due to an unfavourable rainy season. The frost, which destroyed Brazilian coffee bushes in the states of Paraná and São Paulo, will cause a decline of some 30 per cent, according to preliminary crop estimates for 1953/54, and somewhat less for subsequent years.

This is of great significance to the economy of coffee-producing countries, and there may be numerous consequences. A strong upswing in world prices has already occurred, against which consumers have reacted by reducing consumption and intervening in prices. These high prices will foster more intensive and advanced methods of cultivation in the region, but will similarly serve as an incentive for increasing plantations in countries producing "strong" types of coffee, which, because of low prices, can compete on good terms with Latin-American coffee.

II. Agricultural crops

1. *Wheat*

Wheat is undoubtedly one of the crops to which most attention has been paid by Latin-American governments. The volume of consumption has obliged countries with inadequate production to attempt to increase crops to a maximum, since the imports necessary to cover supply shortages usually absorb an important share of their foreign exchange.

In 1952/53 as a result of these efforts and of Argentina's excellent harvest, wheat production in Latin America reached a record level of more than 11.1 million tons, as against 9.2 millions in 1947/48 and an average of 8.6 millions in the pre-war period. (See table 117 and chart LVII.)

In reviewing the changes in the production of this cereal, it is necessary to deal with Argentina separately, this country alone having produced 68 per cent of the tonnage harvested in the region during 1952/53. It is also the only substantial Latin-American exporter.[1] All other countries, with the exception of Uruguay, produce insufficient quantities and must import supplies.

In 1952/53, Argentina's wheat crop was assisted by excellent weather which enabled exceptionally good yields of as much as 1,380 kilogrammes per hectare to be obtained from a high percentage of the land sown. This crop was among the five largest in the last twenty-five years, totalling 7.56 million tons or 11 per cent above the pre-war average. Active technical co-operation, credit facilities for farmers, the establishment of production targets and guaranteed minimum prices 28 per cent higher than those of the previous season (50 pesos per quintal instead of 39) all made it possible to counter the depressive effect of the drought of 1952. The area sown was 29 per cent above the 1951/52 level but was still below official targets.

[1] Uruguay also usually produces exportable wheat surpluses, but on many occasions it has had to import large supplies to be able to cover the shortages caused by bad harvests. Chile has also exported small surpluses in some years.

Mexico, Chile and Brazil may be mentioned among the countries with insufficient production but where substantial progress was visible in the 1952/53 season. Mexican output has increased steadily during recent years, except in 1951/52 following a drought. The government programme to discover varieties adaptable to Mexico's soil and climate

Chart LVII

LATIN AMERICA: WHEAT OUTPUT

(Semi-logarithmic scale)

Thousands of tons

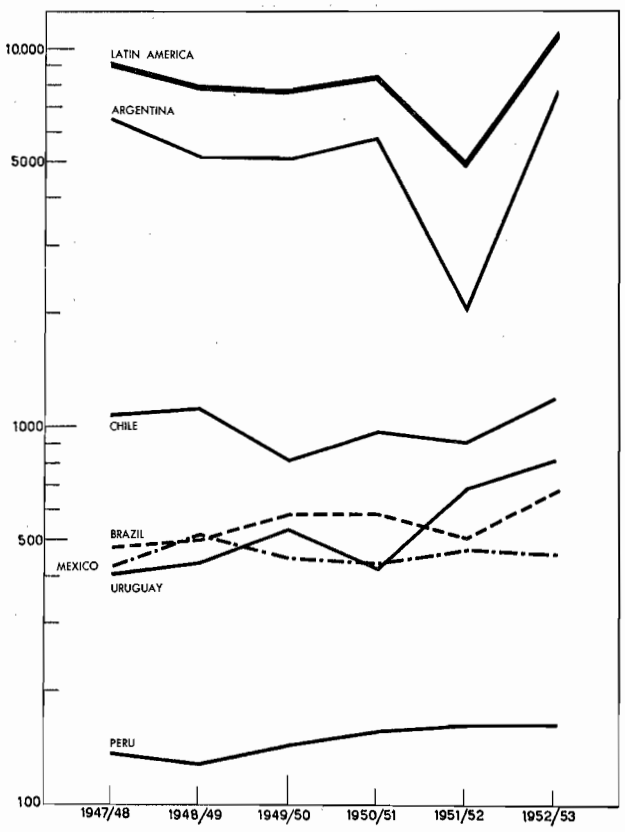


Table 117. Latin America: Wheat output, by countries

(Thousands of tons)

Countries	*1934/38*[a]	*1947/48*	*1948/49*	*1949/50*	*1950/51*	*1951/52*	*1952/53*
Total Latin America (including Argentina)	*8,615*	*9,170*	*8,087*	*7,824*	*8,556*	*5,039*	*11,083*
Argentina	6,802	6,500	5,200	5,144	5,796	2,100	7,564
Total Latin America (excluding Argentina)	*1,814*	*2,270*	*2,887*	*2,680*	*2,760*	*2,939*	*3,519*
Brazil	149	405	438	532	424	690	822
Chile	779	1,071	1,114	821	975	916	1,200
Colombia	91	118	128	102	130	140	145
Ecuador	19	24	33	20	26	12	12
Guatemala	9	8	14	16	20	26	28
Mexico	314	477	503	587	590	512	680
Peru	76	137	129	144	157	162	164
Uruguay	370	424	518	452	435	478	462
Venezuela	7[b]	5	10	5	5	4	6

Source: Official statistics of the respective countries.

[a] Average.

[b] 1937.

conditions and to irrigate new land made an important contribution to the development of wheat production in recent years. The 1952/53 harvest was 15 per cent greater than 1950/51, which was the last normal crop. In comparison with the pre-war period, output has increased 116 per cent and totals 680 thousand tons. In spite of these important developments, Mexico has still been unable to meet domestic requirements. In 1952, 443 thousand tons were imported, followed by 280 thousand tons in 1953.

Brazil is undoubtedly the country where the greatest efforts have been made to replace imported wheat by domestic supplies. Although the climate is not ideal for this crop, it was possible to create and adapt new varieties to the soils and climates of the states of Rio Grande do Sul, Santa Catarina and, more recently, Paraná. Satisfactory yields have been obtained in several areas. An adequate development policy has fostered the rapid increase of this crop in a relatively short time. In 1952/53, production was four and a half times greater than in the pre-war period and twice as high as in 1947/48. There was a 19 per cent increase over the 1951/52 crop and the total production was 822 thousand tons.

Nevertheless, in absolute terms Brazil has been unable to decrease wheat imports. They have risen year by year, with the exception of 1953: in 1951, 1.4 million tons of wheat and flour;[2] in 1952, 1.8 millions; and in 1953, 1.7 millions. However, production, which met only 36 per cent of the demand in 1951, now supplies 41 per cent.

Wheat is the most important crop in Chile, both in area sown and in value. Production, however, can satisfy the normal requirements of the growing domestic consumption[3] only in abnormal years, when small tonnages have been exported. During the 1952/53 season, because of the establishment of a good price (830 pesos per quintal against 700 during the previous season), and a 50 per cent subsidy on the price of fertilizers, it was possible to sow 839 thousand hectares. This area plus the exceptionally high yields (1.430 kgs per hectare) produce the biggest harvest in the history of Chile. Although it amounted to 1.2 million tons, it was not sufficient to supply domestic demand, and it was necessary to import 200 thousand tons.[4]

In 1952/53 the area sown in Uruguay was 12 per cent smaller than the previous year. But, due to good yields, 462 thousands tons were harvested, that is, the crop was only 3 per cent below 1951/52. Discounting 380 thousand tons for consumption and adding 70 thousand tons carried over as a surplus from the previous harvest. Uruguay showed an exportable surplus of around 150 thousand tons.

Although Colombia's output is not large, the efforts made in this country to increase the wheat crop should be emphasized, in spite of unfavourable climatic conditions and of other difficulties which must be overcome. Among these are cryptogamic diseases and an unduly short season which does not permit normal wheat development. It has been necessary to establish high guaranteed minimum prices in order to cover production costs and research on adequate seed varieties.

These subsidized prices raised the average value of domestic wheat to three times that of imported wheat. Thus, while in 1950 the price of the former was 610 pesos per ton, that of the latter was only 200. In 1952 this ratio was 580 to 318 pesos.

In spite of these measures to stimulate domestic wheat output, production has not progressed significantly, since it rose by only 23 per cent between 1947/48 and 1952/53, reaching 145 thousand tons in the latter year.

In the remaining countries, production has remained relatively stable, in spite of efforts to obtain higher yields.

Only Bolivian wheat production appears to have dropped considerably. Judging by flour mill purchases in 1952/53, production amounted to only 22 per cent of the 1947/48 level and 75 per cent of the 1951/52 figure. The underlying reasons for this situation may be the price policy, which favoured the sowing of other grain, especially maize, and some domestic difficulties limiting the area sown around Cochabamba, the principal producing zone.

In 1953/54, wheat production will probably be lower than in 1952/53. Preliminary estimates are available only for some few countries. Argentina, in spite of the greater area sown, will apparently harvest a smaller crop, owing to droughts in certain areas. In Chile, an excessively rainy winter caused wheat sowing to be reduced by approximately 30 thousand hectares. Uruguay expects a very substantial crop since the area sown was 26 per cent larger than in 1952/53. The shifting of cultivation to more appropriate areas, an adequate price policy, the high standard of mechanization and the increasing use of better seeds have all contributed to the larger tonnage harvested in Uruguay. Mexican forecasts also indicate at least a 6 per cent increase, mainly due to credit facilities granted by the official banks.

On the basis of Argentina's shipments in mid-December 1953 and those from Uruguay during the first half-year, exports exceeded 1952 levels by about 300 per cent, virtually equalling the 1951 figures. In 1953, substantial crops enabled Argentina to recover a prominent place among the principal competitors on the world market, since in 1952, foreign sales had contracted by 71 per cent in relation to 1951. In 1953, Argentine wheat exports reached a level of 2.5 million tons, slightly higher than the 1947/51 average. These sales accounted for 32 per cent of production, while domestic consumption absorbed about 3.8 million tons. Unfulfilled export commitments stood at 550 thousand tons, so that a surplus of about a million tons remained unsold. The government is planning to use these excess stocks to form a special reserve. Uruguay was able to maintain a high export level. One hundred and ten thousand tons were sold to Brazil and no problems in placing the exportable surplus of 52 thousand tons are anticipated.

The International Wheat Agreement signed in 1953, to which Argentina did not subscribe, prevented prices from falling to exceptionally low levels and caused this country to place its stocks on the "free market", that is, outside the agreement.

2. *Maize*

When studying Latin-American maize output, it is advisable to deal with Argentina individually, since this country accounts for a large part of the total whilst a large proportion of its output is devoted to exports. Between

[2] Estimated in terms of wheat.

[3] Between 1931-35 and 1952 apparent per capita consumption rose from 169 to 192 kilogrammes.

[4] Of these imports, 100 thousand tons were set aside to form a "liaison reserve" for 1953/54 production.

the pre-war period and 1949/50, maize production in the countries where it mainly supplies domestic consumption grew rapidly, subsequently remaining practically stationary at that year's level. Since 1950 there have been only insignificant fluctuations. In 1952/53, production in these countries stood at 13.6 million tons, or a little more than the previous year, and 20 per cent higher than pre-war levels. (See table 118 and chart LVIII.)

The countries with the largest relative increases are Costa Rica and Guatemala. The former's crop rose from 14 thousand tons in the pre-war period to 98 thousand tons in the 1952/53 season. Production in Guatemala increased from 218 thousand tons to 575 thousand between the same periods and it was possible to export some tonnages to Mexico and El Salvador during the last two months of 1953. This sharp production rise is attributed to additional sowings by many farmers obliged to cultivate their land in order to escape the effects of the land tenure programme, and also to the favourable effect of this reform on the output of farm workers.

Chilean production remained more or less stationary between 1947/48 and 1951/52, but during the last farm year, production increased 30 per cent to 90.4 thousand tons. This was due to a substantial rise in the price ratio with wheat and sunflower seed, which favoured greater maize sowings. The latter crop substantially displaced sunflower, and to some extent wheat sowings, in the central zone. The excellent yields were partly due to the use of hybrid seed distributed by the Ministry of Agriculture, which raised the average yield 30 per cent above that of common varieties. About 10 per cent of the aggregate sown area was planted with hybrid seeds.

In Uruguay, where the 1951/52 crop was small owing to reduced sowings and severe drought, there was a considerable increase in the sown area and excellent yields in the following year. This harvest of 218 thousand tons was one of the largest ever recorded, representing an increase of 86 per cent over 1952 production.

Mexico showed no significant increases in the 1952/53 harvest. The Comisión Nacional del Maíz and the joint activities of the Rockefeller Foundation and the Secretaría de Agricultura have enabled 12 per cent of the sown area to be planted with improved seeds. In addition to official credits, private banks were authorized to participate in

Chart LVIII

LATIN AMERICA: MAIZE OUTPUT

(Semi-logarithmic scale)

Thousands of tons

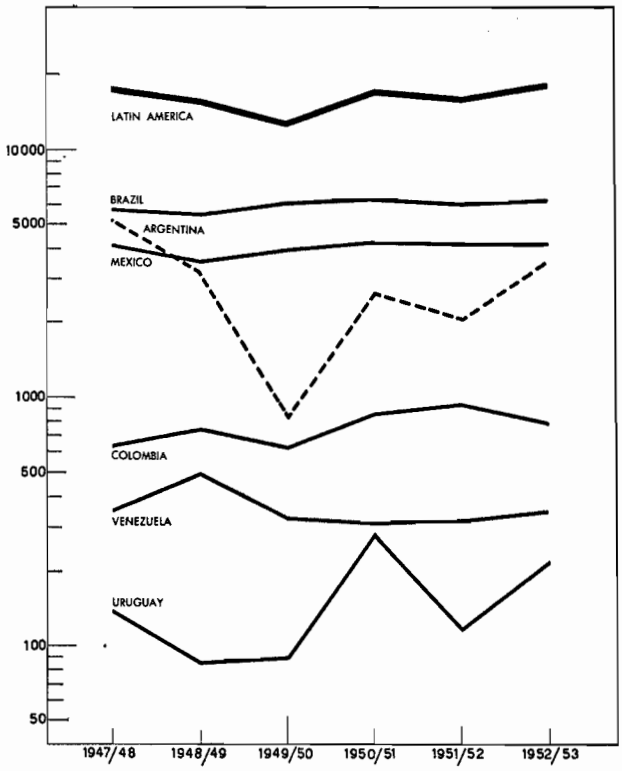


Table 118. Latin America: Maize output, by countries

(Thousands of tons)

Countries	*1934/38*[a]	*1947/48*	*1948/49*	*1949/50*	*1950/51*	*1951/52*	*1952/53*
Total Latin America (including Argentina)	*19,894*	*17,463*	*15,208*	*12,479*	*16,380*	*15,345*	*17,110*
Argentina	8,640	5,200	3,450	836	2,670	2,040	3,550
Total Latin America (excluding Argentina)	*11,254*	*12,263*	*11,758*	*11,643*	*13,710*	*13,305*	*13,560*
Brazil	5,776	5,608	5,449	6,024	6,218	5,907	6,110
Central America[b]	536	587	898	842	1,074	1,066	1,114
Chile	69	74	65	61	71	70	90
Colombia	491	635	738	620	845	928	770
Cuba	185	223	252	278	165	180	210
Dominican Republic	136	77	79	69	83	98	95
Ecuador	56	68	88	70	75	78	75
Mexico	2,989	4,137	3,512	3,831	4,133	4,034	4,034
Panama	25	40	47	55	63	68	72
Paraguay	61	84	110	105	95	126	107
Peru	452	244	252	276	299	321	322
Uruguay	116	137	85	89	279	117	218
Venezuela	361	350	483	323	310	313	343

Source: Official statistics of the respective countries.

[a] Average.

[b] Costa Rica, El Salvador, Guatemala, Honduras and Nicaragua.

financing this crop and the Compañía Exportadora e Importadora de México S.A. paid guaranteed minimum prices on behalf of the Government. These prices, which were profitable for farmers of common lands and for small producers who received official credits, were low for entrepreneurs in some new farming areas.

Brazilian production remained stationary and the 1952/53 crop was only 3 per cent higher than in the previous year and only 5 per cent above pre-war levels. It is expected that the sharp rise in maize prices will act as an incentive for this crop and that Brazilian exports, prohibited since April 1952, will be resumed.

Argentina is the only Latin-American country which normally exports substantial maize tonnages. The causes of the production drop, from 8.6 million tons before the war to only 2 millions during 1951/52, have already been reviewed in a former survey.[5] In 1952/53, however, the so-called "Maize Battle" sponsored by the Government, and the establishment of prices 12.5 per cent above 1951/52 levels, caused a 32 per cent increase in the area sown. The crop, in spite of a 74 per cent rise in tonnage, was not as large as expected, owing in part to relatively unfavourable climatic conditions and, particularly, to the fact that many farmers did not harvest their crops, considering that low yields and high production costs made it more profitable to use them for grazing.

Latin-American maize exports increased 17 per cent over the 1952 level, and those of Argentina rose to 1,040 thousand tons. This volume, although three times as great as sales abroad in 1951, did not equal the average for 1947/51.

3. *Rice*

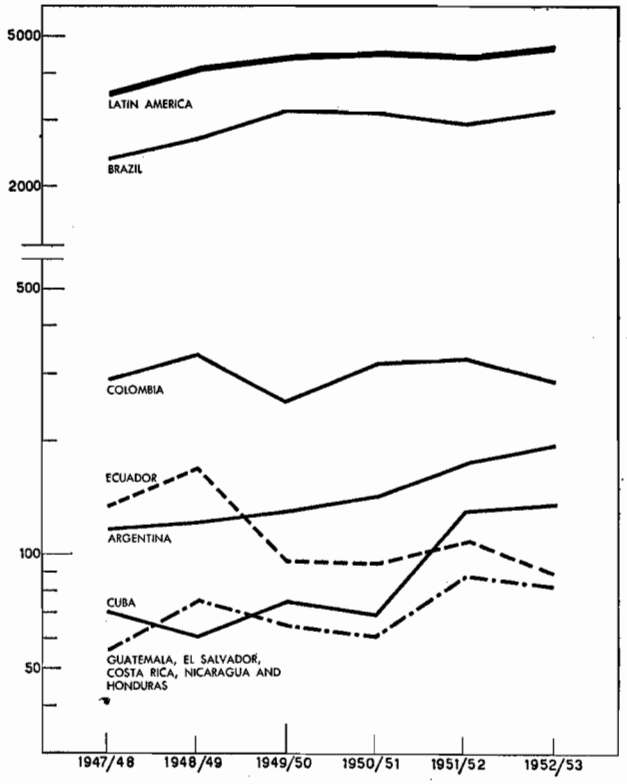
The rapid expansion of this crop in Latin America since the last war, stimulated by shortages and high prices, appears to have reached a relatively stable mark during the last three years. Rice crops do not show very wide fluctuations and in 1952/53 were only 5 per cent above 1951/52 levels.[6] Rice importing countries made efforts to increase the harvest, aiming at self-sufficiency. (See table 119 and chart LIX.) Many succeeded without progressing further at later dates because plantation costs are high and do not allow Latin-American producers to compete on the world

Chart LIX

LATIN AMERICA: RICE OUTPUT

(Semi-logarithmic scale)

Thousands of tons



[5] See ECLA, *Economic Survey of Latin America, 1951-52*, part III, chapter I (*b*) (ii) *Maize*, p. 154.

[6] Compared with pre-war levels, this output is 158 per cent higher; in relation to 1947/48 it is 35 per cent higher.

Table 119. Latin America: Rice output, by countries

(Thousands of tons)

Countries	*1934/38*[a]	*1947/48*	*1948/49*	*1949/50*	*1950/51*	*1951/52*	*1952/53*
Total Latin America	*1,843*	*3,538*	*4,136*	*4,442*	*4,519*	*4,489*	*4,737*
Argentina	38	116	121	130	141	174	194
Brazil	1,232	2,354	2,702	3,218	3,182	2,931	3,161
Central America[b]	50	57	75	65	61	87	83
Chile	9	89	83	84	40	80	93
Colombia	96	290	333	251	318	326	286
Cuba	20	70	61	75	69	130	135
Dominican Republic	35	49	62	59	60	60	62
Ecuador	66	135	170	96	95	108	88
Mexico	76	163	185	187	180	151	190
Panama	45	51	63	67	71	72	77
Paraguay	8	9	14	18	20	16	16
Peru	136	207	162	113	207	265	250
Uruguay	19	37	45	40	37	47	52
Venezuela	14	10	42	39	39	43	49

Source: Official statistics of the respective countries.

[a] Average.

[b] El Salvador, Guatemala, Honduras and Nicaragua.

market, except in isolated cases such as Brazil and Ecuador. Chile, Argentina, Colombia, Peru and Uruguay, however, have all exported surpluses in some years.

Among the different crops, rice, owing to its special characteristics, has probably received greater capital and technical help, mainly for irrigation. Cuba is the outstanding example of efforts to expand production and to curtail rice imports, which are among the most important Cuban purchases abroad. The principal objectives were to increase production and reduce high costs resulting from the small yield, low productivity and high labour costs. In 1952/53, Cuban production increased 575 per cent over the pre-war period and 93 per cent over 1947/48. This represents considerable progress, but does not imply that all problems for the elimination of imports have been solved.

Chile's rice production rose exceptionally a few years after the crop was introduced. It was possible not only to meet consumer requirements but also to export. Since 1945, however, a downward trend has been apparent, owing primarily to low unit yields per land area after the first rice harvests and to lower prices for farmers. Despite these factors, the 1952/53 harvest was 16 per cent higher than that of the previous year.

In 1951/52, ample credit facilities were granted in Argentina; they led to a 14 per cent increase in the area sown and a 12 per cent increase in the crop, as compared with the previous year.

Brazil partially recovered from the decline suffered by the rice crops of 1951/52. A wider area was sown than in any other year, but owing to unfavourable weather in certain areas, the yields were not proportionally higher. In several parts of the country, production was so inadequate that it caused a sharp rise in prices.[7] During the first ten months of 1953 exports were almost non-existent.

[7] In the state of São Paulo, rice production increased by 84 per cent in one year. Prices rose from 161 cruzeiros per sack of 60 kgs to 296 cruzeiros between January 1952 and January 1953.

Ecuador, which is normally one of the region's main rice exporters, anticipated a record crop. However, owing to unusual length of the rainy season, with an unprecedented rainfall, most of the crop was lost or became unfit for export.

In Venezuela, in consequence of the efficient credit assistance granted to farmers by the Corporación Venezolana de Fomento and of guaranteed prices established by the Banco Agrícola y Pecuario, rice output in 1952/53 was 15 per cent above the 1951/52 level and 393 per cent over 1947/48. This was the biggest crop ever obtained in Venezuela and most of it was grown on unirrigated land.

4. *Coffee*

While in Brazil private enterprise, stimulated by excellent world prices and with strong government encouragement, was attempting to recover high pre-war production levels, the remaining Latin-American producers were gradually obtaining a small share in the market formerly held by Brazilian coffee. In 1952/53, the progress of these other countries was much greater than that of the principal world producer, whose crops were in fact being reduced. Brazil's regional competitors increased their harvests almost 14 per cent in comparison with the previous crop, obtaining a total of 870 thousand tons, or 44 per cent of the aggregate production for Latin America.[8] (See table 120 and chart LX.)

The producers contributing most to this increase were: Costa Rica (65 per cent over 1951/52); Honduras (56 per cent); El Salvador (29 per cent); Venezuela (25 per cent); Colombia (17 per cent), and Guatemala (16 per cent). The exact causes for the greater crops are not yet apparent but are probably the harvesting of a greater number of bushes and favourable weather conditions in almost all these countries.

[8] During the pre-war period, the other producers supplied only 31 per cent of all Latin-American production.

Table 120. Latin America: Coffee output, by countries

(Thousands of tons)

Countries	*1934/38*[a]	*1947/48*	*1948/49*	*1949/50*	*1950/51*	*1951/52*	*1952/53*
Total Latin America (including Brazil)	*2,122*	*1,766*	*1,847*	*1,860*	*1,803*	*1,890*	*1,988*
Brazil	1,461	1,038	1,068	1,071	1,080	1,125	1,118
Total Latin America (excluding Brazil)	*661*	*728*	*779*	*789*	*723*	*765*	*870*
Colombia	262	347	369	338	302	340	384
Costa Rica	23	28	18	19	24	20	33
Cuba	32	33	28	40	33	29	30
Dominican Republic	21	21	22	28	25	31	30
Ecuador	14	20	11	21	17	20	24
El Salvador	64	79	92	89	86	77	99
Guatemala	69	48	63	71	70	68	79
Haiti	28	23	28	26	25	31	32
Honduras	11	13	18	16	9	10	15
Mexico	56	53	59	66	68	71	64
Nicaragua	16	10	15	16	21	16	16
Panama	1	4	4	3	3	3	4
Venezuela	65	47	47	51	34	43	54

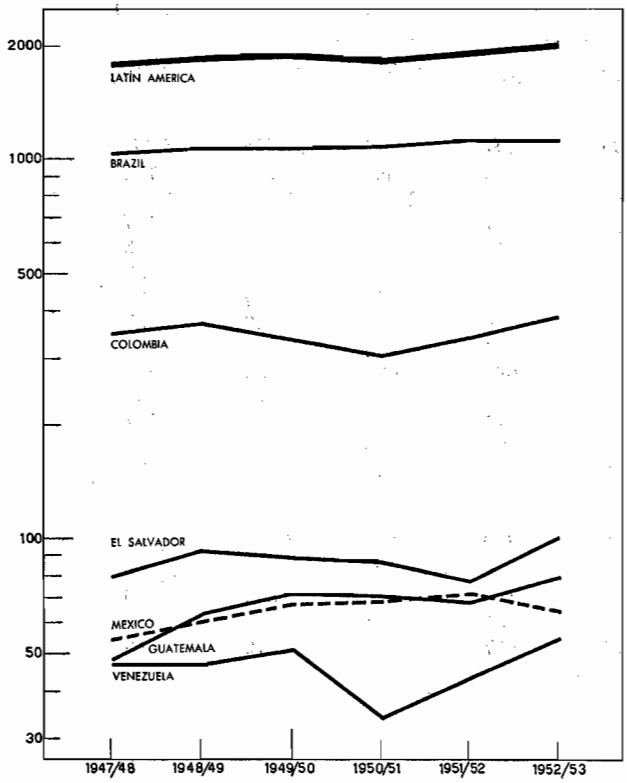
Source: Official statistics of the respective countries.
[a] Average.

Chart LX

LATIN AMERICA: COFFEE OUTPUT

(Semi-logarithmic scale)

Thousands of tons



Brazilian production was affected by unfavourable factors, which will be analysed at a later stage, and although the harvested area in 1952/53 was 2 per cent greater than in 1951/52, output amounted to only 1.12 million tons, that is, 7.6 thousand tons below the previous harvest. In Mexico, the coffee crop was 9.8 per cent below the previous year owing to an exceptionally rainy season.

Statistical data at present available do not indicate the new areas incorporated in the 1952/53 crop, nor the age distribution of the coffee bushes, so that it is impossible to forecast future Latin-American production increases. Producer countries, stimulated by the excellent prices prevailing on the world market, are generally expanding cultivation.

Mexico's National Coffee Commission, following a five-year development plan, has distributed seedlings in the state of Veracruz. In addition, regional coffee associations have been formed with the main object of granting long-term credit to coffee planters and improving techniques. The President of the Federación Nacional de Cafeteros de Colombia, after visiting the principal coffee zones of Veracruz, affirmed that "Mexico, within the next twenty years, can easily double or triple the million sacks it at present produces".[9] Costa Rica and Nicaragua are also developing new plantations. In contrast, El Salvador is intensively renewing old plantations instead of developing new areas.

The Federación Cafetalera Centroamérica-México (FEDECAME) has approached the central banks of its member countries to organize an International Coffee Bank, with a capital of 70 million dollars to help finance the crops and to co-operate with governments and national associations in solving the economic problems of this industry.

In South America, Venezuela is giving special attention to raising production, providing ample credit facilities for the improvement and expansion of coffee plantations. In Colombia, the Government road construction plan has increased the availability of land suitable for coffee cultivation, while the Federacion Nacional de Cafeteros de Colombia aids the establishment of new plantations and the improvement of existing ones. In Ecuador, the Instituto Ecuatoriano del Café estimates that between 1949 and 1951 about 2,100 hectares had been brought under cultivation, that is, more than 3 per cent of the former total area. The Bolivian Ministry of Agriculture is carrying on a campaign to develop production and has distributed some thousands of selected plants free of charge. In Paraguay, Brazilian interests purchased 230 thousand hectares of land to establish large-scale plantations immediately; the crop could be exported over Brazilian railways. More than 200 thousand coffee bushes have already been planted.

It has been estimated that the increase in the Brazilian crop would cause world over-production towards 1953/54, but the frosts of July 1953 have altered this situation.

If to this event are added the increased costs of planting, harvesting and transport in all coffee exporting countries, growing world demand and the anticipated smaller crops in Costa Rica, El Salvador, Honduras and Mexico, the principal causes of the substantial rise in world market prices are apparent. Preliminary estimates of Central American output in 1953/54 indicate an 11 per cent decrease as a consequence of the unfavourable rainy season.

The rise in prices, although justified on a free market, has led to energetic consumer reaction, particularly in the United States where official investigations have opened to determine the causes of these increases and to endeavour to arrest them. A fall in prices below the 1953 average, however small, would undoubtedly result in a sharp decrease in production, since the incentives which had led to greater crops and improved production methods would be lost. Coffee cultivation requires a considerable labour force and wages in many cases account for 75 per cent of the costs. The growing shortage of farm workers and the rise in wages—which even today are relatively low—would make it difficult to produce at lower prices, particularly in the marginal areas or those where manpower costs are high. This is the basic problem for countries where coffee exports constitute the main source of financing economic development.

Nevertheless, new price increases, or the maintenance of the level reached at the close of 1953 and beginning of 1954, would result in a greater consumption of other stimulants and "strong" grades of coffee—especially those from Africa with lower prices—and consumers might become accustomed teo such grades to the detriment of higher quality coffees.

5. *Sugar*

Sugar importing countries have given unusual attention to production and their success in achieving a measure of self-sufficiency is worthy of mention. (See table 121 and chart LXI.)

[9] *Monthly Bulletin of Agricultural Statistics*, Food and Agriculture Organization of the United Nations, Rome, July 1953.

Table 121. Latin America: Sugar output, by countries

(Thousands of tons)

Countries	1934/38[a]	1947/48	1948/49	1949/50	1950/51	1951/52	1952/53
TOTAL LATIN AMERICA	5,040	9,835	9,099	9,439	10,102	11,675	10,466
Total 13 countries producing principally for domestic consumption	1,348	2,859	2,906	2,947	3,256	3,353	3,705
Argentina	371	565	549	613	651	560	710
Brazil	573	1,357	1,415	1,268	1,485	1,592	1,752
Colombia	31	109	139	147	183	152	187
Costa Rica	28	21	24	17	21	24	25
Ecuador	17	45	48	52	51	53	53
El Salvador	13	26	24	25	28	29	26
Guatemala	14	26	31	34	24	30	37
Honduras	2	2	2	3	5	6	6
Mexico	266	645	590	683	691	765	775
Nicaragua	8	14	19	20	27	31	30
Panama	4	10	11	13	15	18	17
Paraguay	6	12	16	22	30	28	13
Venezuela	15	27	41	50	45	65	74
Total 4 countries producing principally for export	3,691	6,975	6,193	6,490	6,845	8,322	6,760
Cuba	2,838	6,055	5,228	5,558	5,759	7,225	5,500
Dominican Republic	440	428	477	474	588	595	680
Haiti	33	20	18	31	34	32	35
Peru	380	472	470	427	464	470	545

Source: Official statistics of the respective countries.

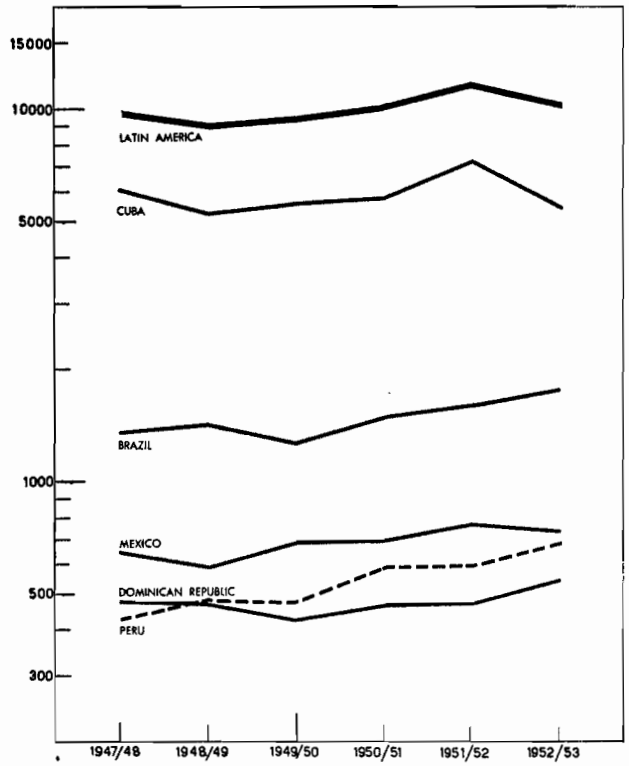
[a] Average.

Chart LXI

LATIN AMERICA: SUGAR OUTPUT

(Semi-logarithmic scale)

Thousands of tons



Colombia, Ecuador, Mexico, Paraguay and some Central American Republics have not only been able to meet their entire requirements, but have even become exporters. The other countries have made substantial progress and the only large importers remaining are Chile, Uruguay and Bolivia. However, in 1954, Chile will produce 10 thousand tons of beet sugar. Uruguay has stabilized the rising production of 1952/53 at more than 6 thousand hectares of sugar beet and 3 thousand of cane sugar, while Bolivia has begun to instal a new mill which, together with the two smaller plants already in operation could supply a great part of domestic consumption.

Countries which produce sugar for their own requirements have shown a steady increase, their production in 1953 (3.7 million tons) being 10 per cent higher than the previous year and 175 per cent higher than pre-war levels. Among those with a major increment in relation to this period are Brazil, Colombia, Mexico, Nicaragua, Panama, Paraguay and Venezuela, and they have all doubled their pre-war production.

The principal exporters (Cuba, the Dominican Republic, Haiti and Peru) show far smaller rises in comparison with the pre-war period and in the case of Cuba and Haiti production fluctuated widely. After a number of fluctuations in the post-war period, Cuba harvested the record crop in its history in 1951/52; it amounted to 7.2 million tons. To prevent the accumulation of stocks and saturation of the market, Cuba reduced production to 5.5 million tons in 1952/53; this figure is still 84 per cent above the pre-war period. Owing to the reserve surpluses, 1953 exports were probably 10 per cent higher than in 1952, exceeding 6 million tons of raw and refined sugar and mo-

lasses. Peru had a peak crop and exports were certainly above 350 thousand tons, or a 13 per cent increase over 1952. Brazil, where surpluses had accumulated from the 1951/52 crop, was able to place almost the entire tonnage and to increase shipments fourfold in comparison with 1952. The Government authorized exports of 180 thousand tons, but it is not known whether this quantity was sold. Exact data are not yet available on sugar exports from the Dominican Republic, Haiti, Mexico and the Central American countries, but judging by production increases, they also must have been greater than in 1952.

The International Sugar Agreement, signed at London in July 1953, should become operative when it has been ratified by exporting countries representing 75 per cent of the votes of the projected Sugar Council and by 60 per cent of importing countries' votes. To stabilize prices and to regulate world distribution of this product, a price scale has been established, which ranges from 3.25 to 4.35 U.S. cents per pound of raw sugar and an adjustable annual world export quota amounting to 5,390 thousand tons.[10] The Convention will be valid for five years, but its members may withdraw or request a revised agreement by the third year. Export quotas for the region are as follows:

Country	*Thousands of tons*
Brazil	175
Colombia	5
Cuba	2,250[11]
Dominican Republic	600
Haiti	45
Mexico	75
Peru	280
TOTAL Latin-American countries	3,430
TOTAL other countries	1,960
GRAND TOTAL	5,390

[10] Although it was agreed to reduce the previous quota by 15 per cent in December 1953, it is probable that the reduction will not be effective because preliminary crop estimates of the Eastern European countries were found to be exaggerated. They indicated an exportable surplus of 1 million tons from this area, when, on the contrary, some of the countries were buying moderate tonnages of sugar on the world market.

[11] The Cuban quota does not include shipments to the United Kingdom and Western Germany made under existing contracts during the next two years.

The Agreement provides for an increase of export quotas, according to a system of priorities, if world sugar prices rise above 4.75 U.S. cents per pound. The Sugar Council is authorized to raise quotas without increasing the ceiling price, when it deems that price trends justify this measure. The allocation of additional quotas is governed by the following priorities: the first 50 thousand tons will be assigned to Cuba. The next 15 thousand to Poland; then 5 thousand to Haiti during the first and second years, increasing to 10 thousand tons in the third year; the following 25 thousand tons to Czechoslovakia and another 10 thousand to Hungary.

Cuba is obliged by the terms of the Agreement to reduce production to some 5 million tons, but this sacrifice ensures price stability and equal treatment by the United Kingdom to that given to other signatories of the Agreement, excluding those of the British Commonwealth. In this way, Cuba will be able to compete with other Latin-American countries, such as the Dominican Republic, which export the bulk of their output to the British market.

6. *Cotton*

In 1952/53 Latin America's cotton crop was one of the first activities to be affected by the price drop on the world market which began in 1951. It was due to prospects of abundant world crops, the sharp fall in textile prices, the possibilities of a Korean peace and later to the accumulation of exportable surpluses in almost all exporting countries.

Production in 1952/53 was 924 thousand tons, or, 143 thousand tons less than in the previous year, but it was nevertheless almost 50 per cent higher than in 1947/48. (See table 122 and chart LXII.)

Latin-American exporting countries found difficulty in placing their stocks, since inflation caused domestic prices to be higher than those on the world market. Some governments were forced to purchase large quantities of cotton to protect farmers, and either kept them in reserve waiting for better prices or sold them at a substantial loss. All exporting nations decreased output to some extent, especially Brazil and Nicaragua. In the case of Brazil the cultivated area was 17 per cent lower, while adverse

Table 122. Latin America: Cotton output, by countries

(Thousands of tons)

Countries	*1934/38*[a]	*1947/48*	*1948/49*	*1949/50*	*1950/51*	*1951/52*	*1952/53*
Total Latin America	*636*	*618*	*803*	*809*	*858*	*1,067*	*924*
Argentina	52	91	100	140	100	128	126
Brazil	405	320	396	393	349	516	388
Colombia	6	6	7	9	7	11	17
Ecuador	2	2	3	3	1	2	3
El Salvador	1	5	5	7	6	10	10
Haiti	6	3	2	1	1	1	1
Mexico	69	120	208	260	288	265	258
Nicaragua	1	—[b]	—[c]	5	5	17	12
Paraguay	9	8	12	15	16	17	12
Peru	84	61	67	74	83	97	92
Venezuela	2	2	3	3	3	5[d]	5

Source: Official statistics of the respective countries.

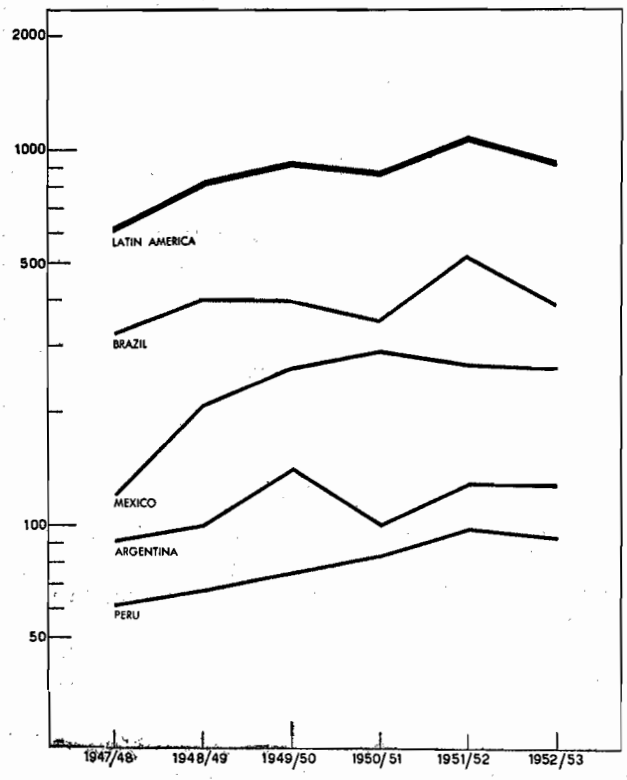
[a] Average.

[b] 0.1.

[c] 0.4.

[d] Rounded figure; production was 4,700 tons.

Chart LXII
LATIN AMERICA: COTTON OUTPUT
(Semi-logarithmic scale)
Thousands of tons



weather and less use of fertilizers and insecticides resulted in a crop of 388.1 thousand tons. This represented a decline of 25 per cent on the level for the previous year. Nicaragua's production was only 12.3 thousand tons, that is, 29 per cent lower than the previous year. Mexico, which in a few years was transformed from an importer to an exporter, witnessed a 3 per cent production decrease due to droughts. Argentina's crop was practically the same as in the previous year, in spite of a 4 per cent decrease in the sown area. In contrast, although Peru increased the area devoted to cotton considerably, its crop was 5 per cent below 1952, amounting to only 92 thousand tons.

The only countries with increased cotton production were Colombia and Venezuela. The former produced 17 thousand tons (54 per cent above the previous year) and the latter had a crop of 5 thousand tons, or 6 per cent above the 1951/52 level.

In 1952, the quantum of Latin-American cotton exports fell by 15.6 per cent in comparison with 1951, and the value by 40.5 per cent. Data for 1953 are still incomplete, but preliminary estimates indicate that exports will be considerably higher than during the last six years, owing to the sale of reserves carried over from previous crops.

At the beginning of 1953, the accumulation of large surpluses from two earlier crops led the Brazilian Government to modify its former sales policy; this will be reviewed later in this study. Exports, however, did not recover to the 1951 level, being 20 per cent below it. Argentina, Mexico and Peru appear to have experienced a better cotton export trade, despite the low prices prevailing on the world market.

7. *Wool*

In 1952/53, the Latin-American wool clip was 5 per cent higher than the previous year, mainly because of increases in Brazilian and Argentine production. The first of these two countries showed an 11 per cent rise in production, the aggregate totalling 23.6 thousand tons, while Argentina's wool clip stood 6.4 per cent over the low level of the previous year and was even above the 1950/51 figures. Output in 1952/53 amounted to 185.2 thousand tons which was, however, 9.4 per cent lower than in 1947/48.

In Uruguay, Latin America's second most important producer, the wool clip of 1952/53 was 1.4 per cent above the preceding year, but the substantial rate of growth which had been apparent since 1948/49 showed a marked decline, despite the notable improvement in animal health and the increase in Uruguay's capacity for sheep raising.[12]

Among the other important producers, only Peru provided a slight increase in the 1952/53 clip, while Chile and Colombia maintained stationary levels. (See table 123 and chart LXIII.)

Exports in the 1952/53 wool year[13] increased substantially. Following the price improvement during the final months of 1952, exporting countries increased their sales both of surplus stocks which had been accumulated in the

[12] An important development was the general use of phenothiacine, which enabled sheep to be reared in low pastures which are periodically damp, and where parasites formerly caused damage to the wool.

[13] The wool year runs from 1 October to 30 September.

Table 123. Latin America: Wool output, by countries

(Thousands of tons)

Countries	*1934/38*[a]	*1947/48*	*1948/49*	*1949/50*	*1950/51*	*1951/52*	*1952/53*
Total Latin America	*260*	*316*	*298*	*309*	*317*	*311*	*326*
Argentina	164	204	190	187	189	174	185
Brazil	18	18	18	20	21	21	24
Chile	17	15	15	18	20	20	20
Colombia	—	1	2	2	2	2	2
Peru	9	9	9	9	9	9	9.3
Uruguay	53	68	65	74	77	85	86

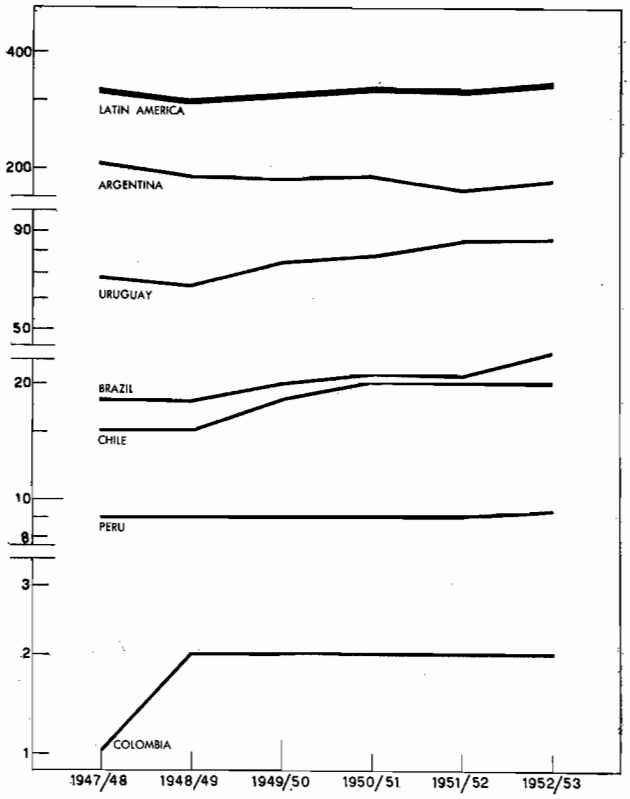
Sources: Official statistics and estimates from private sources.

[a] Average.

Chart LXIII

LATIN AMERICA: WOOL OUTPUT, BY COUNTRIES

(Thousands of tons)



hope of better prices and of the recent clip. Thus, Latin-American exports showed an increment of 119 per cent compared with 1951/52, reaching an approximate total of 339.1 thousand tons (greasy basis), one of the most substantial export tonnages yet registered.

To obtain higher shipments, Argentina, whose accumulated excess stocks amounted to about 180 thousand tons in June 1952, waived the 8 per cent sales tax and established a preferential rate of exchange (6.25 pesos per dollar instead of 5 pesos), applicable only to payments in freely convertible dollars or in sterling.[14] The new regulations enabled exports for the 1952/53 wool year to rise to 213.8 thousand tons—of which 182 thousand were greasy wool—representing a 101 per cent increase over the previous year.

Uruguay's exports also reached the very high level of 112,300 tons, representing a 207 per cent increase over the previous wool year. In consequence of the preferential rate of exchange established by the Government for combed wool tops, exports of this quality absorbed a higher proportion to the total than in past years.

In mid-1953, sales were seriously menaced by the announcement that the United States Government would add an additional tariff of 7 U.S. cents per pound of scoured wool. But the producing countries, after great efforts, managed to prevent this measure being adopted. It would have seriously affected Argentina and Uruguay, in view of the importance of wool in their over-all foreign trade.

[14] These measures, adopted only for fixed periods, were repeatedly extended until they were finally abolished in September 1953. They were subsequently applied only in barter agreements with France, Japan and Western Germany.

8. *Bananas*

Broadly speaking, Latin America's banana production[15] increased only slightly during 1952/53, mainly owing to a rise of almost 7 per cent in production in Brazil, where the large tonnages play an important role in the total regional crop.[16] The other countries, with the exception of Colombia, witnessed decreases, many of them following a trend which began several years ago. The countries mainly affected were Mexico, where production fell from more than 11 million bunches in 1948/49 to a little more than 6 millions in 1953; Guatemala, where exports dropped from 12 million bunches to 3.5 millions in the same period; Haiti, where shipments fell from 3.5 million bunches in 1948 to only half a million in 1953; and Cuba, where exports declined from one million bunches in the previous year to practically zero in 1953. Honduras and Costa Rica maintained their shipments with slight decreases and apparently have attractive prospects for the future.

In Ecuador, the crop was damaged by excessive rainfall. Exports were 9 per cent lower than in 1952, amounting to only 15.3 million bunches. However, banana output in this country has made marked progress during the last six years. In 1948, exports were under 4 million bunches, accounting for only 6 per cent of the value of all exports from Ecuador, while in 1953, they had risen almost 300 per cent, representing about 38 per cent of the aggregate export value.[17]

This rapid development is closely related, firstly, to the increase of consumption in the United States and some European countries and secondly, to declining production in Central America due among other causes to "Panama disease" and "sigatoka" which have also begun to affect plantations in Ecuador.

Colombia's banana harvest, stimulated by these factors, has increased by 80 per cent since 1947/48, reaching a level of 20.6 million bunches. (See table 124 and chart LXIV.)

New areas in Costa Rica should come into production in 1954, while a recovery of the Mexican and Guatemalan crops is also anticipated. Haiti has taken a number of measures to increase exports.

The biggest increases are expected in Honduras. One company alone has established new plantations on the Caribbean coast and recently reclaimed 4 thousand hectares in the El Higuerito zone, at a cost of 5 million dollars. Settlements were built for independent farmers, financially associated with the company, whilst the latter built a branch line from the National Railway to the new plantations. A private company in Costa Rica has rehabilitated more than 2 thousand hectares and is planning to construct

[15] There were no reliable figures or series for several years of banana production in the Latin-American countries, with the exception of Mexico, Brazil and Colombia. To obtain the indices, therefore, the export series of the other countries, production series for Mexico and Brazil and official estimates for Colombia have been used.

[16] The 197.7 million bunches harvested by Brazil in 1952/53 represented three quarters of Latin America's aggregate production.

[17] Estimate based on official figures for the first 10 months of 1953.

Table 124. Latin America: Banana output, by countries

(Thousands of stems)

Countries	1934/38[a]	1947/48	1948/49	1949/50	1950/51	1951/52	1952/53
Total Latin America	*157,844*	*211,461*	*226,103*	*235,853*	*240,800*	*262,680*	*274,340*
Brazil	101,611	136,291	147,696	162,874	169,632	185,167	197,717
Colombia	6,579	11,450	18,985	16,496	18,000	18,500	20,642
Costa Rica[b]	4,110	9,643	11,049	10,200	10,015	10,982	10,982
Cuba[b]	4,368	1,018	552	282	79	39	—
Dominican Republic[b]	202	1,141	1,480	1,513	1,592	1,469	1,469
Ecuador[b]	1,874	3,883	5,378	6,610	9,605	16,751	15,306
Guatemala[b]	7,288	12,267	6,893	6,939	5,265	3,908	3,505
Haiti[b]	839	3,548	2,161	1,906	1,371	613	500
Honduras[b]	13,741	14,993	14,143	14,087	12,997	13,784	13,784
Mexico	9,025	10,827	11,134	9,275	6,755	7,372	6,340
Nicaragua[b]	2,462	741	836	662	592	—	—
Panama[b]	5,745	5,659	5,796	5,009	4,897	4,095	4,095

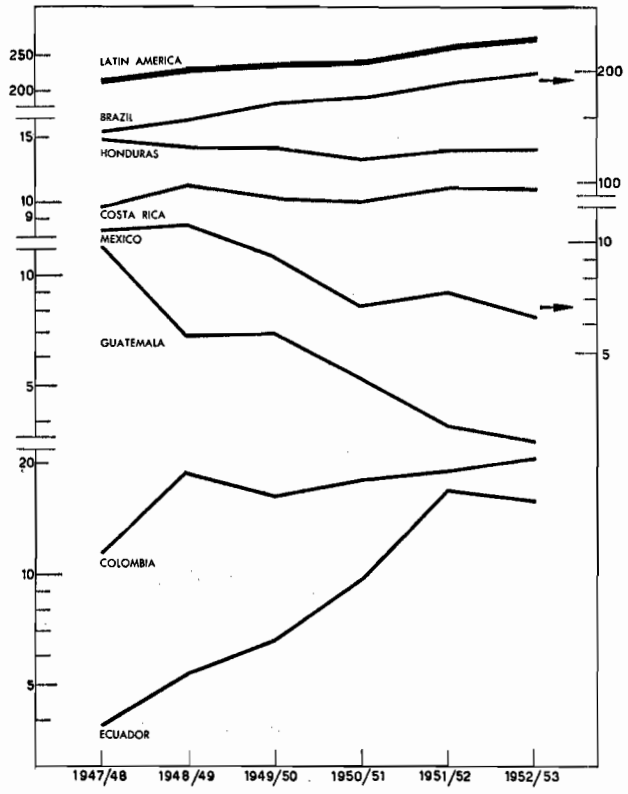
Source: Official statistics of the respective countries.

[a] Average.

[b] Exports statistics only.

Chart LXIV

LATIN AMERICA: BANANA OUTPUT



a new pier at Puerto Limón and a railway to transport the crop to the Parismina river.

9. *Cocoa*

Latin America's cocoa production in 1952/53 is estimated to have risen 6 per cent above the level of the previous year, amounting to 230 thousand tons.[18]

[18] The preliminary estimate for Latin America's 1951/52 crop was somewhat high, since the actual figure was only 217 thousand tons. This represents a decline in relation to 1950/51, instead of an increase.

Farmers appear to have paid no great attention to cocoa, for a stationary and even downward trend is apparent. Brazil, the principal producer, harvested an area slightly smaller than in 1951/52, but owing to better yields, the production of 123 thousand tons was 8 per cent higher. (This, however, was much lower than the 1949/50 level of 156.9 thousand tons.) The Dominican Republic has maintained more or less stable output during recent years, a small increase being apparent in 1952/53.

In Venezuela, cocoa ranks as the second most important agricultural export, after coffee. The domestic price was satisfactory in consequence of sustained foreign demand, but production could not be raised owing to losses caused by premature withering of the beans.

Ecuador appears to be the only country making efforts to improve cocoa production because of its importance in foreign trade. The price recovery which began in 1945 stimulated the farmers' interest in abandoned plantations, and there was a considerable increase in production. Furthermore, attempts are being made to eliminate the two principal diseases affecting this crop, "witchbroom" and "monilla", through planting varieties which can resist them. La Empresa para la Renovación del Cacao[19] provides seedlings and the development bank credit for this purpose. Ecuador's production in 1952/53—24.4 thousand tons—improved 5 per cent in relation to the previous year, but was 9 per cent lower than in 1949/50. (See table 125 and chart LXV.)

Greater attention to this crop would be justified, in view of the acute cocoa shortage on the world market and the steady price increases since December 1952.

III. The situation in selected countries

In the previous sections of this chapter the over-all position of agricultural production in Latin America has been analysed, firstly as a broad panorama and later through

[19] This is an organization established by the Corporación de Fomento. It supplies farmers at cost price with resistant plants obtained by asexual propagation methods. The number of plants supplied in this way is sufficient to replace at least the withered plants or those which are too diseased.

Table 125. Latin America: Cocoa output, by countries

(Thousands of tons)

Countries	1934/38[a]	1947/48	1948/49	1949/50	1950/51	1951/52	1952/53
Total Latin America	*215*	*198*	*223*	*265*	*221*	*217*	*230*
Brazil	119	97	133	157	121	114	123
Colombia	11	11	14	15	15	15	15
Costa Rica	6	4	6	4	3	5	5
Dominican Republic	25	30	26	33	32	31	33
Ecuador	20	21	19	27	24	23	24
Haiti	2	2	2	2	2	2	2
Mexico	4	7	7	9	9	9	10
Panama	5	3	2	2	1	3	2
Venezuela	24	24	15	17	14	16	16

Sources: Official statistics of the respective countries.

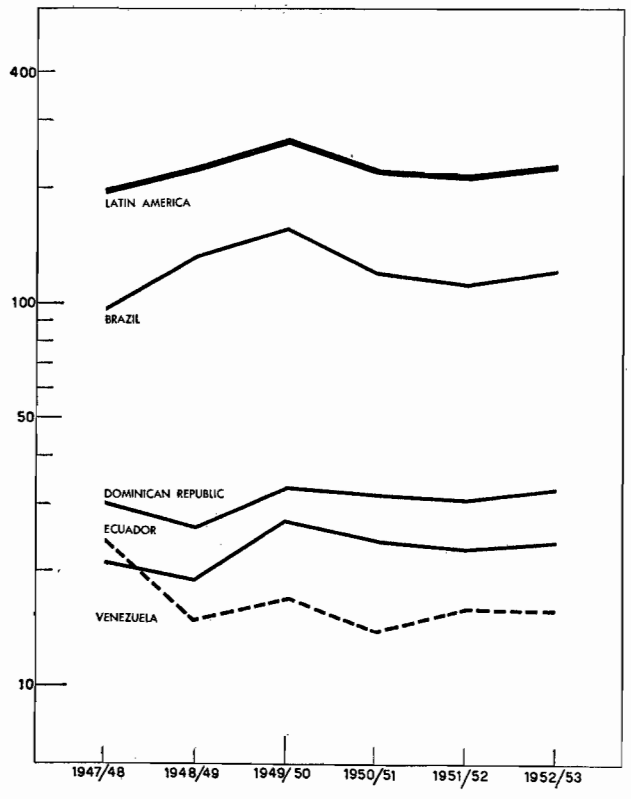
[a] Average.

Chart LXV

LATIN AMERICA: COCOA OUTPUT

(Semi-logarithmic scale)

Thousands of tons



the examination of certain principal products. Agricultural activities during 1952/53 in selected individual countries will now be reviewed.

1. *Argentina*

The 1952/53 farm year was of particular significance to Argentina's economy. There was a marked rise in agricultural activities, and since the weather was favourable, one of the best harvests of recent years was obtained.

In view of the lack of balance which had arisen between industrial and agricultural production, the Government adopted measures to increase the latter. Incentives for agriculture were created through the establishment of guaranteed prices for many products and greater credit facilities. Similarly, modern technical skills and up-to-date equipment were made more readily available to farmers. The Government established production targets with the object of supplying growing domestic requirements for foodstuffs and raw materials and creating exportable surpluses to enable the country to recover its position among the important world producers of foodstuffs.

The results of this policy were immediately apparent, since farmers sowed the greatest area for annual crops recorded in the last five years. Although the objectives established for the sown area in the 1952 Economic Plan were far from achieved, especially for wheat, maize and linseed,[20] excellent harvests and the favourable price ratio between these commodities and costs made it possible to utilize, with very high yields, a great proportion of the area sown. The influence of the smaller area sown was thus offset and production targets were virtually achieved.

(a) *Agricultural and livestock output*

In 1952/53, production[21] reached a higher volume than in the five previous years, 4.2 per cent over 1947/48, which was considered a good year, and 24.0 per cent above 1951/52, the lowest in the last twenty years. (See table 126.) Nevertheless, if the growth rate of agricultural output is compared with that of the population, it will be noted that the per capita production of 1947/48 has not been attained, whilst the gap is still greater by comparison with the pre-war period. The agricultural production index (1947/48=100) is 103 for the average 1933/34–1937/38 level and only 93 for 1952/53.

During 1952/53, the value of agricultural production, estimated at current prices, increased 36.9 per cent above the previous year and almost 223 per cent in comparison with 1947/48, reaching a total of 26,379 million Argentine pesos. Estimated in real terms, production has also improved more than 25 per cent by comparison with 1951/52. It was, however, only one per cent above the real value of

[20] The area planned for wheat was 7.5 million hectares but only 6.1 millions were actually sown. For maize the relative figures were 3.8 and 3.3 millions, and for linseed 1.6 and 0.8 million hectares.

[21] According to the production index which includes 37 products.

Table 126. Argentina: Quantum of aggregate agricultural and livestock output, by commodity groups

(Millions of pesos)[a]

	1947/48	1948/49	1949/50	1950/51	1951/52	1952/53
GRAND TOTAL	8,165.8	7,503.6	7,478.1	7,811.7	6,864.7	8,512.0
Cereals	2,358.8	1,778.7	1,382.4	1,918.0	907.4	2,657.7
Wheat	1,282.4	1,026.0	1,014.9	1,143.6	414.3	1,492.4
Maize	663.5	440.2	106.7	340.7	260.3	453.0
Others[b]	412.9	313.0	260.0	433.0	233.0	712.0
Roots and tubers[c]	442.9	420.3	463.9	575.7	371.3	511.5
Dry pulses[d]	97.5	94.1	112.0	123.3	77.1	92.7
Edible oil-seeds	336.3	373.2	265.9	358.4	304.2	253.0
Sunflower seeds	260.4	304.6	199.4	285.4	193.8	119.9
Others[e]	75.9	68.6	66.5	72.6	110.4	133.1
Sugar cane	226.8	225.9	239.6	269.3	279.3	308.0
Fruit[f]	194.9	236.4	249.2	238.5	210.2	209.9
Vegetables[g]	184.9	178.8	221.2	203.0	252.7	303.0
Livestock products	2,688.1	2,761.1	2,805.1	2,571.1	2,625.7	2,482.1
Beef	1,721.2	1,773.0	1,851.1	1,679.1	1,643.1	1,589.7
Others[h]	966.9	988.1	954.0	892.0	982.6	992.4
Stimulants[i]	86.7	101.4	99.4	117.1	128.8	121.3
Wine	712.1	637.4	766.4	698.5	987.2	760.3
Linseed	270.3	129.8	202.7	167.8	94.0	175.3
Cotton	258.6	285.8	399.1	285.8	364.6	358.6
Wool	207.7	286.6	281.0	285.1	262.0	278.6

Source: Economic Commission for Latin America, based on official statistics published by the Ministerio de Asuntos Técnicos de la Nación in *Síntesis Estadística de la República Argentina.*

[a] At 1948 prices.
[b] Rice, oats, barley, rye, millet, canary-seed.
[c] Potatoes, sweet potatoes.
[d] Peas, beans, chickpeas, lima beans, lentils.
[e] Cotton-seed, peanut.
[f] Apples, oranges, table grapes.
[g] Chile and common pepper, garlic, tomatoes, and onions.
[h] Beef, mutton, pork, milk and derivatives.
[i] Tobacco, tea, mate.

the 1950/51 crop, which stood at some 18 thousand million pesos.

An outstanding feature was the recovery of cereals, not only in relation to the previous crop but also to the average for the five years 1948-52, which it exceeded by 59 per cent. The intensive government campaign and the development measures to achieve the targets of the 1952 Economic Plan were contributing factors in the preference given by farmers to cereals. These circumstances, and the favourable climatic conditions enabled good results to be obtained. By comparison with the 1947/48 cereal harvest, the most substantial of the five previous years, the wheat crop increased by 16 per cent to 7.56 million tons; rye increased 183 per cent (1.3 million tons); barley, 46 per cent (1.7 million tons) and oats, 54 per cent (1.27 million tons). Conversely, although the maize crop increased by 74 per cent in relation to 1951/52, the harvest compared unfavourably with 1947/48, since it only amounted to 3.55 million tons (32 per cent of the 1947/48 figure).

For foodstuffs, greater vegetable crops were obtained than in any other year, 69 per cent above 1947/48 level.

Sugar cane output also surpassed former levels, rising 10 per cent above the previous year and 36 per cent higher than in 1947/48, owing to excellent yields both as regards quantity of cane per unit of soil and the sugar content. The harvest was 710 thousand tons, the peak level recorded to date.

With regard to oil-seeds, the downward trend beginning in 1940 continued for sunflower seed and linseed, while peanut and cotton seed harvests increased steadily.

The sunflower seed harvest was the lowest during the last ten years, only 428.3 thousand tons, that is 61 per cent below the peak production of 1948/49 and lower by 36 per cent than even the small 1951/52 crop.[22] The principal cause of this sharp decrease was the low official price in relation to maize, the principal competitor for the use of similar soils. In fact, while official maize prices increased by 66 per cent (from 27 pesos in 1950/51 to 45 in 1952/53) sunflower seed prices rose only 49 per cent (from 29.50 to 44 pesos). The smaller sunflower seed harvest caused serious problems for the edible oil industry, since it is the basis of a large part of edible oil production and even used to leave substantial exportable surpluses.

Although the linseed harvest improved by 86 per cent in comparison with the low production for the previous year, there was no significant improvement on the short tonnages attained during the previous five years. This crop stood at only 584 thousand tons. A major cause for this decrease was undoubtedly the low prices in comparison with wheat, the principal competitor. While wheat yields per hectare have been increasing (from 856 kgs. per hectare in the twenties to 1,140 during the last ten years, excluding 1951/52), linseed has remained stationary and

[22] The area sown in 1952/53 was 49 per cent below the previous year.

even showed partial declines (from an average 1,130 kgs. between 1920/21 and 1929/30 to 670 kgs. per hectare during the last ten years).[23]

The area under cotton was slightly smaller than in the previous year, and a crop of 386.4 thousand tons of raw cotton was obtained. According to private estimates it was converted into 124 thousand tons of fibre and 239 thousand tons of seed. These tonnages are similar to those obtained in 1951/52, but are below the 1949/50 harvest, the largest ever recorded in Argentina, by 13.0 per cent for fibres and 8.5 per cent for seeds.

Wool output recovered from the low levels for the previous year, since it was almost 6 per cent higher with a 185 thousand-ton clip. But these figures were far below the excellent tonnages for the five years 1945-49, when they averaged over 220 thousand tons. The larger clip represents a considerable increase in sheep stocks in almost all areas of the country. In 1952, sheep flocks amounted to 54.7 million head, only 3 per cent below the 1944/45 figure, the maximum attained since 1910.

Beef output for 1952/53[24] increased 8 per cent in relation to 1947/48 and 3 per cent by comparison to 1951/52. The smallness of this increase may be ascribed to adverse weather two years previously, resulting in lower birth rates, a decrease in the number of available female breeding animals and a reduction in numbers involving the slaughter of animals which had not reached the point of maximum meat yield. Although sheep stocks are quickly replenished, the slaughter of sheep decreased by 24 per cent in comparison with the previous year and by 40 per cent in relation to 1947/48.

The substantial rise in fruit production must be underlined. According to the most recent estimates, over a million tons of the 11 main fruits were harvested. This is a 19 per cent increase over the five-year average for 1947-52 and 20 per cent over the 1951/52 level.

(b) *Available foodstuffs*

In 1952, as a consequence of low production caused by drought, Argentina was obliged to import 200 thousand tons of wheat to supply the minimum reserve, an unprecedented event in this century. But, excluding 1952, Argentina has always enjoyed a surplus of temperate climate foodstuffs and agricultural raw materials. Normally, food stocks for domestic consumption supply the entire demand, and nutritional standards both as regards calories and protein content, are high.

During the last two years, however, it was found necessary to establish certain consumption restrictions either to offset temporary shortages, such as wheat in 1952, or to cover export commitments, as in the case of meat. For wheat, it was necessary to extract a greater flour coefficient (82 per cent) and to use a proportion of other cereals in bread. In the case of meat, higher income levels —which led to a large *per capita* consumption increase— and increasing population exerted a strong pressure both on exportable surpluses and on cattle stocks, which were somewhat weakened. It was thus necessary to impose rationing in the form of one or two meatless days a week.

The greater domestic demand for all foodstuffs was met by a reduction in shipments abroad. Consequently, the quantum of food exports in 1952 declined by 72 per cent in relation to 1948. The position changed radically in 1953. Supplies were normal for the first months of the year and exports recovered their previous volume. But meat did not follow this general trend, since shortages have continued without much variation both for domestic consumption and for export.

Imports of foodstuffs fell by 34 per cent in 1952 in comparison with 1951 and by 78 per cent in relation to 1948. With the exception of some tropical and semi-tropical fruit and a small quantity of potatoes,[25] such imports are not important dietary elements, so that nutritional values were not greatly affected by the decreases.

(c) *Development policy*

(i) *Production goals.* The most noteworthy expression of the Government's policy of encouraging agriculture has been the recent establishment of production targets (1952 Economic Plan and the Second Five-Year Plan) and active farm propaganda to stimulate sowings. Special attention was paid to maize, for which very high targets were set in comparison with average recent harvests, and to sunflower seed, production of which had been declining. The Government's efforts to maintain high income levels for agriculture are evident, since official prices have not been reduced, despite a decline in world market quotations.

(ii) *Research.* The Centro Nacional de Investigaciones Agropecuarias, the network of experimental stations, several provincial governments and universities have shown great progress in research work. Among the many contributions to agricultural development, the provision of varieties resistant to black rust of the stalk (*puccinea graminis tritici*) for cereals may be mentioned. Until 1944, almost all wheat crops in the provinces of Córdoba, Entre Rios, Buenos Aires and Bahía Blanca were vulnerable to this disease, but, since 1952/53, resistant varieties have produced more than half the harvest. Progress in achieving and distributing new types of hybrid maize through experimental stations and large commercial nurseries has contributed to an increase of the area sown with these varieties. It is estimated that about 5 per cent of the total maize area is planted with these seeds. According to the years, yields are from 20 to 60 per cent above those of common varieties.[26] In 1953, the Pergamino Experimental Station began to sell a new variety (*Pergamino Pampa Mag*), with good yields, of good quality and resistant to the principal diseases affecting maize. Multiple seed varieties of other crops were also used for cultivation on a large scale.

The Ministry of Agriculture, through the Dirección General de Fomento Agrícola, has contributed to the productive increase of selected seeds and to their distribution at devel-

[23] At average prices for the different years and with the above yields, the gross earnings per hectare amounted to 103 pesos for wheat and 123 for linseed in the twenties. During the last ten years this revenue stood at 565 and 428 pesos respectively. Thus, while gross earnings for wheat increased by 449 per cent, those for linseed had risen by only 248 per cent. (See *The Review of the River Plate*, Buenos Aires, 20 November 1953.)

[24] Estimated provisionally at 8.5 million head.

[25] In 1948, 37.8 thousand tons were imported and 13.6 thousand tons in 1952.

[26] To date, 9 hybrid varieties, either developed or acclimatized in Argentina, have been placed on the market, of which 3 originated from official research institutions and the remainder from private nurseries.

opment prices. The government authorized the Instituto Argentino de Promoción del Intercambio (IAPI) to grant the Ministry of Agriculture a 50 million-peso credit to finance a plan for the production and use of selected seeds. The plan includes all cereals, linseed, alfalfa and other fodder grasses subject to control. In mid-1953, the distribution of 900 thousand sacks (60 kgs. each) of selected wheat was announced.

(iii) *Irrigation.* In 1953, four new irrigation dams were opened in different parts of the country, with sufficient capacity for 84.5 thousand hectares. In addition, the works included in the Second Five-Year Plan and others excluded from the Plan were begun. These projects will irrigate an additional 400 thousand hectares distributed among the provinces of Santiago del Estero, Córdoba and the territories of Río Negro and Chubut.

(iv) *Agricultural credit.* In 1953, the Banco de la Nación Argentina continued to support agriculture and developed planned credit, extending it to the entire country. According to this system, the granting of loans is conditioned by farmers' plans for the integral working of their lands, according to the crops which have priority on the national ecological map. Such priorities are given to vegetable, farm, forage and forestry production. Similarly, the Bank has financed several individual commodities and particularly those for which the production goals in the Five-Year Plan are most difficult to achieve.

Livestock loans, established at the end of 1953, are intended mainly for purchases of breeding cattle and the formation of forage reserves during good grass years. The loans can be repaid within five to seven years, according to the area, while interest is limited to 2.5 per cent annually.

The Bank portfolio for agricultural purposes has grown steadily and in 1952 the number of operations rose at a faster rate than in former years. They increased by 25 per cent in comparison with 1951. Although individual loans were smaller, their total volume stood at 5,158.5 million pesos, an increase of 45 per cent above the previous year.

(v) *Co-operatives.* With official support, the number of co-operatives has developed remarkably over recent years. In 1943, there were 721 societies in operation, while in 1953 the figure reached some two thousand, of which more than half may be considered as strictly agricultural. The main functions of co-operatives have been concerned with the different aspects of marketing and processing agricultural products. Support from the authorities increased their importance for domestic and export trade as a consequence of the different advantages they possess. A series of scarce commodities (burlap sacks, tractors and other farm machinery, sugar in times of scarcity, etc.) have been distributed on a priority basis to co-operatives working in production zones.

For marketing the 1952/53 crop, the Ministry of Foreign Trade established a new system, allowing agricultural co-operatives to participate fully and thus stimulate the creation of new organizations. According to preliminary data, during the marketing period of this harvest, 300 new co-operatives were organized in the "pampa" areas alone.

(vi) *Mechanization.* Tractor imports in 1953 rose to a peak level for the agricultural history of the country, 10 thousand units from a number of different sources.[27] It may be assumed that by the end of the year the total park consisted of about 50 thousand tractors,[28] of which 10 thousand were less than a year old, 23 thousand between one and five years, 4 thousand between six and ten years, 8 thousand between ten and fifteen years and 5 thousand were more than 15 years old.

Official development of agricultural mechanization has been maintained through liberal credit for purchases of all types of machinery and for the domestic manufacture of equipment and spares. Thus, the Instituto de Aeronáutica y Mecánica del Estado has begun to manufacture diesel type tractors. In addition, several other industrial plants are even producing complex machinery such as cereal and maize harvesters.

(d) Some problems of Argentine agriculture

(i) *Prices and markets.* The drop in world prices and the weakening of international demand for agricultural commodities were great handicaps for Argentina's economy after the production decline in 1949-52.

The sharp reduction in wheat prices on the free market —which at times were below the maximum price fixed in the International Wheat Agreement, to which Argentina does not subscribe—has been detrimental to some sales of the 1952/53 crops. Consequently, foreign exchange receipts were lower than anticipated and the terms of trade for this cereal have deteriorated.[29]

Prices for maize and most other cereals have declined acutely, relatively more than for wheat.

In order to stimulate production—and in spite of the world price fall—the Government maintained the previous year's official prices for the 1953/54 harvest, with only very small variatitons. Thus, there is no change in prices for wheat, maize and linseed, which were 50, 45 and 65 Argentine pesos per quintal respectively. Increases fixed for rye and sunflower seed were 1 and 3 pesos, the respective prices being 43 and 48 pesos. In contrast, prices for barley and oats were lowered by 1 and 3 pesos, falling to 42 and 35 pesos.

In general terms, Argentina has not encountered serious difficulties in placing the grain harvest of 1952/53. Wheat, maize, barley and oats were virtually all sold. In contrast, rye shipments were affected by the small overseas demand in consequence of good European crops, so that stocks had to be sold at a considerable loss to the IAPI.

Another adverse factor for Argentine exports was the limit of 68 thousand tons placed by the United States on oat imports, to protect domestic output.

Finally, mention should be made of Argentina's marketing problems. Purchasers delayed orders in anticipation of greater price declines. Most sales were effected only

[27] This is an estimate. Official data show that 8,232 units were imported during the first eight months of the year.

[28] In January 1953, the Sociedad Rural Argentina estimated the tractor park at 40 thousand units.

[29] Argentina, however, was able to sell 1.5 million tons to Brazil at 112 dollars per ton f.o.b. that is a very much higher price than the maximum level established under the International Wheat Agreement and even to current prices in the United States and Canada.

at the end of the year, so that shipments accumulated during the second half of the year and could not be made with the necessary speed. There were port difficulties, mainly at Bahía Blanca where granaries and silos were overstocked with rye, oats and barley, commodities more difficult to place than wheat. It is estimated that by December 1953 about 400 thousand tons of grain remained in farm areas and could not be transported to ports. Since this carry-over hampered the outflow of the subsequent harvest, the government arranged more storage by establishing emergency facilities at several internal points and at ports.

(ii) *Fodder and beef output.* Natural conditions in Argentina, particularly in the "pampa" area, have placed the country in a favourable position as a low-cost meat producer. The increase in livestock, however, has been slower than the rate of population increase since 1895. In that year there were 5.4 head of cattle per inhabitant; in 1922 this figure had fallen to 3.9; in 1930 to 2.9; in 1937 to 2.4 and in 1952 to an estimated 2.3 head. The increase in beef cattle stocks, from census figures, has been achieved almost entirely in the "pampa" area, and, in recent years, these increases were detrimental to crop farming. The reduction of the area sown with the principal crops was in inverse proportion to the livestock increase. (See table 127.)

Table 127. Argentina: Cattle population and cultivated area in the "pampa" zone

Years	Cattle population		Area cultivated[a]	
	Number	Increase in the period	Total	Increase or decrease in the period
	(millions of head)		(millions of hectares)	
1937.....	24.1	—	17.1	—
1947.....	31.5	7.4	11.6	−5.5
1952.....	32.0[b]	0.4	11.0	−0.6

Source: Livestock censuses and official statistics.

[a] Aggregate of wheat, maize, flax, sunflower seed and peanut areas.
[b] Adjusted figure including the date of the census (November) to allow for comparability.

The problems of expanding the production of beef cattle in its own sphere, that is without prejudice to crops, has caused the present meat shortage which prevents the growing requirements of domestic consumption and exports from being satisfactorily met.

In view of this situation, the question arises whether Argentina has real possibilities for increasing beef output. Experts have recently insisted on a series of measures which might improve working methods and increase productive capacity in areas which are at present used for grazing. But doubt still exists as to the economic advisability of these measures and the rapidity with which they could be effected on all farms, given the required investments and the delay caused by any change in traditional methods.

If livestock productivity in the fertile "pampa" area is compared with other world regions (in terms of head of cattle in relation to land area), it appears that Argentina's position is relatively backward. Exports from an international mission,[30] who recently visited and studied pasture areas have estimated that, under similar conditions, one animal in Argentina is raised on a land area which would feed six elsewhere. They recommended that the system should be revised in line with current advances and that, although a maximum level has been reached as to quality of livestock, progress in pasturage methods has been slow. The solution that few animals graze on large areas is contrary to economic standards.[31]

The problems requiring urgent solution, according to these experts, may be summarized as follows: (*a*) most pasture lands consist only of natural grasses, with little nutritive value and small yields, and although fodder varieties to improve these grasslands are already known, the number of establishments to reproduce these seeds are not available; (*b*) uncontrolled grazing methods do not permit adequate yields from natural grasses and improved fodder crops; (*c*) pasturage is usually too large and therefore cannot be adequately managed; (*d*) new control systems and pasture management are not sufficiently widespread to prevent the invasion of weeds and toxic plants; (*e*) use of legumes in artificial pasturage has not been adequately taught; (*f*) the system of rotation between crops and artificial pasture is not widely known and is ignored in many areas; (*g*) nutritive elements are rarely restored to the soil and there is no fertilization of grasslands, research has not been intensified to determine the economic convenience of fertilizers in livestock production while manure is not properly used on the fields; (*h*) agricultural extension services in relation to pastures and utilization of grasses have not been sufficiently developed.

The rate of increase of beef production during the next few years depends on the speed with which these problems can be solved. It will not be difficult to show farmers that investments to correct these shortages will be financed by sales of increased production tonnages at current prices.

2. *Brazil*

In 1952/53, some external factors and adverse climatic conditions contributed to the relatively stagnant position of Brazilian agricultural production. In fact, although the volume was greater than for any former year, it scarcely registered an increase of 1.5 per cent in relation to 1951/52. Per capita output showed a decline, being almost 1 per cent below the previous year. The increase occurred principally in domestic consumption crops, since the two main export products—coffee and cotton—showed declines of differing magnitude, thus affecting the economy of the country.

During the last three years, the lack of balance between industry and agriculture became more acute. While agricultural progress lagged slightly behind population growth, industrial output rose rapidly, causing a strong demand for foodstuffs which could not be fully met in spite of high domestic price levels.

This situation is mainly due to inadequate transport, marketing and storage systems, which hamper the free and

[30] Experts of the Organization of American States and of the Food and Agriculture Organization of the United Nations who were in charge of the seminar on "Modern Methods of Livestock Management and Pasture".

[31] See Ministry of Agriculture and Livestock, IDIA, Buenos Aires, No. 68, p. 3.

well-timed flow of products to the principal consumer centres and similarly cause a substantial difference between prices paid by the consumer and those received by the farmer.

Furthermore, weather problems in 1953 caused difficulties for Brazil's agriculture, since they affected food output both at sowing and harvesting time in the central zone of Brazil, which is the richest and most populated area. The drought in the north-eastern area seriously damaged crops, and although its effects were less serious than in the two previous years, they caused grave economic and social problems. Frost seriously affected Brazil's most prosperous coffee plantations, in northern Paraná and south-west São Paulo, and to a lesser degree those of Minas Gerais and Matto Grosso.

(a) *Agricultural and livestock output*

In 1952/53, Brazil's agricultural and livestock production scarcely managed to continue the rising tendency which dates from 1941/42. The increase was only 1.5 per cent above the preceding year, but exceeded the 1947/48 figures by 18.8 per cent. With an annual population growth of 2.4 per cent, *per capita* output fell by almost 1 per cent in comparison with 1951/52.[32] (See table 128.)

Considering crop farming and livestock raising separately, the former increased only 0.7 per cent in comparison with the previous year, or substantially below the over-all figure, while livestock production appears to have risen by 4.4 per cent, that is, a 2 per cent increase in the per capita availability.[33]

In 1952/53, there was a greater increase in the output for domestic consumption. The 27 commodities comprising this group had an aggregate rise of 6 per cent in relation to 1951/52. In contrast, exports showed a drop of 8.4 per cent, caused principally by reduced cotton sowings and lower coffee yields.

(i) *Output for domestic consumption.* Among foodstuffs, the vegetable group (tomatoes, onions and garlic) showed increases, production being 50 per cent above 1947/48 levels, and only 4 per cent over 1951/52. The tomato crop—favoured by a 66 per cent price rise in comparison with 1947/48—increased most within this group, exceeding by 84 per cent the 1947/48 figures. Greater consumpton of fresh and tinned tomatoes also contributed to the development of this crop.

Cereal harvests were generally good, 8 per cent above the previous year and 24 per cent over 1947/48. Maize almost reached the high level of 1950/51 (6.1 million tons in 1952/53 against 6.2 millions previously) while rice virtually equalled the high 1949/50 output with 3.16 million tons. Droughts prevented more substantial maize and rice yields although the area sown was larger than ever

[32] Compared with 1947/48 *per capita* production in 1952/53 was 5.8 per cent higher.

[33] According to preliminary estimates based on livestock slaughtering at cold storage plants and private estimates for milk and wool output.

Table 128. Brazil: Quantum of agricultural output, by commodity groups

(Millions of cruzeiros)[a]

	1947/48	1948/49	1949/50	1950/51	1951/52	1952/53
TOTAL[b]	*44,257*	*46,791*	*48,896*	*48,940*	*51,784*	*52,585*
Total export products[c]	12,838	14,483	14,721	14,063	16,349	14,972
Total domestic consumption commodities[d]	31,419	32,308	34,176	34,878	35,435	37,613
Cereals[e]	10,465	10,680	12,262	12,101	12,098	13,006
Wheat	1,023	1,105	1,344	1,070	1,741	2,075
Maize	5,249	5,100	5,638	5,820	5,529	5,719
Rice	4,130	4,398	5,203	5,145	4,740	5,111
Roots and tubers[f]	3,858	4,180	4,048	3,953	4,151	4,293
Dry pulses[g]	2,779	3,076	3,053	3,024	2,812	3,255
Oil-seeds and fruits[h]	1,356	1,689	1,776	1,532	1,692	1,583
Sugar cane	2,425	2,428	2,565	2,642	2,829	2,903
Fruit[i]	1,708	1,762	1,863	1,973	2,054	2,164
Vegetables[j]	411	421	510	527	591	616
Livestock products[k]	9,805	10,144	10,336	10,983	11,399	11,881[l]
Beef	5,281	5,456	5,404	5,846	5,439	5,563[l]
Milk	3,304	3,481	3,654	3,738	4,504	4,938[l]
Stimulants[m]	7,185	7,372	7,338	7,488	7,663	7,692
Coffee	6,451	6,643	6,662	6,717	6,998	6,950
Cultivated industrial oil-seeds[n]	361	311	283	274	245	265
Fibres[o]	3,904	4,728	4,862	4,445	6,251	4,926
Cotton	3,484	4,318	4,285	3,803	5,625	4,231

Source: Original data from the Ministerio de Agricultura, Serviço de Estadística da Produção.

[a] At 1948 prices.
[b] 37 products.
[c] Cocoa, tobacco, bananas, coffee, castor beans, tung, cotton and sisal.
[d] The remaining commodities which are included in the index but not under export commodities.
[e] Wheat, maize, rice, oats, barley, rye.
[f] Potatoes, manioc and sweet potatoes.
[g] Beans and lima beans.
[h] Cotton-seed, peanut and cocoa.
[i] Bananas, oranges, pineapples and grapes.
[j] Tomatoes, onions, garlic.
[k] Beef, mutton, pork, goat meat and milk.
[l] Estimates.
[m] Coffee, tobacco, mate and tea.
[n] Castor beans and tung.
[o] Cotton, wool, sisal and jute.

before. In several zones rice production was insufficient and large price increases ensued.[34] It was also necessary to limit exports to a minimum, so that the 2.5 thousand tons exported during the harvest had to be replaced before the next crop by importing a small tonnage from Uruguay. It must be recalled, however, that this situation was partly due to inadequate marketing and transport systems, which hamper deliveries to the market.

Wheat production, stimulated by better prices and the maintenance of both official purchasing agencies and development policies, stood at 821.8 thousand tons, 19 per cent higher than in the previous year and 103 per cent above 1947/48. The greater harvest took place principally in the States of Rio Grande do Sul, Santa Catarina and Paraná, where better yielding varieties were planted and crops increased proportionally more in relation to the area sown.[35] Another indication of progress is the high rents obtained for wheat lands in the state of Rio Grande do Sul. In the state of São Paulo (southern zone), however, the wheat campaign was unsuccessful. In spite of greater efforts by the experimental station at Capão Bonito and the installation of free milling facilities, the area sown decreased from 5,260 to 3,772 hectares.

The production of beans, a foodstuff of great popular consumption, recorded an increase of 15 per cent, due to better yields, since the area sown rose by only 2 per cent.

Sugar cane production remained virtually stationary, increasing by only 2.6 per cent. The corresponding sugar output is estimated at 1.75 million tons, or 10 per cent over the 1951/52 harvest sold in 1953. Like other export commodities, sugar was affected by world price declines below the domestic level, which necessitated the establishment of export subsidies through a compensatory fund which the government had to reinforce recently. Even so, surplus stocks at the end of the 1952/53 sugar year were 245 thousand tons, since domestic consumption remained stationary. The International Sugar Agreement had given Brazil an export quota of 175 thousand tons instead of the 400 thousand requested. As a result, it may be necessary to revise the 1953/54 production programme and increase the amount to be converted into alcohol, which at present provides for the processing of 60 thousand tons of sugar.

One of the few domestic consumption crops the production of which was curtailed was peanuts. There was a 9 per cent decrease in the area sown in 1952/53, but output fell by only 4 per cent, owing to better yields. This decrease—added to that of cotton production—has caused difficulties in maintaining an adequate supply of oil-seeds for manufacturing edible oils.

As regards livestock, a relative stagnation in beef production has been apparent since 1951, and up to 1953, the increase was only 4.3 per cent. Sheep production rose by only 2.3 per cent.[36] Controlled beef production in 1952 was 7 per cent below the previous year's level and amounted to 7.4 million head. Preliminary estimates[37] indicate that livestock slaughterings in 1953 recovered considerably, without exceeding the 1951 level of 7.8 million head. These figures emphasize the need for greater efforts to take advantage of the excellent conditions found in central and southern Brazil, where a considerably larger livestock population could be established, utilizing more land and improving yields in those already populated. Slaughtering of pigs and sheep in 1953[38] appears to have declined by 14 and 5 per cent respectively in relation to 1952.

Milk, cream, butter and cheese output all appear to have advanced rapidly and in 1953 the milk production level—estimated preliminarily at 3,300 million litres—was 10 per cent higher than 1952 and 50 per cent above 1948. The expansion of this industry, correlative to a growing demand, has taken place in the neighbourhood of the larger cities (especially Rio de Janeiro and São Paulo). Milk prices have not risen as rapidly as production costs. Farmers carried on an active campaign to obtain an increase from 2.20 to 3.50 cruzeiros per litre, but obtained a basic price of only 2.80 cruzieros.

(ii) *Output for export.* With the exception of coffee, bananas and cocoa, agricultural products intended mainly for the world market have suffered the effects of a sharp price drop and strong competition from other countries. World over-production affected cotton, causing large surpluses in Brazil and restrictions for sowings in 1952/53, which are examined later.

Coffee output was seriously affected by adverse weather. Although the area harvested was almost 2 per cent greater than in the previous year, the crop was slightly smaller, only 1,117.8 thousand tons, as against 1,125.4. This meant a halt in the gradual production recovery since 1945, after the sharp drop caused by the coffee crisis.

Sisal is growing in importance as an export crop, both for the tonnage and because it is a new revenue source for the dry north-eastern zone. Production began in 1943/44 with 2.1 thousand tons, rising to 25.9 thousand in 1947/48 and 73.2 thousand tons in 1952/53. The effects of introducing sisal were unusual, since its excellent yield and high unit income—at profit levels previously unknown in the zone—caused a capital transfer from the cities to the rural areas.

The check in sisal exports during most of 1953, due to the drop of world prices below domestic levels, represented a severe handicap menacing output stability and economic development of the zone. The crisis, however, was overcome at the year's end through the October exchange reforms and the gradual recovery of world prices.

Production of castor beans has declined rapidly as a consequence of international problems. To develop this industry and to use the cakes as organic fertilizers, Brazil channelled increasing amounts to industry, limiting exports. The United States, principal importer of castor-oil and beans, preferred the beans to the oil and made sustained efforts to develop domestic production. This limited exports from Brazil in a similar fashion to Argentine linseed exports. Owing to all these factors, domestic output

[34] In the State of São Paulo, the average price to farmers for paddy rice increased by 106 per cent between July 1952 and July 1953, although this percentage afterwards fell rapidly. Between these dates, maize prices rose by 36 per cent.

[35] In another three States, the average yield in 1952/53 was 920 kgs. per hectare, in comparison to 719 in 1951/52.

[36] When this *Survey* was prepared complete data for 1953 were unavailable.

[37] Based on livestock slaughtered at refrigerating plants during the first eight months of 1953.

[38] According to the preliminary estimates indicated in the above footnote.

fell from 231.1 thousand tons in 1947/48 to only 171.4 thousands in 1952/53.

Cocoa production recovered partially from the 1950/52 decline and amounted to 122.5 thousand tons, or 20 per cent below the 1949/50 peak. Furthermore, the price increase beginning in mid-1953 and growing world demand presuppose a boom period for cocoa.

The renewal of the trade agreement with Argentina in May 1953 strengthened the good prospects for the banana exports and ensured the shipment of 75 per cent of the exportable tonnage. The 1952-53 output was almost 7 per cent higher than that of the previous year and 45 per cent above 1947/48 figures.

(b) *Development Policy*

(i) *Mechanization.* The agricultural mechanization programme of the last few years is perhaps unique because it is being accomplished on a truly federal scale. The Ministry of Agriculture purchases various types of machinery, which is then sold to farmers at cost price, on three-year payment terms. The speed of mechanization decreased relatively in 1952 and 1953 owing to foreign exchange shortages. Import restrictions affected purchases of new equipment, spare parts and accessories, thus stopping many machines, to the consequent detriment of agriculture. Between January and September 1953, tractor imports had a value of 312 million cruzeiros against 512 millions for the same period of 1952. During the first nine months of 1953, imports of ploughs and disk-harrows amounted to 15 million cruzeiros, compared with 92 millions in 1952.

At present the agricultural mechanization programme is being intensified through the 18 million dollar loan by the Export-Import Bank and the purchase of a thousand European tractors with a rotating credit of 150 million cruzeiros from the Fundo de Mecanização do Cultivo Brasileiro. It is planned to distribute an aggregate 6,900 tractors through the Ministry of Agriculture and the first deliveries are expected at the beginning of 1954. Interest in these plans is great and some 3,000 prospective purchasers have registered for more than 1,882 units assigned to the State of São Paulo.

During the last two years no further progress appears to have been made in the mechanization of cotton production. The high cost and complex nature of the necessary machinery and, in particular, economic factors affecting cotton have combined to maintain such equipment at an experimental level.

(ii) *Wheat storage.* The programme of the Technical Wheat Commission in some States received ample official credit facilities to promote technical advances and to purchase machinery and fertilizers. It was also supported by the government through the establishment of adequate price levels and the construction of storage space, which was given priority during the last two years. In 1952, 14 warehouses with 66.8 thousand tons' aggregate capacity and an underground silo for 5 thousand tons were installed in the States of Rio Grande do Sul and Santa Catarina. This programme was considerably expanded in 1953, since construction began on 12 warehouses with 52.8 thousand tons' capacity (6 in Santa Catarina, 4 in Rio de Janeiro and 2 in Paraná). In the State of Santa Catarina, furthermore, a 5 thousand ton grain elevator was built—the first in Brazil. All these facilities—at an estimated cost of over 62 million cruzeiros—will be equipped with modern machinery to dry and clean the grain as an additional function.

(iii) *Minimum price policy.* To develop production and guarantee fair profits for farmers, the Government passed a law in December 1951 establishing minimum prices to farmers for the following commodities: rice, beans, soya bean, maize, peanuts, sunflower seed, wheat, manioc flour and starch, tapioca, cotton fibre, mate and coffee.

The law was not enforced until 1952, when world cotton prices fell below domestic levels. The law authorized the Government to purchase any commodity, but only specifically protected ginned cotton. Pressure by farmers obliged the government to intervene and to establish a practical guarantee system in which farmers could have confidence.

This policy has also given excellent results for wheat, and an efficient marketing system enabled the government to intervene for farmers, with a basic price for the 1952/53 harvest of 150 cruzeiros per 60 kg. sack. The same does not apply to other agricultural products, since sales were made at much higher prices than the minima.[39] Since the government did not intervene, the trade was imperfectly organized by a relatively small number of big wholesale firms. Farmers were unable to benefit from the good prices for foodstuffs on the market,[40] and some dissatisfaction arose.

(iv) *Irrigation.* Great impetus has been given to irrigation, especially in the north-east, the traditional drought zone. At present, 30 dams are under construction with a total water storage capacity of almost 6,000 million cubic metres. The importance of these projects is evident if compared with the present reservoirs, the aggregate capacity of which is 3,400 million cubic metres. Construction of the Oros reservoir will start shortly; it will be the largest in the north-eastern drought area, with a capacity of over 3,000 million cubic metres. Furthermore, in 1952, 500 kilometres of irrigation canals were built; in 1953 this figure was probably exceeded.

For the rest of Brazil, the growing importance of spray irrigation in coffee plantations, mainly in the State of São Paulo, should be mentioned. Present coffee prices allow this expensive system to be used. A number of companies specializing in this field have been established in São Paulo and the manufacture of aluminum tubes and accessories has begun.

(v) *Immigration and colonization.* The unsuccessful results of immigration and colonization by foreigners during the post-war period—due mainly to lack of preparation of the areas to be settled—has induced the government to prepare a General Immigration Settlement Plan. It is planned to settle 7,200 families—30 per cent of Brazilian

[39] Thus, while the minimum price for unpolished rice, medium grain, types 1 and 2, was established at 154 cruzeiros per 60 kg. sack for the 1952/53 harvest, it was quoted in São Paulo at an average price for the farmer of 456 cruzeiros in August 1953. Type 3 maize, white or yellow, had a minimum price of 90 cruzeiros, but farmers obtained an average 143.70 in November 1953. For peanuts, the respective prices during the same month were 77 and 127.90 cruzeiros.

[40] As an example, the case of beans may be cited; they were quoted in the city of São Paulo at 220 cruzeiros per 60 kg. sack, while in some towns north of Paraná and in rural districts of the State of São Paulo they were sold at 50–60 cruzeiros.

origin and the remainder Europeans—in previously prepared colonies distributed in two groups: internal colonization in areas far from urban centres in a number of States, and the so-called green belt settlements located around the big cities to help their food supply.

(c) *Principal problems affecting Brazil's agriculture*

The enormous area of Brazil and the widely divergent characteristics of its individual zones do not permit generalizations as to its agricultural problems. It is therefore necessary to study those which affect the most important commodities within the domestic economy.

(i) *Coffee production and effects of the frosts.* Up to mid-1953, the prospects for increasing coffee production appeared excellent and there was even some well-founded concern in official circles about possible over-production. Under the influence of high coffee prices, which had remained stable since 1949, and the expectation that world demand would continue to rise, the extension of plantations was carried on at a much faster rate than was required to replace old or low-yielding bushes.

The scarcity of suitable coffee areas in the state of São Paulo and the high value of agricultural land there accounted for a movement of new plantations to northern Paraná and other states, even to Paraguay. The development of the Paraná plantations was remarkable, since from 55.2 million bushes in 1939 the figure rose to 683.5 millions in 1953, according to the latest census of the State Ministry of Agriculture. Of the total, 238.8 million bushes were five years old or more and in full production; of the remaining 444.7 millions, 48 per cent were between one and two years old. In the states of Goias and Matto Grosso production also rose rapidly and between 1948 and 1953 the area of coffee bushes in production increased by 144 and 77 per cent respectively. In the state of São Paulo there was no substantial change and the area planted only rose from 1.41 million hectares in 1950 to 1.46 in 1953.[41]

The exportable crop in 1952/53 had been initially estimated at 16.9 million sacks of 60 kgs., but only 14.1 millions were obtained; there was thus a small deficit on the world market. The smaller harvest was due to drought in the most productive zone and to damage caused by different insects in several states, particularly "broca do café."

Because new plantations were expected to come into production in Paraná, the exportable crop for 1953/54 was originally estimated at 20.6 million sacks, which would have signified considerable over-production. However, these forecasts were abruptly modified early in July 1953, when intense frosts seriously affected the Paraná and São Paulo plantations, causing output to drop sharply. The last estimate made by the Brazilian Coffee Institute stood at 14.3 million sacks, or a decrease of 30.6 per cent in comparison with the former crop. It represents a loss of about 7 thousand million cruzeiros for Brazil.

In the state of Paraná, it was estimated that more than 80 per cent of all new coffee bushes had been destroyed by the frost and that between 55 and 60 per cent of those already in full production were totally or partially effected. A production decline of 55—65 per cent is anticipated. In the State of São Paulo, the damage amounted to about 31 per cent of all bushes.[42]

Unfortunately, not only was the 1953/54 crop affected, but the damage will be felt for some years, owing to the time-lag before the partially destroyed bushes can recover and to the decrease in productive bushes. Official estimates put the losses at an average 1.5 million sacks during the next five years.[43]

Brazil's entire economy was seriously jeopardized by a disaster of such dimensions. In Paraná, where few possibilities for other types of farming exist owing to the high cost of clearing arable areas and the scarcity of land for immediate use, migrational movements have occurred since many farm workers remained unemployed. It is estimated that many of the farmers in this zone will be able to count on only 20 to 30 per cent of their normal manpower.

Other crops were seriously damaged by frost, and there was a general movement away from permanent plantations liable to be destroyed by cold spells.

In the state of São Paulo other crops were seriously affected, and the damage is estimated as follows: bananas, more than 40 per cent of plantations damaged; pineapple, loss of more than 4.6 million plants; tomatoes, half the plants; wheat, 15 per cent; sugar cane, a smaller proportion. Great tracts of grassland were burnt, and meat output will accordingly suffer. It is anticipated that it will be necessary to supplement cattle fodder with bran, oil-seed cakes and other high cost substitutes.

To relieve the effects of the frost, the Brazilian Coffee Institute, jointly with the Banco do Brasil and State Ministries of Agriculture, decided to provide financial and technical aid, to a value of more than one thousand million cruzeiros, to the farmers affected. Since August 1953, the government has authorized additional advantages in liquidating foreign exchange accruing from coffee exports, a system which was later replaced by a stable bonus.

Efforts are being made to offset the damage by the introduction of other sources of income and a large increase in rice, beans and maize cultivation is probable. The 1953/54 harvest in the States of Paraná and São Paulo already shows exceptional advances. In Paraná, the increase in the maize crop is estimated at 150 per cent, for beans 156 per cent and for rice 315 per cent. The areas sown with these crops in São Paulo rose by 42, 12 and 30 per cent respectively. But some of the upward movement has been achieved by reducing cotton cultivation.

(ii) *Cotton production and the influence of external factors.* Faced with a sustained external demand, Brazilian cotton output had been rapidly recovering the high pro-

[41] This figure was achieved by utilizing larger areas of the so-called "old lands", in spite of the theory that their cultivation was uneconomic. The use of early and high yielding varieties, contour farming to prevent erosion, use of combined fertilizers and spray irrigation are disproving this theory.

[42] See the reports of the Commission which investigated the effects of the frost that the President of the Brazilian Coffee Institute; see also the summary records of the Chamber of Deputies for 23 September 1953, pp. 4 and 9.

[43] Some estimates, however, indicate that the 1954/55 crop (to be harvested between May and August 1955) will be as great as or perhaps larger than in 1953-/54, owing to the rapid recovery of many bushes and to the fact that many new plantations will come into production.

duction levels of the forties.[44] Beyond 1951, the world price fall to below domestic levels[45] brought about a virtual suspension of exports, the figures for which fell from 143.5 thousand tons of fibre in 1951 to only 28.2 thousand in 1952. Since 1951 sowings were a record for recent years, registering more than 1.3 million hectares in the State of São Paulo—an increase of 15 per cent over the previous year—surpluses began to accumulate. The drop in domestic prices continued until March 1952, when the Government established a minimum of 255 cruzeiros per arroba of 15 kgs. for type 5 ginned cotton, on the condition that the ginning plants paid 35 cruzeiros to farmers. Owing to domestic difficulties, and particularly the reluctance of ginning plants to pay the farmers, all cotton transactions ceased for over two months. Pressure from planters for a guaranteed price obliged the Government to commission the Banco do Brasil with the direct purchase at 85 cruzeiros per arroba for unginned and unclassified cotton. This is equivalent to a price of 100 cruzeiros for classified cotton. According to this measure, the Government purchased 80 per cent of all output at a price which exceeded by 30 cruzeiros, on some occasions, that of North American cotton of similar quality. The minimum prices allowed for growing production costs, further complicated by lower yields due to impoverishment of soils, lack of crop rotation, and plagues.[46]

The uncertainty over the minimum price for the 1952/53 crop, the greater relative increase of maize and rice prices and financing difficulties discouraged farmers. The area sown fell to 2.5 million hectares, that is 17 per cent below the previous year. (This decrease represented 27 per cent in the State of São Paulo.) Unfavourable weather conditions and less use of fertilizers and insecticides combined to produce a crop of 388.1 thousand tons, 25 per cent below 1951/52 levels, but 21 per cent above 1947/48.

In August 1952, carry-over stocks stood at 270 thousand tons, while in December, when it was already too late to influence cotton planters, a minimum price was established at a similar level as the previous year (87 cruzeiros per arroba of the regular type), but with lower prices for inferior qualities, averaging 79 cruzeiros. Although prices were higher than United States levels, many farmers suffered losses.

The Government had to purchase more than 55 per cent of the 1952/53 crop, although exports were virtually at a standstill until mid-1953, owing both to the price differential and to slacker demand from Brazil's traditional customers. During that period, the only significant trade transaction was the exchange with the United Kingdom of about 15.5 thousand tons of cotton for military aircraft.

The Banco do Brasil decided to sell its stocks in May 1953, because the 1952/53 crop was already entering warehouses. For this purpose it was necessary to reduce the Brazilian price, which was the highest on the market, and establish a level which would compete with the New York Exchange quotations. Surpluses in May amounted to more than 200 thousand tons, of which 117.7 thousand tons had been exported up to November at a considerable loss.

Cotton was the favourite crop in certain zones; this was largely due to the existing economic, technical and trade organization. But the developments outlined above reduced interest in 1953/54 sowings and the sale of seed—a monopoly of the Ministry of Agriculture in the State of São Paulo—was far lower than former years during the same period. Owing to a combination of several factors, the situation continued unchanged. Prices of foodstuffs had risen abnormally while cotton quotations on the São Paulo Exchange were unstable and had a marked downward trend. Fertilizers and disinfectants were scarce and high costs or deficient yields in marginal areas were feared.

The adjustment of Brazil's foreign exchange structure in October 1953 resulted in a bonus of 10 cruzeiros per dollar for fibre exports.[47] This changed the situation radically. At current international prices, planters could receive some 96 cruzeiros per arroba of unginned cotton, regular type. By the end of October an increase was noted in seed purchases, which, by the end of December, were only 20 per cent below the previous year.

The first estimates for the area sown in the 1953/54 farm year indicate that this area is about 17 per cent smaller than in 1952/53, and 35 per cent below the average for the last ten years. Although the decrease will not affect exports, since substantial carry-over stocks exist, it will cause difficulties for edible oil supplies. Some 35 thousand tons of seed will be harvested, but requirements are normally between 50 to 60 thousand tons and it will be necessary to use the small available reserves and to raise peanut cultivation.

3. *Chile*

(*a*) *Agricultural and Livestock Output*

In 1952/53, Chilean agricultural production attained the highest levels recorded during the last six years, 18.1 per cent above 1947/48 and 20.1 per cent over 1951/52. This increase, which may be considered exceptional in view of the absolute stagnation recorded in the three previous years, brought per capita output 9.7 and 0.5 per cent higher than the figures for 1947/48 and 1934/38 respectively.[48]

Higher production in 1952/53 was particularly determined by the increase in the agricultural sectors, where all products, with the exception of sunflower seed, exceeded the previous year's levels.

[44] A distinction must be made in Brazil between cotton from the north which is perennial, mainly with long fibres and little uniformity, and that from the south which is of the annual type and medium fibre, cultivated under modern standards and marketed by very advanced methods. Only the latter is considered here.

[45] The difference between quotations on the market in São Paulo for type 5 cotton and those for the American Upland Middling in New York, converted into Brazilian currency, amounted to more than 113 cruzeiros per 15 kgs.

[46] Manpower for the harvest accounts for 23 per cent of production costs, and another 25 per cent corresponds to treatment for pests and diseases, which require the use of materials almost all imported.

[47] This measure implies a 50 per cent bonus, since exports which previously produced 18.36 cruzeiros per dollar will in future get 28.36.

[48] "Data on farm and livestock production for 1952/53, published in April 1954 by the Dirección General de Estadística de Chile, give lower figures than those previously supplied by the Dirección Nacional de Agricultura, which are the ones considered in this text. According to the new figures, in 1952/53 production rose by 8 per cent in relation to 1947/48, and by 11.7 per cent in comparison with 1951/52. These modifications, however, do not affect the trends described in this section."

Table 129. Chile: Quantum of agricultural and livestock output

(Millions of pesos)[a]

	1947/48	1948/49	1949/50	1950/51	1951/52	1952/53
TOTAL OUTPUT	*14,232*	*15,439*	*13,924*	*13,983*	*13,988*	*16,799*
Agricultural output total	*8,680*	*8,638*	*7,367*	*7,765*	*7,412*	*9,702*
Wheat	4,001	4,159	3,068	3,642	3,419	4,480
Maize	227	198	186	217	213	277
Rice	329	307	309	148	294	340
Oats	222	262	197	252	272	324
Barley	360	314	213	277	273	470
Rye	13	14	10	12	13	12
Potatoes	1,248	1,195	1,032	950	1,012	1,226
Dry pulses[b]	705	618	583	566	667	763
Sunflower seeds	166	259	358	351	335	288
Tobacco	41	52	52	49	41	41
Wines, chichas	1,198	1,080	1,239	1,168	722	1,307
Others[c]	170	180	120	132	151	174
Livestock output total	*5,552*	*6,801*	*6,557*	*6,218*	*6,576*	*7,097*
Beef	1,318	1,633	1,790	1,464	1,459	1,678
Mutton	636	646	665	460	483	468
Pork	587	603	635	589	673	715
Milk	2,617	3,529	3,018	3,177	3,427	3,697
Eggs	69	76	65	103	101	106
Wool	325	314	384	424	433	433

Source: Economic Commission for Latin America, based on data from the Dirección General de Estadística and the Dirección Nacional de Agricultura.

[a] At 1948 prices.
[b] Beans, lentils, chickpeas.
[c] Hemp and flax (seed and fibre).

From an analysis of agricultural and livestock production over recent years it is possible to deduce that the slow development of Chilean agriculture was due to a reduction of the agricultural crop sector, which until 1951/52 remained below the 1947/48 level. Consequently, the supply of agricultural products *per capita* was 20 per cent lower in 1951/52 than in 1947/48. In 1952/53, a 31 per cent increase in relation to 1951/52, and 12 per cent in comparison with 1947/48, enabled *per capita* production levels to be raised for the first time by 4 per cent in relation to 1947/48. (See table 129.)

Normal weather in 1952/53 permitted the harvesting of a good wheat crop. Because of the area it covers and its productive volume, wheat is the most important farm item. The government also encouraged farmers by granting at 50 per cent subsidy on the value of the fertilizers used and by increasing the wheat prices paid to farmers from 700 to 830 pesos per quintal. It was thus possible to sow 839 thousand hectares—77.8 thousand more than in 1951/52 — to raise unit yields 19 per cent, and to obtain a crop of 1.2 million tons, 32 per cent above the previous year.

Barley was the cereal crop with the highest increment, due particularly to an increase of unit yields because of favourable climatic conditions. The 140 thousand ton crop was 73 per cent above that of 1951/52.

Maize production improved 30 per cent above the previous year's level, owing to better prices and to the sowing of 6 thousand hectares—or 10 per cent of the total area—with hybrid seed produced by the Ministry of Agriculture; the yields of this variety are 30 per cent higher than those of the more common varieties.

Production of 92.6 thousand tons of unpolished rice, although it signified a 16 per cent improvement over the previous crop, was still 44 per cent lower than in 1945, the peak year for this crop in Chile. The downward trend of rice production is partly due to smaller yields through loss of soil fertility and partly to the deterioration of the price ratio to other products.

The potato crop also shared in the general improvement, increasing 17 per cent above 1951/52, but was still lower than the 1947/48 levels. The appearance of potato blight (*phitophthora infestans*) in 1949/50 caused substantial damage to this crop and came as a surprise to farmers who had no means nor technical methods for its control. But the situation appears to have changed and the efforts made by the government and farmers to use blight resistant seeds and preventive treatments have resulted in a recovery of production. Production of dried pulses, which had shown a downward trend, was 14 per cent higher than the 1951/52 output and 8 per cent above the base year of 1947/48. Sunflower seed, however, suffered a 15 per cent decrease.

The livestock sector (beef, mutton, pork, milk, eggs and wool), although it has not developed steadily, has grown, according to the Dirección General de Estadística, at a higher rate than the population. This implies that available *per capita* supplies should have increased each year since 1948. Eggs and milk are the commodities in this group which have shown most progress during the last six years, with increases of 54 and 41 per cent respectively.

According to information from the Dirección General de Estadística, meat production in 1953 would have been 9 per cent higher than in 1952 and 13 per cent higher than

in 1948.[49] On the contrary, surveys of the Ministry of Agriculture and the Corporación de Fomento show a general downward trend. Similarly, such surveys have given figures 36.6 per cent higher for meat production in the 1948-52 period than those provided by the Dirección General de Estadística.

(b) *Development policy*

The agricultural development measures adopted during 1953 may be considered as the beginning of a stage of effective achievement in the field of crop production.

The reorganization of the Ministry of Agriculture enabled a series of development programmes to be initiated which were supported by credit co-operation from the new Banco del Estado and by technical and economic aid from international organizations (Food and Agriculture Organization of the United Nations, Institute of Inter-American Affairs, Organization of American States, etc.).

An agricultural development plan was inaugurated in the provinces of Nuble, Concepción and Chillán which, in addition to the aims and objectives considered in each of the projects, was considered a "pilot project" to provide experience for technical staff to carry out similar programmes in other areas.

Furthermore, a national agricultural plan was being studied, based on the programme prepared in 1945 by the Ministry of Agriculture (Plan Agrario). This plan was later expanded by the inclusion of the report prepared by the Joint Bank and FAO Mission, and several studies published by the Economic Commission for Latin America.[50]

It is interesting that agricultural societies and farmers have supported these projects, not only voluntarily accepting the technical assistance given but also requesting more than it is now possible to grant.

(i) *Reorganization of the Ministry of Agriculture.* Under the terms of the reorganization, the Ministry of Agriculture will guide and co-ordinate agriculture and livestock activities, to accomplish a quantitative and qualitative increase in production. The new framework included the creation of new departments,[51] the reorganization of others[52] and the establishment of the Consejo de Fomento de Investigaciones Agrícolas (CONFIN).[53] This agency has given the Ministry of Agriculture the necessary flexibility and independence for implementing the development programmes recommended by the technical departments of the Ministry. The actual budget of the Ministry, which in 1953 amounted to around 200 million pesos, has been raised to approximately 800 millions for 1954, and will thus enable the programmes to be carried out.

(ii) *Agricultural development programmes.* In 1953, the Ministry of Agriculture and other development agencies carried out new agricultural development programmes at both national and regional levels. The main programmes were: (*a*) national seed reproduction programme; (*b*) programme for conservation and reclamation of marsh land; (*c*) programme for establishing new grasslands; (*d*) artificial insemination programme; (*e*) livestock sanitation programme; (*f*) agricultural industrialization programme; and (*g*) Chillán plan. Because of their importance it is advisable to review each one briefly.

The national seed reproduction programme lays particular stress on fodder crops, cereals and tubers. More than thirty suitable varieties of forage seeds are being studied and propagated for the different zones of the country. An area of about 2.3 thousand hectares of seed beds have been sown with these varieties in 1953, and it is planned to extend this area to 12 or 15 thousand hectares within the next few years. Work on the propagation of genetic wheat seeds has been intensified.[54] It is proposed in the next two or three years to sow 300 to 400 thousand hectares with these seeds, and 600 to 700 thousand hectares within six years. The reproduction of hybrid maize has also been of special concern to the Ministry, and it is hoped to supply not less than 60 per cent of the area sown. The aggregate supply of sunflower seeds has been maintained. Propagation of potatoes immune to potato blight has been intensified, and finally, seeds are available to start work on barley, rice, oats, and fodder beets.

In 1953, in connexion with the programme for conservation and reclamation of marshland, the Ministry initiated a soil conservation programme in the provinces of Maule, Nuble, Concepción, Bío-Bío, Malleco and Cautín. The activities are carried out at the request of the farmers and consist mainly of rational crop distribution, creation of pastures on lands unfit for annual crops, levelling of irrigated areas and construction of reservoirs to regulate irrigation and use water at night. With economic co-operation from the Corporación de Fomento de la Producción and from farmers, the first pilot project for the drainage of 30 thousand hectares of marshland in the province of Llanquihue was begun.

[49] This increase is obtained from the figures on controlled slaughterings in the principal municipal and private abattoirs and from estimates of farm slaughtering by the Dirección General de Estadística. The Ministry of Agriculture and the Corporación de Fomento, after very thorough research, have arrived at very different conclusions in relation to the development of the livestock industry and the tonnage of meat produced. This study included beef, mutton and goat meat. For the comparisons made in this text, however, goat meat has not been considered since information from the Dirección General de Estadistíca is not available. The conclusions reached by the new survey indicate that production of cattle, sheep and pigs, on the aggregate, would have been higher for 1948/52 by 37.6 per cent than the figure of the Dirección General de Estadística. During these years production tonnages, according to this source, have been steadily declining. For 1952, this would mean a decrease of 8 per cent in *per capita* meat output instead of a 6 per cent increment as shown by the figures of the Dirección General de Estadística. The agricultural and livestock production index, estimated on the basis of this recent data, would intensify the deterioration of Chilean agriculture; in 1951/52 it would have been 2.6 per cent below 1947/48, instead of 1.7 by using the Dirección General de Estadística figures. *Per capita* production—during the same period—would have fallen by 8.4 per cent instead of 7.5 per cent.

[50] See ECLA, *Agricultural Development of Chile*, (E/CN.12/164/Annex C, 1950); *Recent Trends and Developments in the Chilean Economy*, (E/CN.12/217/Annex 3, 1951); *Preliminary Survey of the Techniques of Programming Economic Development*, (E/CN.12/292, 1953); *Analysis of Some Obstacles to the Increase of Agricultural Production*, (E/CN.12/306, 1953).

[51] The following departments were created: Conservation of Agricultural Resources, Agricultural Defence, Agricultural Training, Technical Inter-American Co-operation (Point IV).

[52] Agronomy, Viticulture, Fruit, Livestock and Agricultural Research.

[53] The Council is an independent agency, with legal status, presided over by the Minister of Agriculture and composed of the National Director of Agriculture, the General Co-ordinator and some departmental directors of the National Agrictural Office.

[54] From 30 to 40 per cent of the genetic seed used in the 100 thousand hectares planted in 1953 was produced by the Ministry of Agriculture, the rest being obtained from a number of agricultural societies. The objectives include expansion only by the Ministry of Agriculture.

The programme for new grasslands is designed to supplement the 1.1. million hectares of artificial pastures during the next six to eight years by adding 500 to 600 thousand hectares, principally on unirrigated land.

Under the artificial insemination programme, centres were established in Los Angeles and Talca, with a capacity of 20 thousand cows each. The Ministry obtained the support of the dairy co-operatives, which will manage the centres once the necessary experience and technical training have been acquired.

In connexion with the livestock sanitation programme, local programmes were initiated at Osorno, Valdivia and Llanquihue for the control of echinococcus granulosa, brucellosis, foot and mouth disease, carbuncles, and red water disease. Another programme was initiated for the control of all infectious, contagious or acute chronic and parasitic diseases in the provinces of Nuble, Maule and Concepción, supplemented by dairy control and forage conservation programmes.

Agricultural mechanization programmes are at present confined mainly to sugar manufacture, the dairy industry and the construction of refrigerated abattoirs.

It is interesting to note that sugar is considered as a by-product in the establishment of this industry. The main products are milk and meat, as well as greater cereal, pulse and oil-seed yields, resulting from the rationalization of agriculture introduced by the cultivation of sugar beet.

The Ministry is also initiating a programme for the installation of powdered milk plants. A plant at La Unión came into production in 1953 and two others at Valdivia and Río Bueno are almost complete. It is planned to build five more plants in 1954, with a capacity of 80 thousand litres each. The programme includes the installation of milk collecting centres to facilitate the supply of such cities as Santiago, Valparaíso and Concepción.

In 1953 a start was made on the Chillán plan. The activities of different official agencies and international organizations will be co-ordinated to encourage agricultural development and to improve living conditions for the rural population in the provinces of Nuble, Concepción and Chillán, where yields per unit of the different crops are much below the national average.

Agricultural development plans[55] consist, firstly, of an agricultural extension and soil conservation programme for the protection of natural resources, livestock improvement, formation of farm and electric power co-operatives, local farmers' associations and youth clubs. Secondly, a programme of direct services, including weed control and plant and animal health.[56] Finally, an agricultural and economic research programme for the survey of the area and for research on production, technical assistance, markets, etc.

[55] The following organizations co-operate with the Ministry in this plan: the Dirección Nacional de Salud, with a programme of rural hygiene in connexion with agriculaural extension; the Dirección General de Bosques of the Ministry of Lands, for the reafforestation of dunes and watersheds; the Dirección de Riego of the Ministry of Roads and Works, by means of surveys and later by the rationalization of canal networks; the Corporación de Fomento a la Producción (CORFO), with mechanical irrigation works and use of underground waters; the Institute of Inter-American Affairs (Point IV), through its Technical Department of Agricultural Co-operation; FAO, through technical assistance; and finally, UNICEF by the gift of a milk processing plant at Chillán.

(iii) *Agricultural credit.* The new Banco del Estado was organized in mid-1953 by merging several official credit institutions. It has allocated 54 per cent of its substantial credit available to the agricultural department. The Bank will co-operate with the Ministry, granting credit to farmers who follow ministerial development plans and technical instructions.

(iv) *Technical assistance of international agencies.* In 1953, the Food and Agricultural Organization of the United Nations (FAO) continued to provide technical assistance to government development plans with a budget of 300 thousand dollars. It also contributed to the financing of further studies by agronomic engineers outside Chile.

The Inter-American Co-operative Department (Point IV) co-operated with the Ministry of Agriculture in several of the above development plans, contributing 200 thousand dollars.

The Organization of American States also began an agricultural extension programme in the San Vicente area. Finally, the Rockefeller Foundation continued its agricultural extension and public health programmes in the Aconcagua Valley, in co-operation with the Chilean authorities.

(v) *Irrigation.* In 1953, the Ministry of Public Works and Transport invested 234.5 million pesos in irrigation works. Plans include the irrigation of 152 thousand hectares and a better water distribution in another 135 thousand.

(c) *Some problems of Chilean agriculture*

(i) *The decline of sunflower seed production.* Production of sunflower seed has expanded rapidly in Chile during the last fifteen years. The crop was commercially grown for the first time in 1940 on 1.2 thousand hectares; this figure rose to 85.7 thousand hectares in 1950/51, later declining to only 37 thousand in 1952/53. The exceptional initial development made it possible to instal an edible oil industry which supplied 73 per cent of the domestic demand. The later contraction in sowings reduced this percentage to 42 per cent in 1951/52 and obliged Chile to import from 14.2 to 15.7 thousand tons of oil in 1952 and 1953, in comparison with only 600 tons in 1950.

It is therefore of interest to define the reasons for so great a reduction in the area devoted to the sunflower seed crop. Average yields per hectare show a gradual rise. Genetic improvement, supply of certified seeds and extension of farming practices have all been satisfactorily attained by the Ministry of Agriculture. Plagues and diseases were checked, while weather conditions were normal during the last three years. The decline in the sowing of this oil-seed must be attributed to economic factors and in particular to the unfavourable relative prices with other

[56] The Animal Health Programme provides for free vaccination against foot-and-mouth disease, diagnosis of tuberculosis, bangs disease and mastitis, milk control, veterinary and extension services in general; services at cost price for vaccination against carbuncle, red water disease, bangs disease, tuberculosis, prevention and artificial insemination, and control of toxic weeds and sources of infection derived from internal parasites.

products, since there was no shift of cultivation in favour of other commodities.[57]

(ii) *Soil erosion.* The survey, study and classification of soils which the Ministry has begun[58] makes it possible to assess the importance of Chile's erosion problems.

The results already obtained in the provinces of Maule, Bío-Bío, Malleco, Cautín, Osorno and Llanquihue, an area of slightly more than 3.8 million hectares, show that 56.7 per cent of this area—or 2.2 million hectares—has no erosion problems. The remainder—or 1.7 million hectares—is affected by erosion in one way or another. Indeed, it has been shown that 969 thousand hectares are liable to erosion or are eroded already; 254 thousand hectares are in an advanced state of erosion and soil fertility is already affected; 422 thousand hectares suffer from permanent erosion and are seriously damaged, requiring urgent conservation measures; finally, 27 thousand hectares are entirely lost.

These studies show that one of the most important causes of this exceptional destruction of the soil is uncontrolled annual planting, mainly with cereals, on land which might be classified as unfit for cultivation. The burning of forests to bring under cultivation new land which is unsuitable for annual crops exposes the soil to erosion. Other contributory causes are the small areas of new grasslands and the lack of conservation several years after initial cultivation; overgrazing by sheep, which destroys the plant cover, leaving the land unprotected against rain; the farmers' ignorance of conservation practices; and inadequate use of correctives and fertilizers.

The division of land into numerous very small holdings has obliged farmers to plant unsuitable crops in order to obtain a temporarily increased income. This practice is detrimental to the soil.

Wind erosion is not very serious in Chile, and is apparent to some extent only in the Magallanes area and in the coastal and sandy regions of the Central Valley (Bío-Bío province). The greatest damage is done by southern summer winds to finely textured sandy soils. Nevertheless, the principal harm is caused by water erosion, as a consequence of rainfall and inadequate irrigation systems.

The experimental stations established in different regions since 1945 have provided valuable data on the prevention of erosion and on methods of recovering soils subject to erosion.

By these methods, it has been possible, for example, to increase wheat yields from 6.5 quintals per hectare in 1935/39 to 21 quintals in 1952/53 in the provinces of Maule, Bío-Bío and Malleco. The experiment of sowing dry land fodder grasses is interesting. Not only have they assisted in recovering soil fertility but also provide a source of food for livestock. The need for terrace cultivation to prevent water flowing down on sloping land is also apparent.

The results have induced farmers to support the Ministry's soil conservation programme. As a consequence, work requests during the first year will absorb the whole of the material and technical capacity available for the next two or three years.

(iii) *Livestock development.* Although the figures of the Ministry of Agriculture have not been considered in preparing livestock production indices,[59] it is necessary to bear them in mind when studying the livestock problem because they are the starting point for Chilean development programmes. These figures show that in the 1949-51 period, *per capita* meat consumption would have been 20 per cent lower than 1946-48. (See table 130.)

[57] Sunflower seed prices are officially established every year and the price ratio to wheat shows that while the former have always been higher the difference between them has been growing steadily smaller. In 1943 and 1944, sunflower seed prices were 55 to 61 per cent higher than wheat prices, giving farmers an incentive when this crop was initially introduced. At a later date, this ratio fluctuated around 40 per cent in favour of sunflower seed, causing a growing interest in this crop. As stated earlier, 85.7 thousand hectares were sown. However, the deterioration of the ratio in more recent years automatically reduced the area sown. In 1953, sunflower seed prices were only 14 per cent higher than wheat prices, in spite of the fact that it is a crop which requires weeding, more care, and a greater use of manpower. The area sown then contracted to 37 thousand hectares, that is, 57 per cent below 1950 when the price ratio was 44 per cent in favour of sunflower seed.
The pegging of sunflower seed prices at 1,350 pesos per 100 kgs. for the 1953/54 season, while the price of wheat was fixed at a thousand pesos for the same quantity, raised the ratio to 35 per cent, causing a 21 per cent increase in area sown. The rise of production costs later obliged the authorities to raise the price of wheat to 1.2 thousand pesos. Sunflower seed prices remained at the same level and the ratio has thus dropped to only 12.5 per cent, remaining there under even worse conditions during 1952/53. Relative prices with other crops followed the same tendency.

[58] Departamento de Conservación de Recursos Agrícolas.

[59] They are based on official data from the Dirección General de Estadística.

Table 130. Chile: Per capita meat consumption during the three-year periods 1946–48 and 1949–51

	1946–48			1949–51			Percentage of difference between the two periods
	Domestic	Imported	Total	Domestic	Imported	Total	
	(Kilogrammes per capita)						
Beef	24.4	11.2	35.6	21.9	4.6	26.5	−26
Mutton	7.1	0.9	8.0	6.8	0.5	7.3	− 9
Pork	4.1	0.3	4.4	3.9	—	3.9	−11
Goat meat	1.7	—	1.7	1.9	—	1.9	12
Poultry	2.2	—	2.2	2.2	—	2.2	—
Offal	2.3	0.7	2.0	2.1	0.3	2.4	−20
TOTAL	*41.8*	*13.7*	*54.9*	*38.8*	*5.4*	*44.2*	*−20*

Sources: Ministerio de Agricultura and Corporación de Fomento de la Producción.

The greatest reduction in meat consumption therefore occurred in the case of beef, where consumption between these periods fell from 35.6 kgs. per capita to only 26.5 kgs. This was mainly due to restrictions on imports which declined from 11.2 kgs. to 4.6 kgs. and to a decrease in domestic production of 2.5 kgs. *per capita.*

The authorities are studying a development programme to replace imports by domestic production in the near future. The Servicio Nacional de Salud indicates that the minimum annual consumption of meat of all kinds is 43 kgs. per head, while it is anticipated that the rise of income will increase this quantity to 46 or 48 kgs. by 1960. Therefore, if the consumption pattern of 1949-51 were maintained, a slaughter rate of 756 thousand head would be required and stocks would have to increase to 4.2 million head.

To meet anticipated consumption in 1960, present stocks, which, according to the Dirección General de Estadística, amount to 2.3 million head, should increase by 1.9 million. Even taking the figures given by the Ministry (3 millions) the required increase would be 1.2 million head, which would be impossible to achieve in less than six years. Consequently, experts recommend a gradual decrease in beef consumption, to be replaced by meat of species which are quicker to raise: pork for example. This implies a change in dietary habits of the population and would require a substantial increase in pork production. Thus, a diet containing 47 kgs. of meat *per capita,* of which only 21.1 would be beef, would need 583 thousand head of cattle. It is possible to slaughter this quantity from a stock of 3.3 million head. Herd population could be raised to this figure, since suitable conditions exist in Chile for expanding production, either by intensifying current livestock resources or by increasing the area devoted to these activities. At present, the first of these possibilities is considered more suitable.

A livestock development programme postulates a price policy which reflects fairly and permanently the relation between livestock products, farm commodities and other elements of the productive process. It is also necessary to establish a credit system, with time limits appropriate to the development of this activity, the organization of slaughter houses, refrigerated storage, pasteurization plants, creameries, etc.

The studies in Chile showed that it is possible to obtain the quantities indicated as the targets for the different species within six to eight years. For this purpose, it would be necessary to improve cattle feeding, create artificial pastures, increase genetic capacity through the establishment of dairy control and centres of artificial insemination, import breeding stock, build cattle sheds, improve sanitary conditions, improve methods of handling herds and restrict the slaughter of less than four-year-old cows and of calves. In this last respect it may be noted that at least 100 thousand bullocks are slaughtered a few days after birth in the dairy farms which supply the principal population centres. Their rearing might make available at least 85 thousand bullocks, supplying 19 thousand tons of beef.

In the region between the provinces of Coquimbo and Bío-Bío, 267 thousand milch cows are producing an annual milk yield of only 1,673 litres per cow and a daily average of 4.6 litres. It is estimated that this stock is grazed on 100 thousand hectares of artificial pastures, which should be increased to 170 thousand hectares to improve milk production. The extensive dairy farms of the zone between Cautín and Llanquihue, which have a season of only six to eight months, could slowly be transformed if establishing pasteurizing plants, and creameries were established. In this region there are 197.4 thousand milch cows, with an average production of 1,080 litres of milk in only 180 milking days. This yield could be increased to 1,440 litres assuming that more fodder could be produced on 180 thousand hectares of new pastures, and that the other improvements mentioned above were put into effect.

Sheep flocks amount to some 8.8 million head.[60] In the 1950-52 period, 2.2 million were slaughtered, providing a per capita consumption of 6.7 kgs. annually.

Sheep production has remained stationary in recent years and *per capita* consumption has thus decreased with the growth of population. This lack of movement is especially due to the absence of a development policy including animal hygiene, better feeding, genetic improvement and advanced herd management.

An annual *per capita* consumption of 7.1 kgs. is anticipated for 1960, which would imply increasing production by over 570 thousand head per year, a target which experts believe possible if development measures are adopted. Among such measures, the desirability of standardizing the breeds, including "dual purpose" strains in the regions between Nuble and Llanquihue, and Chiloé and Aysén should be emphasized.

Genetic improvement through the use of pedigree breeding stock and improved cross breeds would make it possible to reduce the sale of a high percentage of ewes which at present are slaughtered because they lack breeding facilities. It is estimated that in the course of three years, all these measures could result in annual rates of increase of 200 to 300 thousand ewes for breeding purposes, which would rise steadily so that by 1960, increases would total one million ewes. In this way the greater meat quota anticipated for that year could be obtained.

Inadequate sanitary conditions cause losses through disease amounting at present to between 6 and 8 per cent annually, a percentage which, with the extension of preventive remedies, could be reduced to 5 per cent by 1960, thus gaining at least 170 to 200 thousand head a year.

The pork slaughtering rate is estimated at about 500 thousand head a year, and an increase in this production is considered to be of the most practical solutions of the short term problem of reducing cattle imports. It has been estimated that sows number about 100 thousand head, raised principally by smallholders and farm workers. Industrial plants with technical management are still very scarce in Chile. Breeding quality is still very low and production is aimed at rearing animals of great weight with a high fat content.

To obtain an increase in meat production it would be necessary to improve the breed through the use of pedigree pigs. At present, it is estimated that the number of pedigree animals is only about 5 per thousand, although a ratio not lower than 30 per thousand is advisable.

If food processing factories were set up in sites where freight costs would not raise prices for the beet sugar

[60] According to the figures of the Ministry of Agriculture and CORFO. The Dirección General de Estadística estimates stocks at 6.6 million sheep.

Table 131. Colombia: Quantum of aggregate agricultural and livestock output, by commodity groups

(Millions of pesos)[a]

	1947/48	1948/49	1949/50	1950/51	1951/52	1953/53[b]
TOTAL AGRICULTURAL OUTPUT	1,564	1,732	1,579	1,751	1,817	1,809
Total output for export	321	358	331	298	332	379
Coffee	295	314	288	257	289	327
Bananas	26	44	43	41	43	52
Total output for domestic consumption	1,243	1,374	1,248	1,453	1,485	1,430
Cereals[c]	279	322	263	344	370	329
Potatoes and others[d]	197	216	168	222	233	235
Dry pulses[e]	41	39	37	48	50	42
Edible oil-seeds[f]	31	36	38	37	40	42
Sugar	205	229	209	244	238	212
Plantains	72	101	99	100	101	100
Meats[g]	385	396	398	420	410	414
Tobacco	16	16	16	18	18	20
Fibres[h]	17	19	22	19	26	36

Source: Economic Commission for Latin America, based on data from the Ministerio de Agricultura.

[a] At 1948 prices.
[b] Provisional data.
[c] Wheat, maize, rice and barley.
[d] Yucca.
[e] Beans and other pulses.
[f] Cotton-seed, sesame and cocoa.
[g] Beef, mutton and pork.
[h] Cotton, wool and sisal.

industry or the dairy industries, the pork development programme would benefit. The Ministry of Agriculture target of doubling the present stock of 100 thousand sows by 1960 must be carefully studied from the point of view of the available materials for the manufacture of food concentrates. Stock capable of producing one million animals for slaughter a year, with an average of 80 kgs. of meat each—that is 11.4 kgs. *per capita*—would be necessary. To achieve this objective it would be necessary to improve breeding methods and health conditions as well as to provide larger credit facilities.

4. *Colombia*

From 1947/48 to 1952/53, Colombia's agricultural output has grown at a faster rate than the population. There was a population increase of 12.1 per cent and an increase in agricultural output of 15.6 per cent, so that available *per capita* stocks improved by 3.1 per cent.[61] In 1952/53, however, production was 0.5 per cent lower than in the preceding year. (See table 131.)

The agricultural sector has been stimulated in recent years by certain development measures which brought about an over-all improvement in output levels for several commodities, mainly rice, barley, potatoes, cotton and sugar. In 1952/53, coffee and bananas, the main export commodities, reached the highest levels ever recorded. This enabled Colombian coffee exports, including the sale of carry-over stocks, to rise to a peak, Conversely, there has been little development in beef production, so that price increases and supply difficulties have ensued.

Among recent development measures are medium and long-term credits for livestock development, construction of storage silos, which by 1954 will have a capacity of 35 thousand tons, facilities for accelerating agricultural mechanization, establishment of minimum prices for the main commodities to be developed, and the creation of the corresponding purchasing power.

(a) *Agricultural and livestock output*

In analysing the development of agricultural production in Colombia, particular attention should be given to the increase in production commodities for domestic consumption, and others—coffee and bananas—principally for export.

Between 1947/48 and 1951/52 there was a more regular and greater development, and an increase of 19.5 per cent, in production for the domestic market, whereas production of commodities for export rose by only 3.4 per cent. In 1952/53, however, owing to good coffee and banana harvests, the 1951/52 level was exceeded by 15 per cent.

The basis for agricultural development has been a policy aimed at increasing production of certain commodities, in order to reduce food and vegetable fibre imports, and in some cases to obtain surpluses for diversifying exports, consisting at present almost exclusively of coffee. For this purpose, official agencies have been created to encourage production of certain commodities. Imports of commodities not grown in sufficient quantities within the country have been severely limited, and special taxes have been applied to them, to be used for agricultural development.[62]

A detailed study of the different commodities which compose Colombian production shows that cotton cultivation was at a maximum between 1947/48 and 1952/53.

[61] 1950/51 was an exception to this trend. Adverse weather had a severe effect on several crops, causing a reduction of output to 1947/48 levels.

[62] In order to reduce the high cost of living, the government partially modified these measures during the first months of 1954, authorizing food imports and establishing lower taxes.

The 17 thousand tons of fibre harvested in 1952/53 represent an increase of 179 per cent. The government has given priority to this crop, and an active campaign has been carried on through the Instituto de Fomento Algodonero in order to foster mechanization and the use of technological advances, such as the substitution of selected annual strains for perennial cotton. The campaign was supplemented by the establishment of guaranteed prices for producers, control of imports, installation of cotton gins and packers in production areas, and compulsion of the textile industry to consume fixed quotas of domestic cotton.

To date it has only been possible to grow short-fibre cotton, but output already meets domestic requirements. During 1952, the aggregate consumption of 28.8 thousand tons of cotton fibre included 17.2 thousand tons of short fibre (60 per cent) and 12.6 thousand tons (40 per cent) of long and medium fibres, which had to be imported. Research work on the acclimatization of these varieties in the country is, however, well under way.

Prospects for this crop are most favourable, and by 1953/54 an increase of 70 per cent above 1952/53 output is anticipated, leaving a large export surplus.

Plantain and banana output increased by 54 per cent between 1947/48 and 1952/53.[63] Banana production was stimulated by the fall in Central American output and rising consumption in United States and some European countries. Exports, therefore, which had virtually ceased during the second World War, again became substantial: 89 thousand tons in 1948 and 160.7 thousand in 1952. Colombia has vast areas suitable for this fruit, which ranks second among agricultural exports. Both the government and producers are interested in stimulating its cultivation, and, in order to facilitate exports, it is planned to create a Planters' Federation.

Sugar products (including raw brown sugar) shown some interesting changes. The refining of brown sugar is of great importance to Colombia owing to the popular demand for this variety which is in general preferred to white sugar. In 1952/53, 600 thousand tons of raw brown sugar were processed, sugar refining amounting to only 187 thousand tons. A change is apparent, however, in the production and consumption of these commodities. While sugar refining has risen by 72 per cent in relation to 1947/48, production of raw brown sugar has increased by only 12 per cent. This was due to the installation of new sugar refineries, which have encouraged the introduction of new cane varieties, and a more technical type of cultivation. Since 1949, Colombia has changed from a sugar importer to an exporter, excluding 1952 when it was necessary to import 10 thousand tons.

Maize is the most important cereal crop. There was a steady upward trend in production until 1951/52, when 928 thousand tons were harvested from 844 thousand hectares, surpassing by 47 per cent the 1947/48 crop. Annual *per capita* consumption advanced from 59 to 80 kgs. in this period. In 1952/53, however, there was a sharp decrease, and the crop stood at only 770 thousand tons. One of the principal difficulties in developing production of this cereal is the lack of storage silos, and the consequent wastage is estimated at 18 per cent.

[63] Plantain production increased by 38 per cent and banana production by 97 per cent.

The expansion of rice cultivation, which began in the forties, has been maintained over recent years, In 1952/53, 200 thousand tons of polished rice were produced, which is 160 per cent over 1939/40 and 10 per cent above 1947/48. Better technical methods and the use of selected seed varieties, which have become general, have made this progress possible. In addition, planters have been encouraged by greater credit facilities and minimum guaranteed prices. In 1952, it was possible to avoid any imports and even to export 11.6 thousand tons. Apparent *per capita* consumption has risen from 9.5 kgs. in 1940 to 17.4 in 1952.

Between 1947/48 and 1952/53, barley production grew from 29 thousand to 65 thousand tons, so that imports have been unnecessary since 1951. Conversely, malt imports have steadily increased following an even greater rise in consumption. While in 1948, 9.6 thousand tons were imported (expressed in terms of barley), in 1951 and 1952 imports rose to 29 and 20 thousand tons respectively.

Wheat output has begun to recover, amounting to 145 thousand tons in 1952/53 (118 thousand in 1947/48). Owing to increased consumption, imports, rose from 26.1 thousand tons in 1948 to 33 thousand in 1952. Research has been completed on the problem of self-sufficiency and the price of domestic wheat has been established at much higher levels than the cost of imports.[64] The use of native strains with very little resistance and low yields, lack of mechanization and the location of mills far from producing centres have hampered any great progress up till now. As a result of prolonged research, however, variety Menkemen 50 has been obtained, with excellent yields, a short growing season and good resistance to "flattening" and several kinds of rust. In 1952/53, 1.5 thousand hectares were sown with this seed and in a few years it is expected that sufficient quantities will be available to meet domestic requirements for bread grain.

Colombia has very favourable conditions for cocoa cultivation and previously exported, but recently relied on imports at a growing rate (2.6 thousand tons in 1940, 8.1 thousand in 1950 and 4.5 thousand during the first half of 1953.) Output, which was only 14 thousand tons in 1940, has remained stationary during the last four years at about 15 thousand tons, or a little over 64 per cent of consumption. This situation may be explained by the fact that plantations have been abandoned and the absence of modern cultivation techniques, especially plant sanitation, fertilization and shade protection. In 1953, the Ministry of Agriculture, in collaboration with the Caja de Crédito Agrario, initiated a seven-year campaign to develop the cocoa crop.

The 1.5 million tons of potatoes and yucca harvested in 1952/53 exceeded the 1947/48 level by 25 per cent. Colombia has extensive areas suitable for potato production. If its cultivation were adequately accomplished, periodic imports could be eliminated. Research is being undertaken to obtain improved seeds.

Coffee is undoubtedly the most important crop and the basis of Colombia's export trade. The 1952/53 output—

[64] In order to level off imported and domestic wheat prices, imports bear customs duties (12 Colombian cents per kg.), other current charges, and an additional tax of 25 Colombian cents per kg. for use on the production campaign. In February 1954, the last named tax was reduced to 15 cents, to lower the cost of living.

Table 132. Colombia: Coffee output and exports

Years	Output (thousands of tons)	Exports (thousands of tons)	Index of exports (1948 = 100)	Current value of exports (millions of pesos)	Index of value (1948 = 100)
1948	346.5	335.3	100	394	100
1949	368.9	324.6	97	472	120
1950	337.8	268.9	80	600	152
1951	302.3	287.9	86	849	215
1952	339.6	301.9	90	950	241
1953	384.0[a]	399.0[a] [b]	119	1,229[a]	312[a]

Sources: Output, Ministerio de Agricultura; exports, *Revista del Banco de la República* and *Anuario de Comercio Exterior.*

[a] Provisional.
[b] Includes the sale of 36 thousand tons of accumulated stocks.

estimated at 384 thousand tons—was the best ever recorded, since it stood 15 per cent above the previous year's level and 4 per cent over 1946/47, the former peak year.

Coffee exports, which between 1950 and 1952 had declined appreciably in relation to 1948, recovered and acquired special significance in 1953, when they amounted to 399 thousand tons or 97 thousand tons above the previous year and 59.3 thousand tons above 1946, Colombia's former peak export year. (See table 132.)

Livestock production in recent years has developed at a slower rate than the population growth, so that in 1952 and 1953 the per capita availability was 3 and 4 per cent lower, respectively, than in 1948.

Sheep breeding was of little significance and remained stationary. Conversely, the slaughtering of pigs has increased from 624 thousand head in 1948 to 760 thousand in 1953.

Cattle is the basis of the livestock industry, since the country has substantial areas suitable for its development. Although production has maintained a constant growth rate, this was insufficient to meet the greater demand from the growth of the population. This factor, together with the demand caused by higher per capita income, has led to serious supply problems.[65]

(b) *Development policy*

(i) *Mechanization.* Agricultural mechanization during recent years has been largely stimulated through imports not only of tractors, but also of sugar cane, maize, cotton and cereal equipment.

The Ministry of Agriculture estimates that in the 1950-52 period the country had about 8,200 tractors in service, which in Colombia would mean that it was possible to cultivate 656 thousand hectares. Since 2.5 million hectares are under cultivation,[66] the present tractor park should be sufficient for 25 per cent of the arable area and would represent one tractor for every 305 cultivated hectares.[67] This level might be considered satisfactory in view of the topography of the country, which limits the use of machinery, as well as the broad subdivision of land which prevents many smallholders from purchasing equipment for economic reasons.

The Government, in its desire to encourage mechanization, has exempted agricultural equipment from import duties and has established special priorities for farmers to obtain foreign exchange. The Caja de Crédito Agrario has an agricultural machinery section which imports and distributes equipment, also giving technical service through its agencies. Credit granted for equipment purchases can be repaid over five years at reduced interest. In addition, importers grant credit for terms up to three years.

In 1948, 766 tractors were imported and some 1.5 thousand units were imported in both 1950 and 1951. Imports, however, had declined to 957 units in 1952 and 420 in the first six months of 1953.

(ii) *Construction of silos.* The installation of 9 silos will be completed in 1954. They will be used for the storage and conservation of grains and potatoes and will have an aggregate capacity of 35.3 thousand tons, including cleaning, drying and disinfection equipment. These silos, costing over 9 million Colombian pesos, have been located in producing zones[68] according to distribution possibilities and proximity to the consumer. It is planned to build another 3 silos[69] with an aggregate storage capacity of 19 thousand tons. Their completion will partially solve storage problems. They will be managed by the Corporación de Defensa de Productos Agrícolas.

(iii) *Minimum price policy.* For development purposes, minimum prices have to date been established for rice, beans, maize, wheat and potatoes, to prevent seasonal price variations which hinder the farmer. The Corporación de Defensa de Productos Agrícolas, which is particularly active at harvest time, is in charge of establishing prices and purchasing commodities. The activities of this agency have been hampered by lack of storage facilties, a difficulty which is being solved.

(iv) *Agricultural credit.* In 1953, the Caja de Crédito Agrario, Industrial y Minero authorized medium-term loans for farmers to purchase machinery up to a maximum value of 40 thousand Colombian pesos; loans for a maxi-

[65] Livestock problems and development are dealt with later in this chapter.

[66] Including crops such as coffee, sugar cane, etc. which are semi-permanent.

[67] For purposes of comparison it may be noted that in Ecuador this ratio is 914 hectares per tractor; in Argentina, 1,200; in Chile, 242; and in Cuba, 330 hectares.

[68] The Fonteborí silo, near Bogotá, with 4 thousand tons capacity, was completed in 1953. Of the remainder, two are located in Tunga and Maguagué with 2.1 thousand tons capacity each and the other five—4.5 thousand tons each—are in Fundación, Montería, El Espinal, Buga, Cartago and La Dorada.

[69] In Pasto, El Banco and Cartegena the first two with 4.5 thousand tons capacity each and the last with 10 thousand tons.

Table 133. Colombia: Coffee—area planted and number of new and productive bushes, by departments, 1952

Department	Area (thousands of hectares)	Bushes in production	New bushes	Total	Percentage of new bushes to productive bushes
		(millions of bushes)			
Antioquía	135.5	180.6	27.7	208.3	15.3
Boyacá	1.4	1.4	0.2	1.6	15.3
Caldas	239.4	265.2	25.1	290.3	9.5
Cauca	53.2	63.3	12.5	75.8	19.8
Cundinamarca	48.9	77.6	4.9	82.5	6.4
Huila	26.9	24.8	5.5	30.3	22.2
Magdalena	3.8	5.4	2.0	7.4	37.3
Nariño	5.8	7.0	1.8	8.9	25.9
Norte de Santander	22.7	52.5	2.0	54.6	3.9
Santander	20.2	42.1	5.3	47.5	12.7
Tolima	125.9	180.7	16.0	196.7	8.9
Valle	147.5	143.1	33.7	176.8	23.5
TOTAL	831.2	1,043.7	136.9	1,180.6	13.1

Source: Federación Nacional de Cafeteros, Colombia.

mum of 900 pesos repayable in five years for the purchase of milch cows and up to 40 thousand pesos in five years for improvement of soils and buildings (especially in the Llanos Orientales) which had been affected by domestic developments during recent years. Furthermore, this institution maintained its interest in five-year credit for the development of livestock breeding. The number of operations, as also the aggregate sum and the average value of loans made to the agricultural sector, were higher than in the previous year.

(c) *Some problems of Colombia's agriculture*

(i) *Possibility of expanding coffee output.* The importance of coffee to Colombia's economy arises both from the fact that it accounts for about 80 per cent of all exports and from the economic activity it causes through cultivation, transport, processing and marketing.

Favourable price conditions on the world market during recent years, provide favourable prospects for the short term expansion of Colombia's production.

According to information from the Federación Nacional de Cafeteros, in 1952/53 there was a total area of 831.2 thousand hectares planted with 1,180 million bushes. (See table 133.)

The number of new bushes represents only 13.1 per cent of those already in production. The attitude of planters has varied according to areas, new plantations being proportionally greater in the departments of Magdalena and Nariño which are of little significance as coffee producing zones.

Assuming a regular rate of planting, the age of the new bushes would range from one to four years, which would imply an annual plantation rate of only 3.3 per cent, which is barely sufficient to replace old or diseased plants under a regular programme for the conservation of coffee areas.

The lack of interest in expanding the coffee area may be explained by the belief—based on the experience of the thirties—that the improvement in price levels since 1949 is transitory, and by domestic developments which have contributed to discouraging long-term investments.

These factors lead to the conclusion that the increase in output levels in recent years must have been due to greater attention to old plantations, stimulated by rising prices, and also that a still greater increment is possible, in the near future, on the basis of the introduction, on a larger scale, of improved working methods. This last possibility, however, is doubtful in view of the peculiar structure of land ownership in Colombia's coffee areas, where small lots of 5 hectares and less predominate.

(ii) *Cattle.* Climatic conditions and the existence of 38 to 40 million hectares suitable for pasture in Colombia, favour the development of a substantial livestock industry, which is already an important production sector. According to the Ministry of Agriculture, in 1951 there were 15 million head of cattle and figures for 1932 to 1945 indicate that during this period stocks increased from 7.6 millions to 12.6 million head, or an annual rate of increase of 4.8 per cent. From 1945 to 1948, this rate rose to 6 per cent, but since 1949 a reduction of the cattle population occurred, amounting in 1951 to 500 thousand head in relation to the preceding year.[70]

Slaughterings have kept pace with population growth, fluctuating between 121 and 128 head per thousand inhabitants. In 1952 and 1953 a small reduction was apparent and the greater demand, due to higher incomes, could not be met. From 1948 to 1952 meat prices have risen 80 per cent in 21 of the principal cities while in Bogotá this increase was 95 per cent. These percentages are far higher than those registered by other foodstuffs.

Among the factors which contribute to checking production, attention may be called to the lack of communications with certain areas which would permit an expansion of the cattle zone, the shortage of transport equipment, the use of inefficient working methods, and credit limitations. The regions of Caquetá, La Dorada and La Gloria present excellent conditions for cattle development but are insufficiently utilized. The low-lying region between the César river and the northern zone between the Enea and Cuara-

[70] There is no information available for subsequent years. Some circles in Colombia estimate that the Ministry of Agriculture figures are too high.

cho rivers, however, which are also well favoured, are beginning to enter production.

Parasites and bacterial diseases cause substantial damage. Not less than 75 per cent of all cattle are found in the temperate and tropical zones and they are attacked by internal and external parasites which reduce their meat, milk or haulage yields. Of every 100 calves which die, it is estimated that 80 are killed by internal parasites and 20 by infectious or contagious diseases. The outbreak of foot-and-mouth disease in 1950 affected not less than 8 million animals, but was kept under control by an intensive preventive campaign. In spite of these conditions, animal health services are at present limited.

The management of fodder resources also present serious deficiencies, causing low productivity and inadequate utilization. Scanty cultivation of forage grasses and lack of storage facilities for months of shortage are also evident.

Herd management shows considerable defects, which it would be easy to correct. These shortcomings ars responsible for low reproduction indices and poor milk and meat yields.[71] Furthermore, the transport of cattle on the hoof, and with many delays, causes a substantial loss of weight. The government has already sought to solve the transport problem, and the road reconstruction programme initiated in 1951 with funds from the International Bank for Reconstruction and Development, will assist in overcoming these difficulties. A recent report recommends giving this aspect priority in order to attain livestock development.[72]

Greater medium and long-term credit is also necessary in order to increase private working capital, prevent the premature sale of livestock, and to facilitate the purchase of breeding stock, the clearing of land, the improvement of pastures, etc.

At present, credit is given to the livestock industry by commercial banks, the Caja de Crédito Agrario e Industrial and the Fondo Ganadero de la Asociación Colombiana de Ganaderos. The banks mainly provide short-term loans (90 to 120 days) which, through renewals, are useful for farmers who fatten the stock, but not for cattle raisers who breed the anmials. Since 1952 the Caja de Crédito Agrario has been granting medium and long-term loans (up to five years) for investment in breeding cattle, without any repayment of the capital before eighteen months. This efficient help, however, which is limited to farmers with capital below 500 thousand Colombian pesos, excludes many landlords with an important part of all cattle stocks, thus retarding development. The Fondo Ganadero provides cattle for farmers, sharing the profits, but its operations are small and have not exceeded a delivery of 45 to 55 thousand head a year.

5. *Cuba*

The present position of Cuban agriculture can best be understood through the examination of a series of historical factors. The sugar industry grew so rapidly at the beginning of the century that the manpower demand of this sector was sufficient to maintain full employment of the labour force. There was a steady trend, due to productivity and wage differences, for manpower to shift from other crops to sugar. For this reason, wages paid for domestic market crops were similar to those in sugar cane plantations, although revenues were much higher for the latter. Since the wage level—the principal factor in Cuban agricultural costs—was determined by a highly productive activity and received inadequate protection from tariffs, output for domestic consumption began to compete at a disadvantage with imported foodstuffs.

This, in synthesis, is the result of excessive specialization and high costs against which Cuba's agriculture is now fighting to achieve less dependence upon the external sector for domestic supply, the market having one of the highest consumption levels in Latin America. The struggle has continued for a number of years, and was particularly favourable each time sugar experienced low prices or restrictions on the world market. Conversely, ground was lost during sugar booms. Cuba is at present in an exceptionally favourable position to achieve more permanent agricultural diversification, not only through the restrictions on sugar production due to the world market situation, but also because there are better instruments for agricultural development. Furthermore, efforts are being made to achieve a substantial productive increase in domestic consumption crops, to place them on a sound competitive basis with sugar and imported products.

(a) *Agricultural output*

Since limited agricultural statistics prevent an analysis of over-all development, only some crops and agricultural problems for which there are reliable data will be examined here.

(i) *Sugar cane.* The importance of Cuba's sugar cane harvest has been increasing during the recent stages of agricultural development, which reached a peak in 1952 with an exceptional crop. First, the revenue derived from sugar, which in 1945 accounted for 45 per cent of all agricultural income,[73] rose to 65 per cent in 1951 and to 67 per cent in 1952. Secondly, manpower for cane cultivation accounted for more than 60 per cent of the total labour force used in agriculture during the last 25 years, a proportion which rose to almost 64 per cent in 1951/52. Finally, the sugar area, which in 1945 amounted to 55.9 per cent of the total cultivated area, increased to 56.3 per cent in 1951.[74] In 1952, it was perhaps even greater, through the extensive sowings made that year, in the early months because of price increases caused by the Korean war and later by the producers' desire to achieve a favourable position with which to obtain greater official milling quotas during the restrictive period.

The sugar situation began to deteriorate as conditions worsened on the world market. Although more than 50 per cent of the cultivated area is still under sugar, substantial cane tonnages are not harvested but are used as fodder or destroyed to leave room for other crops mainly for domestic consumption, such as rice, maize and beans. It is interesting to note that the more substantial crops have not always coincided with the best export years, and that the large recent harvests have caused an accumulation of stocks. In 1953, the government set aside 1.8 million tons

[71] The birth rate averages barely 70 per cent.

[72] See Cortés G. Randell: *La industria ganadera en Colombia*, September, 1953.

[73] According to the Departamento de Investigaciones Económicas del Banco Nacional de Cuba.

[74] *Anuario Azucarero de Cuba*, 1952.

Table 134. Cuba: Raw sugar output, exports, surpluses, reserves and prices

Years	Output	Exports	Surpluses	Buffer stocks	Price
	(thousands of tons)				(pesos per ton)
1948	5,970.8	5,162.1	331.1	—	92.13
1949	5,155.2	4,321.6	302.5	—	95.65
1950	5,479.8	4,575.0	292.2	—	102.05
1951	5,678.6	4,844.3	287.8	—	111.96
1952	7,123.6	4,463.5	353.6	1,778.0	91.03
1953	5,158.9	5,436.9	376.2	1,422.4	—
1954[a]	4,826.0	—	—	—	71.63

Sources: Cuban sugar yearbooks; Foreign trade yearbooks; Banco Agricola e Industrial de Cuba; and Instituto Cubano de Estabilización del Azúcar.

[a] Preliminary estimates.

of the surplus as buffer stocks. (See table 134.) In 1954, with an output provisionally estimated at 4.8 million tons, Cuba will lose ground as a world supplier. In effect, during the last ten years an average of 17.2 per cent of world output was supplied, reaching a maximum 21.5 per cent in 1947 and a minimum of 13.6 per cent in 1953. In 1954, with a world harvest estimated at 39.9 million tons, Cuba will provide only 12.1 per cent if output remains within the anticipated limits.

This situation is due not only to a decline in Cuban productivity, but also to an increase of about 3 million tons above 1953 for other competing areas.

The International Sugar Conference assigned Cuba an export quota—excluding the United States market—2.25 million tons, which was later found to be too high and was reduced to 2 millions. The International Convention, milling restrictions in Cuba and the sale of one million tons, outside the quota, to the United Kingdom strengthened prices in mid-1953.

The sale to the United Kingdom was at an average price of 2.8 U.S. cents per pound weight, that is, much below the international price which at the time was about 4.3 cents per pound, under the explicit agreement that the million pounds of sugar would be used to end rationing in the United Kingdom. It was thought that this measure might stimulate future sales to this country.

(ii) *Tobacco.* Among traditional Cuban agricultural commodities, tobacco is the oldest, and although its relative position has substantially declined, it still ranks third in value for output, preceded only by sugar and livestock products and second as an export.

Tobacco is generally considered an export crop, but in fact has its best market in Cuba. About 45 per cent of leaf tobacco is exported, plus 10 per cent of cigars, 0.2 per cent of cigarettes and about 9 per cent of pipe tobacco.

Tobacco production has increased substantially in recent years due to the minimum guarantee price established by the Government. The average for 1948-52 was almost 70.5 million pounds, and although in none of these years did it exceed the production peak of 95.5 million pounds harvested in 1926, very big crops have been obtained such as 92.3 million pounds in 1950.

The increase of output at a time when there were difficulties in placing tobacco abroad, especially for the processed commodities of the tobacco industry, have caused an accumulation of surpluses, so that in 1951/52 the Government, through the Comisión del Tabaco, purchased and burnt more than 7.8 million pounds of inferior quality leaf tobacco.

Tobacco is a highly specialized crop. The sowing, care, harvest and preparation for the market require sound practical knowledge and a series of operations far more complex than those required for vine cultivation and preparation of must in wine producing countries. Furthermore, tobacco yields a high income per unit of soil; in 1945 the figure was 2.7, 4.0 and 7.4 times greater than that for rice, sugar cane, and maize respectively.[75] The manpower required for tobacco, however, substantially exceeds that for other crops, so that the net income is in fact below that obtained for many other Cuban agricultural commodities and very similar to that obtained for maize. For this reason, farm workers in Cuba's main tobacco areas sometimes find themselves in a difficult position because, to solve the problem of the low crop profitability, the work is carried out by sharecroppers and on very small plots of land, so that a low wage is indirectly established.

Early in 1954, it was estimated that the year's crop would be one of the most substantial in recent years and at the same time of high quality. Thus, the problems created by the downward world price trend may be partly obviated.

(iii) *Effects of specialization.* Cuba's specialization for many years, in sugar production, together with the maintenance of low tariffs—particularly up to 1928—for agricultural commodities produced in countries with more efficient cultivation, especially the United States, have obliged Cuba to depend to a great extent upon imports for foodstuffs which could be produced locally. Cuban food imports, which have steadily grown in recent years, began to decline in 1952 with the contraction in demand for sugar and the prospect of reduced crops.

The increase of domestic rice production has influenced the downward movement of food imports. After meeting only 7 per cent of consumption before 1948, output rose to 17 per cent in 1951 and to 31 per cent in 1952.

There is clear evidence of Cuba's dependence upon food imports, which must be purchased with foreign exchange,

[75] *Censo Agrícola de Cuba 1945;* the only year for which accurate data are available.

and the varied diet of the population which may be considered as one of the best fed in Latin America both as to quantity and nutritive quality. In terms of value, Cuba in 1951 produced 61 per cent of the food it consumed, and imported the remaining 39 per cent.

(iv) *Rice.* The rise in rice production is one of the outstanding developments in recent agricultural progress. Cuba is perhaps one of the largest rice consumers in the world, with an average of 122 pounds clean rice *per capita* in 1951. Formerly, 93 per cent of the requirements were imported, while, with old-fashioned methods and without irrigation, about 30 thousand tons of polished rice a year were produced. In 1948, yields were about 11.3 quintals per hectare, which were low in comparison with the United States and Burma, for example, which during the same year obtained 23.5 and 13.6 quintals per hectare, respectively. Since 1948, planters began to introduce cultivation changes through the use of irrigation (generally by pumping), machinery and improved seeds. In 1951 this initiative was followed by the Banco Nacional de Fomento Agrícola e Industrial, which financed the rice output of big mechanized farms. In 1951/52, it was possible to supply 31 per cent of domestic consumption with an output of 130 thousand tons of polished rice. To appreciate the results of integrating the crop (soil preparation, sowing and harvest) and of irrigation in rice cultivation, it may be noted that for the 1952/53 crop, estimated at 135 thousand tons, planters obtained an average yield of 20 quintals per hectare, which places them in a competitive position with any other world rice producer.

It is possible that Cuba may never attain entire rice self-sufficiency, owing to agreements made with the United States for the supply of this cereal; progress achieved to date, however, indicates that in the near future Cuba may produce enough to meet from 50 to 60 per cent of its needs. The first important zone was developed in Manzanillo, Oriente province, but at present two new areas are in full production, one in Pinar del Río and the other in Camagüey.

(v) *Maize.* The cultivation of this cereal, which is general all over the island, is mainly carried on in the province of Oriente, between Bayamo and Palma Sariano, on smallholdings and with primitive methods. Yields are about 11 quintals per hectare—that is, higher than in El Salvador, Guatemala and Mexico, where maize is a staple food, but lower then in Argentina, Brazil and Peru—and not even half as high as in the United States. This factor and the excessive use of manpower, due to the systems followed in Cuba, results in low profits for farmers.

Output, which averaged 223 thousand tons in 1934-38,[76] fell to 215 thousand tons in 1944/45 owing to unfavourable climatic conditions, but rose to 376 thousand tons in 1947/48. Since then it has decreased substantially, owing to low prices and speculation by some dealers who hoarded the Oriente harvest. Since 1953, however, the Banco Nacional de Fomento Agrícola e Industrial has established a credit programme, crop mortgages, minimum prices, and agricultural mechanization, and has created an association for rural credit in the centre of the maize producing area. Results are already apparent and it is estimated that both the 1952/53 and 1953/54 crops will exceed the average for the last five years.

[76] According to the Food and Agriculture Organization of the United Nations.

The Bank has an excellent customer in the Cuban Army for the maize which it mortgages and in the event of surpluses accumulating, it would also be possible to export small amounts to Spain.

(vi) *Potatoes.* Before 1928, Cuba imported about 80 thousand tons of potatoes, which accounted for some 90 per cent of all consumption. During the world depression of the thirties, potatoes began to be grown with imported seeds in Cuba, and while imports for direct consumption fell to an average of 20 thousand tons between 1931 and 1944, seed imports rose to an average of more than 10 thousand tons a year. Some of the latter imports may have been used for direct consumption, but in any case, production rose substantially during the depression and the pre-war period. This trend was maintained after the war, stimulated by the construction of six refrigerated warehouses near the most important farming areas, and more recently, by guaranteed prices and purchases by the Banco de Crédito Agrícola at its stores in Pinar del Río province.

The use of equipment is fairly widespread, and fertilizers, insecticides and fungicides are used on an appreciable scale. Cultivation is mainly effected with irrigation and all imported seed is certified. Under these conditions, yields are higher than in most Latin-American countries. In 1947/48, for example, Cuban output was 72 quintals per hectare as compared with Argentina (59.0), Brazil (50.0), Chile (101.0) and Mexico (46.0).[77]

It should be noted that the imported elements used in cultivation determine production costs. In fact, fertilizers, fungicides, insecticides and seeds account for 61.9 per cent of all costs. Furthermore, fertilizers alone account for a much larger share of costs, 26.0 per cent, than preparation of the soil, sowing, cultivation and irrigation, which together reach only 24.4 per cent.[78]

Prospects for the 1953/54 crop are very good and preliminary estimates indicate that it will surpass 100 thousand tons, which would constitute a peak level.

(vii) *Coffee.* Having been an important coffee exporter at the beginning of the last century,[79] Cuba has been a net importer since 1891, and at present is barely able to meet domestic coffee requirements. The causes for this downward movement were many, but may be summarized as follows: Cuba was always a high-cost producer because it lacks both sufficient coffee areas and the required climate; manpower is scarce and is in demand by other crops with greater yields and profits such as sugar cane; and finally, the two wars with Spain were fought in the coffee growing areas, with substantial damage to plantations.

The difference in production costs between Cuba and other Latin-American countries is principally based on the low yields of Cuba's plantations and high wages. This last factor tends to become more acute during each sugar boom.

Coffee yields are 14 per cent below those in Brazil and 36 per cent lower than in Guatemala, countries which are not characterized by high yields per hectare. Conversely, wages paid in Cuba are more than double those in Brazil, El Salvador and Guatemala.[80]

[77] FAO, *Food and Agriculture Statistical Yearbook*, 1950.

[78] Survey of the Banco de Crédito Agrícola, in 1951.

[79] 23.5 thousand tons in the five-year period 1830-34.

[80] Junta Interamericana del Café, *Estudio de la Situación Mundial del Café*, 1949.

The substantial wage difference is particularly important because high manpower utilization, which is characteristic of coffee, makes it the most expensive item in production costs. Furthermore, the possibility of increasing the efficiency of workers in this crop seems to be limited for the present.

It is estimated, however, that Cuba could regularly supply domestic consumption if the plantation yields were raised by the replacement of old bushes and improvement of cultivation methods, including the creation of nurseries, shade protection for shrubs, pruning and cleaning of the bushes, use of fertilizers and soil protection against erosion.

Among the most important measures adopted to achieve a domestic coffee supply are those related to prices. Since 1936, the Instituto Cubano de Estabilización del Café has established minimum prices, which have not always favoured the producer since complex credit and market relations prevent supervision of the exact price paid by purchasers in production areas. It is evident, however, that in consumer areas, or in the case of large-scale producers, the real price sometimes rose above the official limit.[81] The prices established by the Institute from 1936 to 1949 were very much higher than world coffee prices, but they levelled off in 1950. Since that year they lagged behind, so that at present they amount to 67 per cent of the New York market quotation for similar qualities. The Banco Agrícola also obliges purchasers to pay farmers the real price fixed by the Institute, through a new buying programme with headquarters in Contramaestre (Palma Soriano area).

The 1952/53 crop of 30 thousand tons was barely sufficient to supply the domestic market. The 1953/54 crop, which was damaged by drought in the Palma Soriano area, where about a third of all output is produced, is estimated as slightly lower.

(b) *Development policy*

The Government for some years has been encouraging agricultural diversification. When a sugar boom occurs on the world market, there is an expansion of this crop; while this simultaneously deprives other agricultural sectors of labour, it also causes a rise in national income and an increasing demand for foodstuffs and fibres. Cuba's agricultural production thus becomes inadequate and imports rise for a series of commodities which might well be grown domestically.

The present period of contraction in sugar-cane cultivation, favourable to the development of domestic consumption commodities to an extent which has not occurred for many years, is providing better means to achieve the proposed diversification.

(i) *Mechanization.* To solve the manpower problem, Cuba has invested considerable sums in agricultural machinery during recent years, to such an extent that it at present has one of the highest figures for tractors in relation to cultivated area in the region (128 hectares per tractor).

As remarkable as the growth of mechanization has been the pronounced change in the type and power of the tractors. In 1946, more than 75 per cent were caterpillar tractors; in 1950 the ratio had been reversed and 76 per cent were wheel tractors, a percentage which rose to 78 during 1953. Over the same period, the average power of the engines fell from 30.2 to 26 H.P. These developments seem to indicate that the use of tractors is becoming more general on small and medium farms, which grow food for domestic consumption.

Although it is not possible to distinguish from these statistics the number of tractors used for sugar, the upward trend in the use of mechanized equipment is evident. Since this raises labour efficiency, it allows food production costs to be reduced and places government development plans on a favourable footing.

The Government has likewise promoted investments in machinery for farmers who have not sufficient funds or whose holdings are too small for full-time use of a tractor. In March 1953, an agricultural mechanization programme was initiated with the distribution of 900 mechanized units among the 126 technical municipal offices for agriculture. Work is effected at cost price and under the administrative management of the Comisiones Municipales de Mecanización and the technical supervision of the Ministry of Agriculture.

(ii) *Technical improvements.* The use of better machinery to prepare and farm the land means that effective possibilities exist for increasing yields, whilst reducing costs. But, in addition, the Ministry of Agriculture, at the experimental stations, has obtained improved kenaf, tobacco and rice seeds. The first two are sold to farmers in sufficient quantities for large-scale cultivation and if kenaf fibre outputs have not yet been developed this is due to industrial difficulties for the extraction of the fibre, which have not yet been overcome.

Further, the Ministry has attempted to broaden the use of fertilizers through advice given by municipal agronomists who belong to a training service. Fertilizer consumption has begun to grow substantially, especially since 1950. In 1948 and 1949, fertilizer imports were not above 4.8 thousand tons, but in contrast amounted to 12.8 thousand tons in 1950 and to 21.1 thousand in 1951. During the first eight months of 1952, such imports rose to 20.8 thousand tons.

(iii) *Agricultural credit.* Among the most efficient instruments for Cuba to achieve agricultural diversification is the Banco de Fomento Agrícola e Industrial de Cuba (BANFAIC). This organization, established at the end of 1950, aims at financing agricultural expansion for the domestic market. The Bank has granted loans mainly for the purchase of equipment, fertilizers and other production elements, but also covers working expenses mainly of rice, maize, beans, coffee and tobacco.

6. *Mexico*

Mexican agriculture, supported by an efficient Government development policy, has reacted very favourably during the last three years to the impetus from other sectors of the economy and to favourable world prices, in particular for export commodities: cotton, oil-seeds, coffee and tomatoes. In fact, Mexico's output series show that between 1945 and 1953 agriculture has grown at a rate of 5.5 per cent, while over-all output increased 5.2

[81] See *Informe de la Economía del Café* by the Comisión Especial de Técnicos del Banco Agrícola e Industrial de Cuba.

Table 135. Mexico: Quantum of agricultural output

(Millions of pesos)[a]

	1947/48	1948/49	1949/50	1950/51	1951/52	1952/53
Total agricultural output	*3,724.4*	*3,936.0*	*4,370.1*	*4,572.6*	*4,468.8*	*4,628.2*
Cereals	1,543.6	1,375.7	1,511.8	1,601.6	1,523.3	1,617.3
Maize	1,253.4	1,064.1	1,160.7	1,252.2	1,222.2	1,222.2
Wheat	219.1	231.0	269.6	270.8	235.2	312.1
Rice	71.1	80.6	81.5	78.5	66.0	83.0
Tubers[b]	43.8	44.7	46.2	47.3	47.7	48.0
Dry pulses[c]	369.7	343.7	345.1	338.7	341.9	404.0
Oil-seeds and fruits[d]	273.6	346.7	445.8	480.0	485.7	490.7
Sugar cane	254.7	278.0	251.0	262.0	286.0	308.0
Fruit[e]	216.4	215.4	239.5	211.8	223.8	211.8
Vegetables[f]	187.2	218.9	231.9	234.2	228.6	236.3
Stimulants[g]	174.7	184.4	200.5	206.8	213.5	198.3
Industrial oils[h]	41.5	43.1	45.4	41.2	50.4	47.0
Fibres	523.0	787.4	953.5	1,036.6	963.9	959.8
Cotton	387.5	672.5	841.9	931.3	856.6	836.2
Henequen (sisal)	135.5	114.8	111.5	105.3	107.3	123.6
Fodder[i]	96.1	97.9	98.5	102.5	103.9	107.0

Source: Economic Commission for Latin America, based on data from the Departamento de Estudios Económicos of the Banco de México for maize, beans and tomatoes; and from the Dirección de Economía Rural, Secretaría de Agricultura for all other commodities.

[a] At 1948 prices.
[b] Potatoes.
[c] Beans and chickpeas.
[d] Cocoa, cotton-seed, sesame, copra, coquito nuts and peanuts.
[e] Oranges, lemons, bananas and pineapples.
[f] Tomatoes.
[g] Coffee and tobacco.
[h] Linseed.
[i] Green alfalfa.

per cent, industry 5.3, other activities 5.2, and mining only 3.0 per cent.

(a) *Agricultural output*

In 1952/53, Mexican production rose 3.6 per cent above the previous year, was 24.3 per cent higher than the 1947/48 level and almost double the 1938/39 output. Wheat, rice, beans, chickpeas, henequen, cocoa and sugar cane were the principal contributors to this increase. (See table 135.)

Wheat output registered the greatest increase during 1952/53, being 32.8 per cent above the previous year, and a record 679.8 thousand tons were harvested. The 1951/52 wheat year was abnormal and it is thus preferable to compare production with 1950/51, in relation to which there was an increase of 15.3 per cent. (In comparison with 1947/48 this increase was 42.5 per cent.)

Rice production rose to a peak level of 190 thousand tons, which is 25.7 per cent above 1951/52.

The production of beans, fully supported by credit from official banks as well as by the establishment of guaranteed prices, stood at 523 thousand tons or 18 per cent higher than the 1951/52 crop.

Among dried pulses, the chickpea crop increased by 20 per cent with respect to 1951/52, but was 10 per cent below the 1947/48 level.

Henequen, which had shown a downward movement since 1949 owing to the price drop on the world market, did not recover to any great extent through the rise caused by the Korean war. To solve the difficult situation in Yucatán, through the decrease of its principal source of income, and with the possibility of the henequen industry coming to a complete standstill, the government intervened by purchasing raw materials, guaranteeing fair prices and providing credit facilities to develop henequen. In 1952/53, output rose to 112 thousand tons, exceeding 1951/52 by 15 per cent. This production was, however, 8 per cent below 1947/48.

Another commodity which increased at a much faster rate than the population was sugar cane. The 1952/53 crop was 7.6 per cent greater than the previous year and 20.8 per cent above 1947/48, reaching 11.6 million tons. Credits granted by the Nacional Financiera contributed to the rapid development.

Cocoa production in 1952/53 exceeded the 1951/52 level by almost 10 per cent.

All the remaining commodities—including maize—maintained more or less the same level as in 1951/52, with the exception of cotton output, which fell about 2.4 per cent due both to drought and to foreign trade difficulties, and coffee production, which dropped 9.8 per cent through unfavourable weather conditions.

(b) *Factors which affect production*

Among the elements which have stimulated output changes, a distinction must be made between short-term factors, the influence of which was particularly marked in the slight production rise of 1952/53, and those which have for many years been influencing the structure of Mexico's agriculture and thus have had a cumulative effect upon 1952/53 output. Among the former, weather conditions and the government emergency programme for credit and prices should be analysed. Among the latter, the increase of irrigation and agricultural machinery investments, the increase in fertilizer production and use and the government seed improvement programme, should be considered.

(i) *Weather conditions.* The lack of rain during the previous farm year seriously affected the first half of the 1952/53 period. This prolonged drought, which mainly affected the northern and north-eastern States and the central plateaux, was so intense that early in September 1952 water stored in the principal reservoirs of the main irrigation areas filled only 17.3 per cent of the total capacity. This restricted the use of land appreciably, especially for irrigation crops.

The continuation of the drought during the first six months of 1953 also affected annual sowings, especially maize. In August, however, rainfall became normal in almost all farming areas. In some zones there was even too intense a rainfall, followed by early frosts which damaged late unirrigated maize crops and offset farmers' efforts and the emergency government programme. Abundant rainfall, conversely facilitated an improvement in irrigation and it was possible in 1953 to effect a considerable increase, by comparison with 1951/52, in irrigated and winter rain crops. The bad beginning of the farm year, however, prevented any increase in the maize output or the achievement of the targets established for other staple commodities under the official expansion programme. The late and irregular rainy season also affected coffee areas, so that the 1952/53 harvest was some 9.8 per cent below the previous crop.

The drought, moreover, encouraged the outbreak of plant disease. In the lake region the red spider expansion in cotton plantations was the main problem. During the year there were new cases of foot-and-mouth disease in Veracruz State.

(ii) *Emergency plan.* The government emergency plan for agriculture has the immeidate objective of eliminating the deficit of one million tons of maize, 280 thousand of wheat and 280 thousand of beans recorded in 1952, according to the theoretical consumption estimates of official agencies. From January 1953, the government allocated substantial sums to assist farmers in raising output of these crops and of sugar, sugar residues, and edible fats. During the year, the capital of official banks was increased by 150 million pesos, while the credit granted by the Banco de México and the Nacional Financiera enabled such banks to extend their operations by more than 400 million pesos in relation to 1952.

During 1953, official banks allocated an aggregate 718 million pesos to finance production of subsistence commodities. Of this sum, 684 million were spent on agricultural loans and the remainder directed mainly towards small irrigation works and the purchase of 44 thousand tons of fertilizer from the national factory, Guanos y Fertilizantes de México.

Of all crop loans, 233 million pesos were devoted to maize and beans and with this amount, 1.1 million hectares were cultivated with these two crops. In 1951/52, only 71 million pesos were allocated to these two products and 405 thousand hectares sown. Of the additional 672 thousand hectares financed in 1952/53 by official banks, 123 thousand were new lands farmed for the first time.

As regards prices, the government attempted to encourage farmers to increase cultivation of food commodities and in the cities, to arrest the upward price movement of subsistence commodities, which had been very rapid in former years. For this purpose, and through the Compañía Exportadora e Importadora de México, S.A. (CEIMSA), the government established guaranteed prices for maize, beans, sugar cane, wheat and edible fats in order to ensure a fair margin of profit, to prevent speculation at harvest time, and to protect farmers against any contraction of demand. Efforts have been made to establish ceiling prices at a level which does not prejudice the consumer nor convert the government into the only purchaser, thus hampering adequate foodstuff distribution and supply to the consumer.

Guaranteed prices vary, according to farm areas and production costs, between 450 - 600 pesos per ton for maize and about 1.2 thousand pesos per ton of beans. Fixed maize prices were low for some farmers in new areas, but have been extremely profitable for regular producers, especially farmers of common lands and smallholders, who use official bank credit.

To prevent a rise in basic food prices, the CEIMSA has also intervened in the market. It imported the required tonnages of maize, beans and wheat to supply normal consumer requirements, granted a 250 million peso subsidy to these three commodities during 1953 and effectively combated hoarding and speculation.

Despite the significance of the entire emergency programme, adverse weather prevented the achievement of a maize output increment and during the first half of 1954, it may be necessary to import 500 thousand tons. Conversely, large increases were obtained for beans, wheat and sugar.

(iii) *Irrigation.* Several historic and economic factors have determined Mexico's unusual population distribution, which is mainly concentrated on the plateau, where farm lands and rainfall are scarcest. Rapid population increase aggravates this problem and has made it necessary to invest large sums in irrigation works. Lately, in view of the slow growth of irrigated zones in comparison with population requirements, it was even planned to transfer groups of surplus farm workers to the coastal regions since these are easier to farm owing to abundant rainfall.

Until the end of 1953, irrigation investments made by the government had improved a total of 1.7 million hectares. In that year, the Secretaría de Recursos Hidráulicos invested 340 million pesos in irrigation works, and 169 thousand hectares were incorporated into Mexico's irrigated land, of which 100 thousand hectares were new lands and 69 thousand represented areas improved by irrigation.

The Falcón Dam on the Bravo river has recently been inaugurated. It was built in co-operation with the United States Government and will benefit farmers on both sides of the border. As a result, Mexico can place 80 thousand additional hectares under cultivation at once, and they will be used almost entirely for the 1953/54 cotton crop.

The government has also accelerated the construction of irrigation works in the valleys of the Mayo, Papaloapán, El Fuerte and Tepalcatepec rivers and has begun studies to start work in the Grijalva river valley. The first four projects will irrigate almost 600 thousand hectares. The work is well advanced and 30 thousand hectares were placed at the disposal of farmers in the Papaloapán valley, irrigated by diversion canals, during 1953.

In the Grijalva valley, the largest system in Mexico, the government invested 1.5 million pesos early in 1953.

Eight hundred and twenty thousand hectares of very fertile land in the State of Tabasco have thus been permanently freed from flooding, although only 240 thousand are at present available for cultivation.

Work is currently being carried out on other big irrigation programmes. There are six projects to water new lands or to improve irrigation on an aggregate 582 thousand hectares. Moreover, in 25 regions, 340 small irrigation systems are being built to water a further total of 19.5 thousand hectares.

(iv) *Mechanization.* Another significant factor in Mexico's recent agricultural progress has been the increase of farm equipment investments. Indeed, while in 1938-42 agricultural machinery exports to Mexico remained at an annual average of 2.5 million dollars at current prices, during 1943-47 they rose to 9.8 millions, and in 1948-52 to 24.5 millions.[82]

Tractors comprise the largest part of farm machinery imports. Thus, of the aggregate import value between 1938 and 1952, tractors and their spare parts account for 65.8 per cent, while tilling and sowing machinery represented 16.4 per cent, harvesting equipment 3.8 per cent, and all others, tools, implements and spares, 14.0 per cent.

Between 1938 and 1953, agriculture in Mexico has undergone a transformation which is reflected in tractor arrivals. The horse-power imported as caterpillar tractors fell from 41 per cent of the total in 1938-42 to 24.5 per cent during 1943-48 and to 18.4 per cent in 1949-52. But the horse-power of wheeled tractor imports rose from 59 per cent in the first period to 75.5 per cent in the second and to 81.6 per cent in 1949-52. Moreover, the average power of wheeled tractors has fallen from 32 to 30 H.P. These data coincide with the need for using smaller tractors and with the government policy for increasing smallholdings.

Imports of other types of farm machinery have also risen during recent years, particularly of equipment for spraying insecticides, mechanical traction ploughs and mechanized harrows.

(v) *Fertilizers.* Annual fertilizer consumption stands at some 150 thousand tons. This tonnage is insignificant for a country with about 10 million cultivated hectares. Much of this area is either not very fertile or has been depleted by centuries of cultivation to such an extent that the low yield of the largest crops—maize and beans—is a principal factor in determining the poverty of the rural population.

Nevertheless, the use of fertilizers has been increasing rapidly, in particular since the enlargement of the national fertilizer factory in 1951. In 1942, total fertilizers amounted to about 40 thousand tons, of which 28 thousand were produced domestically. In 1950, aggregate stocks had risen to some 92 thousand tons, of which 67 thousand were of domestic manufacture. In 1951, when an ammonium sulphate plant was opened, domestic output almost doubled in relation to the preceding year. In 1952, total fertilizer stocks stood at almost 192 thousand tons. According to preliminary data, by mid-1953 domestic output was already 135 thousand tons and about 19 thousand tons had been imported. The establishment of the ammonium sulphate plant has almost entirely eliminated imports of this commodity and of sodium nitrate. In contrast, phosphate imports have increased.

The plan to enlarge production of popular consumption crops presupposes a greater use of fertilizers, especially for beans and maize. The Ministry of Agriculture bought 44 thousand tons of fertilizers from domestic sources to be distributed among farmers for the 1952/53 harvest.[83]

The Nacional Financiera has announced that extensions will be added to the three domestic fertilizer plants at Mexico City, San Luis Potosí and Guadalajara, in order to develop the use of artificial fertilizers. It is planned to build a factory for concentrates (perhaps nitro-phosphates or urea).

(vi) *Improved seeds.* The development of wheat, maize and bean production has been considerably aided by the joint Government of Mexico/Rockefeller Foundation programme to find varieties adaptable to climate and soils in different farm areas of the country. It is estimated that in 1952/53, 12 and 30 per cent of maize and wheat sowings respectively were effected with improved seeds disrtibuted by the government. The interest shown by farmers has been so great that private companies have been formed in several areas to produce and sell selected seeds.

(c) *Food stocks*

Despite the rapid development of the agricultural sector within Mexico's economy, the paradox exists of a still faster growth in food imports, which have more than doubled during the last six years. (See table 136.)

Table 136. Mexico: Imports of foodstuffs

Years	Total[a] (1948 = 100)	Maize	Wheat[b]	Beans
		(thousands of tons)		
1948.....	100.0	0.3	276.4	70.2
1949.....	94.0	0.3	261.7	—
1950.....	135.5	0.3	425.4	—
1951.....	184.4	118.0	364.4	9.1
1952.....	210.4	24.5	443.3	58.4
1953.....	206.0	190.0	280.0	50.0

Source: Economic Commission for Latin America, based on official statistics.

[a] Quantum of foodstuffs and tobacco imports.
[b] Includes flour imports reduced to terms of grain.

Wheat accounts for an important share of these purchases abroad, although in 1953 there was a substantial decrease owing to the large rise in output. Maize and bean imports, despite the considerable tonnages handled during

[82] This analysis of farm mechanization in Mexico is based on United States foreign trade statistics, both because they are published in great detail and also since it is estimated that of aggregate farm machinery imports, those from the United States account for 90 per cent. Further, total tractor imports, according to Mexican statistics during the last fifteen years (50,132 units), are 1,800 units less than United States statistics for exports. The difference is due to imports into the free zone of Lower California, which are unrecorded in Mexico's foreign trade.

[83] Experts of the Rockefeller Foundation estimate that green manures are the cheapest and quickest solution for raising yields. These conclusions are based on the fact that one hectare of maize fertilized with one ton of ammonium sulphate—which costs 800 Mexican pesos—barely doubles the yield. The value of the additional output is less than the cost of the fertilizer, thus obviating any possibility of financing the use of this fertilizer. In contrast, the use of green manure requires an investment of only 150 pesos and yields have even been higher than with sulphate.

the last three years, accounted for only a fraction of aggregate consumption and have maintained more or less the same share as in former years when short harvests occurred.

The remarkable increase in food imports is due to the fact that the growth of Mexico's agriculture has been more rapid both for non-food crops such as cotton, or secondary foodstuffs in the diet of the bulk of the population, rice, potatoes and ajonjolí, for example. The growth of wheat production—another crop which is receiving the benefits of modern technology—had no marked impact upon imports of this cereal except in 1953. With the Government's development programme, it is anticipated that this trend will be maintained and that wheat imports will progressively decrease. In contrast, production of the traditional commodities of Mexican agriculture, maize and beans, has been growing at a slower rate than the population and during the last six years they have been below 1947/48 levels. This has intensified the problem of the short term supply of foodstuffs and has made it necessary to import considerable tonnages.

7. *Peru*

In 1952/53, cotton and sugar, which are the main export products, showed differing tendencies. While the cotton crop was only 5 per cent below the previous season's level, sugar production reached a record.

As regards other agricultural output, intended mainly for domestic consumption, no homogeneous or comparable statistical series are available which would permit an accurate evaluation of the progress achieved. (See table 137.) An examination of some commodities,[84] however, and of the upward movement for food imports (which increased by 59 per cent between 1948 and 1952), indicate that although output for the domestic market may not have remained stationary, it has not apparently developed sufficiently to keep pace with the greater consumption arising from the increase in population and the rise in income levels.

A prolonged summer and adequate water supplies in 1952/53 created favourable agricultural conditions in the coastal area, but simultaneously encouraged insects and blight, which particularly damaged cotton plantations. In the greater part of the Sierra area, rainfall and temperatures were normal, with the exception of some sectors to the north, where substantial damage was feared from the excessive rainfall.

Favourable climatic conditions led to an exceptional increase in sugar cane output, the achievement of the best wheat harvest ever recorded, better yields from barley, and rice crops which may be considered as good, although somewhat below the 1951/52 level.

The development of several irrigation projects and the conclusion in 1953 of the diversion works of the Quiroz and Chipillico rivers to the Piura valley are valuable contributions to Peru's agricultural future. The measures taken to increase guano extraction, greater credit availabilities, imports of blood-stock of different varieties and the abolition of ceiling prices for meat, all constitute government efforts to increase agricultural and livestock output in 1952/53.

(a) *Agricultural output*

(i) *Cotton.* In spite of the greater area shown in 1952/53, it was not possible to increase fibre production above the exceptional level reached in 1951/52. Severe attacks of several kinds of blight reduced yields in the valleys of Piura, Chira, Pisco and elsewhere, so that no substantial crop could be obtained. Only 92 thousand tons were cropped, or 5 per cent below the previous year. Nevertheless, production was 50 per cent above 1947/48 and 12 per cent above the pre-war level.

After the pre-war boom, during which an average 165 thousand hectares were cultivated, with an output of 82 thousand tons of fibre, came the wartime years. There was a consequent loss of the principal foreign markets; this caused cotton production to decline and the harvest was only 56.8 thousand tons in 1942/43. Peace brought about adequate conditions for greater sowings and led to a decided recovery, so that the pre-war level was not only regained, but even exceeded. The price fall, beginning in 1951, did not result in a decrease in area sown, which increased steadily, amounting in 1952/53 to 200 thousand hectares, the largest area ever sown with cotton in Peru.

[84] Wheat, barley, rice, cotton seed, cocoa, coca, coffee and wool.

Table 137. Peru: Output of principal agricultural commodities[a]

(Thousands of tons)

Commodity	*1947/48*	*1948/49*	*1949/50*	*1950/51*	*1951/52*	*1952/53*
Wheat	137	129	144	157	162	164
Rice[b]	207	162	113	207	265	250
Rye	190	213	220	202	217	218
Refined and raw sugar	498	493	452	490	494	570
Cotton	61	67	74	83	97	92
Cotton-seed	100	113	119	127	143	136
Cocoa	3	4	4	5	4	4
Coffee	4	6	6	6	6	7
Coca	8	8	8	9	10	10
Wool[c]	12	12	12	12	13	13

Source: Economic Commission for Latin America, based on official statistics.

[a] Only commodities whose production can be controlled are included, excluding others based on mere estimates.

[b] Unpolished.

[c] Aggregate wool from sheep, vicuñas, alpacas and llamas.

Average yields per hectare have varied owing to periodic changes in the flow of coastal rivers, and in temperature and rainfall, which to a great extent determine the incidence of plant disease and blight.

Broadly speaking, yields tend to rise, and the increase could be even greater if intensive selection and reproduction of new seed varieties and the broadening of advanced work systems are taken into account. Insects and blights, however, destroy from 20 to 30 per cent of the harvests, in spite of efforts to eliminate them.

The Ministry of Agriculture and the Sociedad Nacional Agraria are carrying on an intensive genetic research programme. The aim is to obtain improved seeds of the Tanguis variety and species resistant to diseases and physiological disorders, especially "wilt" or withering (marchitez), which in many valleys of the central coastal area are the principal reasons for low yields.

The drop in world cotton prices has substantially reduced planters' incomes and has affected Peru's foreign exchange availabilities.[85] It is possible to establish, however, that the price received by the producer[86] in 1953 was 10 per cent above that of 1948, but 30 per cent below 1951, a year in which prices were more favourable.

Despite substantial world cotton stocks Peruvian exports have not declined, and the upward trend characteristic of the domestic output has been maintained. The fact that Peru is one of the main producers of long fibres has undoubtedly assisted in placing exportable surpluses. From 1948 to 1952 exports increased by 61 per cent, from 51,900 to 83,700 tons. During 1953 exports grew at a faster rate than the previous year; in August they were already 6,000 tons above the level reached during the first eight months of 1952. But the price drop on the world market caused a reduction of about 61 million soles in the 1952 export value, as compared with the previous year, although the volume exported had risen by 21.2 thousand tons.

In spite of present market conditions Peru will probably continue to increase its already high output. This is feasible because yields are normally excellent and production costs relatively low. Furthermore, Peru appears to be striving, by increasing both output and exports, to offset the loss of foreign exchange revenues caused by the drop in prices.

(ii) *Sugar.* Cane cultivation and the processing of sugar products is an important item in Peru's agriculture and export trade.

The cultivated area has remained more or less constant for the past twenty years, with the variation ranging between 28,000 and 36,000 hectares at the most. During the same period, however, technical advances have brought about a considerable increase in unit yields. Thus in the pre-war period, with 31,700 hectares under cane, 389,000 tons of raw and refined sugar were produced, while in 1952/53, with only 30,000 hectares, it was possible to obtain 570,000 tons. This harvest is 15.5 per cent above the 1951/52 level and 14.5 per cent above the previous peak output in 1947/48.

The exceptional output, coinciding with the sharp drop of international prices, is the result of a series of favourable circumstances. To excellent climatic conditions and an adequate supply of water from irrigation can now be added major technical improvements recently introduced. Among these may be mentioned biological control of the "borer" plague by means of a species of predatory fly which was brought from Cuba in 1951 and which destroys this plague; the new cane plantations with better yielding varieties, established after a long period of adaptation; greater availabilities of fertilizer; construction of new sugar mills and modernization of others; and the drilling of wells to utilize underground water supplies. Other interesting factors are the widespread utilization of modern machinery for hauling cane and the use of weed and pest killers, which simultaneously improve yields, reduce unit production costs and enable Peruvian industry to compete in foreign markets.

Sugar exports have remained stable from the pre-war period to the last two years. Increases in output have kept pace with greater domestic demand, which rose from 81,400 tons in 1934-38 to 118,800 tons in 1952. The drop in world prices due to general over-production reduced Peru's income in 1952 by about 10 million soles, although the export tonnage was some 40 thousand tons higher than that of the previous year. The fall in quotations continued during 1953. At the beginning of 1952 the price was 88 dollars per ton,[87] but by mid-1953 it had fallen to 76 dollars and by December to 65. The fall in the sol quotation partly offset the planters' losses.

In August 1953 exports stood at 235,200 tons and were increasing more rapidly than in the previous year, since in the same month of 1952 they had amounted to only 178,800 tons. The market situation is unfavourable to the placing of the 1954 exportable surplus, which is estimated at not less than 400 thousand tons. This causes some uncertainty for this crop, since Peru has not signed the International Sugar Agreement.

(iii) *Rice.* Rice production has reached peak levels in recent years. The 250,000 tons[88] harvested in 1952/53, although 14.5 per cent below the previous year's crop, was still 195 per cent above the pre-war average.

The rise in output is due to the cultivation of increasingly larger areas, which in recent years have enjoyed excellent weather and a regular water supply from rivers in the rice areas. Irrigation on contour levels is fairly general, while the transplantation of seedlings has contributed to higher unit yields. Thus the average yield of 1.9 tons of rice per hectare during the pre-war period has risen to more than 4 tons in the last three years.

In 1951/52 and 1952/53 greater output made possible a substantial reduction in rice imports, an exportable surplus of 36 thousand tons,[89] and reserves for domestic consumption in case production falls in 1953/54. The Government, buys the entire output and in collaboration with farmers, controls the polishing and distribution of

[85] Cotton provided around 35 per cent of aggregate foreign exchange funds in 1952.

[86] In Peru it is necessary to distinguish between the price received by the farmer and the commercial trade price which, according to present legislation, is based on the price established annually by the government and regarded as the official cost price. The difference between this official price and the commercial trade price is divided equally between the producer and the Treasury.

[87] Sugar with 96 degrees polarization, f.o.b. at Peruvian port.

[88] With husk.

[89] Husked rice.

rice. This system provides the farmer with a stable market, credit facilities and adequate official prices.

Consumption of rice increased from 9.5 kgs. in the pre-war period to 17.5 kgs. in 1948 and over 20 kgs. in 1952.

Output prospects are considered to be favourable, and sufficient not only to meet consumption requirements but also to ensure future exportable surpluses. The incorporation of new cultivated areas at Jaen and Bagua, the technical standards attained—which can still be improved—and better marketing provide farmers with sufficient incentives to grow rice.

(iv) *Wheat.* This cereal is one of the principal items in Peruvian agricultural output which is in short supplly, and the Government is seriously attempting to develop it. In 1952/53 the 172,000 hectares under wheat represented an acreage only 1 per cent above that of the previous year and 57 per cent above that of the pre-war period. Output, which stood at 164,000 tons, rose in comparison with 1951/52 at the same rate as the area sown, but in relation to the pre-war period the increase was 115 per cent, owing to a substantial improvement in unit yields.

Wheat is mainly grown in the Sierra zone; in the coastal area, besides being much attacked by cryptogamic diseases, it is displaced by other more profitable crops. The inadequacy of Peru's wheat output is due to a series of adverse factors. Among them may be cited the lack of improved varieties with high yields and rust resistance; the establishment of prices by the Government, since 1951, at lower levels than those prevailing on the world market; the subsidies placed on wheat imports to avoid raising bread prices; the shortage of mills in producing areas; and the problems and high costs of transport, which place in a marginal position many areas which should be important producing centres.

Consumption *per capita* rose from 29 kgs. in the 1934-38 period to 45 in 1952. To meet the greater demand imports have gradually increased from 152,900 tons in 1948 to 241,200 in 1952. By mid-1953 they had reached 153,000 and today fairly regularly represent 60 per cent of total consumption.

In 1951 the Government began work on a development plan for the production of foodstuffs to encourage the cultivation, among other crops, of wheat. The plan, which will be develped from 1951 to 1956, aims to increase production by 100,000 tons by bringing a greater area under cultivation and improving yields. For this purpose credit facilities are given to farmers and important genetic improvements are carried on; new seeds have already been obtained through selection and hybridization. At the same time numerous imported varieties are being adapted.

(b) *Food imports*

The insufficient development of agricultural output for domestic consumption has recently led to a greater dependence upon imports to meet food consumption requirements. Between 1948 and 1953 the quantum of food, beverages and tobacco imported had risen by about 50 per cent, while in 1952 this increase was still greater, amounting to 59 per cent. (See table 138.)

Despite the net increase in food purchases abroad, the proportion of such purchases to total imports decreased in 1951 and 1952. The problem is important since the replacement of some imports by domestic production would aid in improving the balance of payments, which during the last two years has been unfavourable owing mainly to the fall in export prices for sugar and cotton. About 80 per cent of all agricultural imports consist of wheat, meat, lard and vegetable oils. While tonnages for the first three products have increased, imports of vegetable oils have declined, being replaced by domestic output of cotton-seed oil.

(c) *Development policy*

(i) *Irrigation.* Measures to improve and regulate irrigation works in the coastal valleys and to extend the irrigated zone by means of various projects, are receiving consideration under an over-all national plan which the Government has undertaken to implement. Projects already under way cover a total land area of 104,000 hectares and, during the 1952/53 fiscal year, 129 million soles were invested in them apart from 6 millions for planning.

At the close of 1953 the initial stage of operations began on the project to divert the waters of the river Quiroz to the Piura valley. This will provide permanent irrigation for 31 thousand hectares in the valley and a possibility of watering another 5 to 10 thousand hectares with reserves and overflows. The completion of this part of the project will mean that output can be normalized in the Piura valley, which was previously exposed to periodic

Table 138. Peru: Quantum of all imports and imports of foodstuffs, beverages and tobacco

(Thousands of soles)

Years	*Total imports*	*Index (1948 = 100)*	*Imports of foodstuffs, beverages and tobacco*	*Index (1948 = 100)*	*Percentage of foodstuffs to total*
1948	1,090.6	100	284.8	100	26
1949	1,357.8	125	354.5	124.5	26
1950	1,618.0	148	441.8	155.1	27
1951	1,985.4	182	370.0	129.9	19
1952	2,095.9	192	452.9	159.0	22
1953	..	..	213.2[a]	149.7	..

Source: Economic Commission for Latin America, based on trade yearbooks.

[a] First six months.

losses due to the irregularity of the water supply from the rivers.

Work continues on the river Mantaro project, which will benefit 9,100 hectares at present dependent on the irregularities of the rainfall. In 1953 the first 5,000 hectares were brought under irrigation. Further operations in the department of Arequipa include improved irrigation on 150 farms and the reclamation of 3,000 hectares of new lands. The works on the Uchusuma river will affect 1,500 hectares of prairie land at present uncultivated in the Tacna valley. There are many other less extensive projects.

(ii) *Guano extraction.* One of the most efficient measures to develop agricultural production has been the increase achieved in guano extraction. In 1952 the output of 253,000 tons signified an increase of 80 per cent over 1934/39 and 55 per cent over 1948. This was made possible by work projects and studies which included the construction of containing-walls on the islands and the isolation of peninsulas in the southern and central zones to protect the birds. The arable area of Peru is estimated at 1,700,000 hectares, of which 1,200,000 are still unfertilized.

(iii) *Agricultural credit.* With the establishment of the Banco de Fomento Agropecuario in 1952 several agricultural credit institutions[90] were merged into one central organization. The new bank simplified procedure and made it possible to increase availability of the credit for agriculture. Loans granted in 1952/53 exceeded those granted in the previous year by 35 per cent. 84.3 per cent of all operations benefited smallholders through agricultural, livestock, and repair credit. Loans increased except in the case of harvested crop guarantees; the exception was made to prevent speculation.

[90] Banco Agricola del Perú, Corporación Peruana del Amazonas and the Junta Nacional de la Industria Lanar.

The bank gave priority to requests for the purpose of rice production, the financing of three polishing mills and the purchase of thrashing machines, grain driers, silos and boats for river transport in the forest zone.

Controlled credit to encourage the livestock industry made it possible to import more than 1,700 pedigree sheep of different stocks for breeding and to distribute among small sheep-herders of 8,300 high quality breeding specimens from domestic sources. For the development of dairy production the new bank imported from the Netherlands 145 pedigree heifers, which were sold on credit terms.

Loans for coffee amounted to over 10 million soles. In addition, the bank contracted the services of an expert in this field to advise farmers.

8. *Venezuela*

In recent years Venezuela's agricultural production has enjoyed the support of various government organizations, the numerous projects of which are designed to develop the output of rice, cotton, sugar-cane, maize and other articles in short supply. Their intervention has not only taken the form of granting substantial credit on easy terms but has also included research in agriculture and stock-breeding, technical assistance for farmers, increased mechanization and important projects to improve the material situation of agriculture.

A policy of minimum prices for the most important products, the maintenance of a purchase guarantee by the official organizations and tariff protection for agriculture gave farmers the economic stimulus required to increase their production and to offset the competition of cheaper imported products. To complete this policy the establishment of a system of silos, granaries and refrigerated warehouses for storage and regular distribution was required.

Table 139. Venezuela: Quantum of aggregate agricultural and livestock production by groups of products

(Thousands of bolívares)[a]

	1947/48	*1948/49*	*1949/50*	*1950/51*	*1951/52*	*1952/53*
GRAND TOTAL	*740,735*	*880,335*	*815,779*	*871,139*	*902,377*	*959,804*
Cereals	183,387	214,628	150,348	148,665	153,629	179,931
Maize	119,990	165,579	110,763	106,309	107,200	117,580
Rice	10,264	42,801	36,848	39,619	43,930	50,602
Wheat	3,213	6,248	2,727	2,737	2,499	3,749
Roots and tubers[b]	50,341	63,317	74,390	74,321	96,080	92,373
Dry pulses[c]	82,398	123,001	77,745	74,869	82,522	83,238
Oil-seeds and cocoa	66,950	45,864	57,085	46,754	49,409	48,004
Cocoa	64,469	40,632	45,779	38,194	44,153	43,341
Others[d]	2,481	5,232	11,306	8,560	5,256	4,663
Sugar products[e]	97,910	107,911	112,343	156,170	128,402	138,175
Coffee	102,577	102,357	111,363	74,681	95,108	118,611
Cotton	5,685	7,852	7,311	7,581	12,726	13,538
Animal products	309,749	325,614	343,867	370,360	392,335	429,756
Beef	238,146	252,421	274,589	304,443	315,355	341,366
Milk	51,525	50,550	46,350	43,875	53,325	62,775
Others[f]	20,072	22,643	22,928	22,042	23,655	25,615

Source: Economic Commission for Latin America, based on data of the Banco Agrícola y Pecuario and the 1950 census.

[a] At 1948 prices.

[b] Potatoes and yucca.
[c] Beans and peas.
[d] Cotton-seed, sesame.
[e] Sugar and raw brown sugar.
[f] Mutton and pork.

In 1952/53 adverse natural factors, without reaching the same degree of intensity as in other seasons proved prejudicial to Venezuela's agriculture and stockbreeding in several ways. Prolonged local droughts delayed the sowing of the more important crops, while in other areas excessive rainfall spoiled part of the area sown, causing the flooding of rivers and streams. Similarly, pests and diseases seriously damaged some important crops.

In spite of these unfavourable circumstances the greater area under cultivation, the good yields in certain zones and the application of new techniques to various rural activities brought production in 1952/53 to a level 8 per cent above that of the previous year and 29 per cent above that of 1947/48. (See table 139.) In 1952/53 production *per capita* was 6 per cent higher than in the previous year and 12 per cent higher than in 1947/48. But this has contributed little to meet the growing needs of domestic consumption since foodstuff imports have shown a similar tendency to increase, being 18 per cent greater in 1952 than in 1948.

(a) *Agricultural and livestock output*

An analysis of the various sectors shows that while there was a rapid increase in the volume of crops which received firm support from governmental organizations to eliminate imports, others of lesser importance remained stationary and even deteriorated. Outstanding among the former were cotton, rice, maize and sugar-cane. The second group includes cocoa, beans, peas and oil-seeds.

In 1952/53 the rice crop amounted to 49,300 tons of unpolished rice, the largest yield yet obtained which exceed that of the previous year by 15 per cent and covered an area of about 40,000 hectares. The development of this product has been comparatively rapid. In 1937 Venezuela produced only 12,600 tons on an area of 10,500 hectares. Present output supplies about two-thirds of domestic consumer requirements. The main factors favouring the larger rice crop were the technical and economic assistance given to farmers by the Venezuelan Development Corporation in fulfilment of its "Rice Production Programme" launched in 1949, and the fixing of minimum prices guaranteed by the Banco Agrícola y Pecuario. The fulfilment of the programme has enabled Venezuela to be the first country to establish and maintain a large volume of dry-soil rice production by technical methods and up-to-date mechanization. Despite increasing progress, rice cultivation presents certain problems which hamper future expansion. The main problems may be summarized as: (*a*) the relatively small yield per hectare; (*b*) the poor quality of the product; and (*c*) high production costs.

Cotton production in 1952/53, amounting to 14,200 tons of unginned cotton, was 6 per cent above that of the previous year and 134 per cent above that of 1947/48. The Ministry of Agriculture and Stockbreeding and the Banco Agrícola y Pecuario aimed at increasing the crop by making technical assistance, selected seeds and adequate credit available to planters. Special attention was also paid to mechanization and it is estimated that at present 38 per cent of the total cotton area is entirely mechanized except for plucking, which is done by hand. Like rice, cotton is almost always grown on dry soil. Yields are very good, varying between 900 kgs. for mechanized cultivation and a little over 700 kgs. where cultivation is carried on manually or on the allotment system. Guaranteed minimum prices and guaranteed official purchase by the Banco Agrícola y Pecuario were also decreed. As a result of the increased output of cotton, it was possible to reduce imports, which in 1948 amounted to 2,387 tons, to only 607 tons in 1952.

Sugar and unrefined brown sugar (*panela*) mark another activity which has developed at a steady rate. Overall production increased by 8 per cent over 1952 and by 41 per cent over 1948. However, it should be emphasized that between these two years sugar production rose from 26,600 tons to 78,000,[91] whereas unrefined brown sugar production fell from 88,000 to 84,000 tons. Imports decreased by almost 50 per cent from 57,000 tons in 1948 to only 30,600 in 1952.

The Venezuelan Development Corporation played an important part in extending sugar-cane planting, by supplying farmers with liberal credit for the purpose of bringing new areas under sugar cultivation. The Ministry of Agriculture is engaged in an intensive campaign which includes the prevention of plagues and diseases, experimental research aimed at obtaining better yields and the reduction of production costs.

Among the Venezuelan Development Corporation's basic programmes for 1953/54 is the development of the sugar industry through the investment of 50 million bolivares to establish five new refineries and to extend another mill with the aim of providing a total capacity of 87,000 tons of sugar. It is estimated that this objective will be attained in 1956 and will make it possible to meet the entire domestic consumer demand.

Maize is the most important cereal in Venezuela's agriculture and has a high domestic consumption. A downward production trend in recent years has led to substantial imports: as 36,000 tons in 1946, 13,300 in 1950 and 17,700 in 1951. In 1952/53, despite unfavourable weather conditions which reduced yields in some areas, extensive development plans brought new zones under cultivation, especially in the National Agrarian Institute settlement. Production rose to 343,000 tons (10 per cent more than in the previous year, although 20 per cent less than in 1947/48).

Next season it may be possible to eliminate imported maize since farmers will have the benefit of controlled credit facilities and a continued policy of fixing minimum prices, which constitute a real encouragement for them.

The remaining products of Venezuela's agriculture have received less attention from Government organizations. In most cases output has remained more or less constant.

Weather and soil conditions are not favourable to wheat growing, hence yields are poor and only limited quantities are sown. In 1952/53 production only reached 6,300 tons on 9,800 hectares, with an average yield of only 640 kgs. Even so, the harvest was 50 per cent larger than in the previous year. Venezuela is almost completely dependent on overseas supplies for domestic consumption, and imports, consisting of flour have increased in striking fashion in recent years. While before the war only 22,800 tons were imported, 94,300 tons were imported in 1948, 127,900 tons in 1951 and 123,500 tons in 1952. This represents rather more than 16 per cent of the volume of all

[91] According to data supplied by the Dirección General de Estadística in the *Monthly Bulletin of Statistics*, Year No. 12.

foodstuff imports. In terms of flour, domestic production represents only about 21 per cent of domestic consumption.

The production of tubers—potatoes, yucca, sweet potatoes, and others—increased by 83 per cent between 1947/48 and 1952/53. In the case of potatoes the increase was striking (24,000 tons in 1952/53 as against 16,000 in 1947/48) but was insufficient to reduce imports.

The production of legumes—*caraota*, beans and peas—has remained stationary. The 1952/53 crop was only 1 per cent above those of 1951/52 and 1947/48, which were of equal volume. Bean production, amounting to 64,900 tons, showed no change in comparison with 1951/52 but an increase of 17 per cent in relation to 1947/48. This increase served to offset the sharp decline in the production of peas, which fell from 13,000 tons to only 4,300 in 1952/53.

Venezuela's only important agricultural exports are coffee and cocoa. In 1952 30,300 tons of coffee were exported, representing 57 per cent of the quantum of all agricultural exports.

Coffee production in 1952/53 amounted to 54,000 tons in all and surpassed that of the previous year by 25 per cent and that of 1947/48 by 15 per cent. The effect of the favourable situation on the world market has been strengthened by protection and development campaigns—which in previous years included an export subsidy—and by good weather conditions. Similarly, the stimulus of high prices and greater credit facilities have enabled producers to devote more attention to their plantations, which are apparently being extended to new zones although the size of the planted area is not yet known.

Adverse climatic conditions and attacks by diseases—especially "withering blight" (*marchitez*)—have prevented cocoa production from reaching even the 1947/48 level. The 1952/53 crop—16,000 tons—was only 2 per cent less than that of the previous year but the 1947/48 harvest surpassed it by 33 per cent. The Ministry of Agriculture, through its Cocoa Extension Campaign, has supplied farmers with both scientific and practical aid. The good prices prevailing on the domestic and overseas market, which were much higher than the fixed guarantee price, made the policy of minimum prices necessary for the protection of coffee and cocoa.

The stockbreeding sector also shared in the general progress of the last six years. The cattle population[92] has increased by 43 per cent since 1948. It increased from 347,000 head in 1948 to 497,000 head in 1953. This increase in the number of animals was accompanied by a reduction in the yield of meat per head from 170 kgs. in 1948 to 153 kgs. in 1953. The meat export trade has been gradually declining in importance. In 1945 13,000 tons were exported, but the total became less and less in subsequent years, to disappear altogether in 1950 and 1951. In 1952 these exports were renewed but only to the extent of 59 tons. It was necessary to devote the increased tonnage to the satisfaction of higher consumer demand *per capita*, which has risen by between 29 and 31.5 kgs. each year.

Pork production also rose considerably: the 428,500 head processed in 1952 represented an increase of 25 per cent over 1948. There is little sheep-rearing, although an upward tendency certainly exists: the 1953 slaughtering of 48,800 head represented 8 per cent more than that of the previous year.

[92] Slaughtering plus exports on-the-hoof.

Venezuela is attempting to create the conditions necessary for the expansion of livestock production. Until 1953 these efforts took the form of sanitary campaigns to eliminate parasites and less plagues in forests, rivers and lakes and the control of foot-and-mouth disease through a specialized institute, which make it possible to declare wide zones healthy and in others has established facilities to reduce morbidity and epizootics. In addition, priority has been granted to credit for livestock purposes which, while still far from fully supplying this sector's needs, has contributed to its progress. Finally, the establishment of minimum prices for livestock, and a permanent purchase guarantee for which the Banco Agrícola y Pecuario is responsible, have proved a valuable stimulus to farmers. They can develop their activities free from the contingencies represented by seasonal price reductions when fat stock is plentiful.

(b) *Agricultural exports and imports*

Owing to the present state of agricultural development as well as environmental difficulties in producing certain basic dietary elements, Venezuela is obliged to import increasing quantities of foodstuffs to meet the consumer demand. The 29 per cent increase in agricultural output in the last six years has made possible some reductions in imports of rice, maize, sugar and vegetable oils, but imports of flour, oats, milk, butter, eggs and the like have shown a steady upward trend. Consequently in 1952 the quantum of imported foodstuffs was 18 per cent larger than in 1948. The quantum in 1948 was only 16.5 per cent of total imports, while in 1952 it constituted 20 per cent. (See table 140.)

Table 140. Venezuela: Quantum of all imports and foodstuffs

(Millions of bolívares)[a]

Years	*Aggregate imports*	*Imports of foodstuffs*	*Percentage of foodstuffs to all imports*
1948	2,119	350	16.5
1949	1,980	350	17.7
1950	1,791	436	24.3
1951	1,966	430	21.9
1952	2,046	413	20.2

Source: Economic Commission for Latin America.
[a] At 1948 prices.

Dairy products—tinned milk, butter, cheeses and special grades of milk—are the principal imports, and in 1952 represent 30 per cent of all imported foodstuffs. Next in importance are flour (16 per cent) and eggs (6.5 per cent).

Agricultural exports consist almost exclusively of coffee and cocoa. Between 1948, and 1951 they declined in value at 1948 prices) from 122 million to 78 million bolívares. In 1952 there was a partial recovery to 102 million bolívares owing to an increase in coffee exports, but this increase represented only 2 per cent of the total volume.

(c) *Development policy*

Pursuing its policy investing petroleum profits in the diversification of domestic agricultural production, the

Venezuela Government has launched, among others, the following undertakings:

(i) *Incorporation of new agricultural zones.* The most outstanding examples are, first, the development of the Turen zone undertaken by the National Agrarian Institute and, secondly, the Venezuelan Development Corporation's rice growing plan. In a country where the zones under cultivation are limited but which possesses vast tracts of unexploited land perfectly suitable for crop cultivation or stockbreeding, the incorporation of such tracts in the national economy is indispensable. To achieve this objective the Government has drawn up development plans covering economic, technical and social aspects.

In the case of the Turen Agricultural Unit, a colonization and agrarian reform project, the land was incorporated by expropriating municipal property or common lands. Since these could legally not be alienated, it was necessary to formulate new agrarian legislation authorizing their expropriation for agrarian reform. These lands were handed over to the ownership of Venezuelan and foreign settlers by means of a system of long-term credits. The plan, which was started in 1949 and is now nearing completion, comprises the clearing of 20,600 hectares of forest; the building of approach roads; the construction of administrative offices and houses for smallholders; the acquisition of machinery and the instruction and training of operators; irrigation and drainage works; the provision of social facilities such as rural improvement centres; grants of supervised agricultural credit; the establishment of dispensaries, shops and so forth. The project has also been furnished with an experimental station which gives guidance to farmers and explores new avenues for agriculture in this zone.

The aim of the Venezuelan Development Corporation's rice growing plan is to establish new and extensive areas of production financed, supervised and directed entirely by the Corporation. The savannah zone of Acarigua in Portuguesa State was chosen as a site, and also a small area in the neighbourhood of San Carlos in Cojedes State. Some 29,700 hectares had been brought under cultivation up to 1952/53 and credits amounting to 13,100,000 bolívares had been granted to 166 private companies. It is expected that within another two years this plan, together with crops grown elsewhere, will supply the entire domestic rice demand. Among the problems to be solved is the transfer of plantations situated in non-irrigated areas to zones which will benefit from the irrigation schemes of the Ministry of Public Works. But a solution will have to be found to problems of land tenure in order that farmers may possess the soil they work. To improve the technique of cultivation, it is planned to establish an experimental rice growing station.[93]

(ii) *Irrigation.* In 1953 14,300 hectares were affected by the installation of new irrigation works; the total area irrigated was 29,600 hectares. It is planned to irrigate a further 110,000 hectares in the State of Guarico as part of an over-all agricultural development project which includes the introduction of mechanized cultivation and up-to-date methods of cattle breeding on a very large scale. Work on the River Guarico dam has already begun. The plan should be completed within two years at an estimated cost of 260 million bolívares.

(iii) *Agricultural credit.* The development of official agricultural credit has been among the most important measures of agrarian policy adopted so far. Its effect on production has been plain.

The volume of official credit grew rapidly until 1948/49, the peak year. Since then a marked contraction has occurred because the Government places more emphasis on public works than on agricultural development. As a result the annual budget funds for the purpose of increasing the capital of the Development Corporation and the Banco Agrícola y Pecuario have decreased steadily, obliging both institutions to reduce credit grants.

(iv) *Minimum price policy.* The most important Government action in the sphere of agricultural prices is the fixing and maintenance of minimum prices for given products. The Banco Agrícola y Pecuario is responsible for this, and buys the protected products provided they conform to the required standards of quality. Maize, rice, wheat *caraota,* beans, peas, coffee, cocoa, cotton and livestock on the hoof are affected by the scheme. Since prices for legumes, like those for coffee and cocoa, have settled at levels above the minimum prices, the Bank has not been obligd to buy these commodities.

The minimum prices fixed for each product by the Banco Agrícola y Pecuario with the approval of the Ministry of Agriculture and Stockbreeding are not established on a national basis but vary according to the characteristics of each zone of production. Thus in 1952/53 prices for maize varied between 25 and 40 bolivares per 100 kgs.; those of rice between 50 and 56; *caraota* beans and peas between 68 and 85; beans between 38 and 55, and wheat between 42 and 44 bolívares.

(v) *Subsidies for milk production and coffee and cocoa exports.* The milk production subsidy is the only direct subsidy in existence in Venezuela. Although it has had an influence on the increase in production, it has not brought about a transformation in the prevailing methods of dairy-farming or improved the quality of the milk. Farmers receive 15 céntimos per litre of pasteurized milk sold on the market. The subsidy was granted in view of the high cost of production.

Experience has shown the advantages of subsidizing coffee and cocoa exports, which has enabled both crops to survive. At present, owing to the recovery of world prices, coffee can compete on the world market without a differential exchange bonus. The indications are that cocoa will soon be in a similar position.

(vi) *Protection for domestic production.* The poor yields of Venezuelan agriculture together with the heavy use of labour, result in heavy production costs. This trend is offset by the continuous growth of foreign exchange revenue accruing from the petroleum industry and the high rate of exchange for the bolívar, which gives Venezuela the benefit of cheap imports which provide domestic farm produce with useful competition. It has been necessary to establish protective duties to raise the price of imported goods to levels at which domestic products can compete with them. Without such measures agricultural production would not only have ceased to develop but would have declined rapidly in many sectors.

[93] Other similar projects approaching completion include the settlement of the El Cenizo plains, the Apure Stockbreeding Plan and the Los Andes Dairy Development Plan.

Chapter II

MINING

I. General considerations

It is somewhat difficult to provide an over-all picture of mining in Latin America owing to the complexity of working conditions and to the fact that the same analysis cannot be used for copper and tin, nor for Chile and Bolivia, where mining output is based on very diverse factors, although each metal plays an important role in the respective economies of the two countries.

One aspect however, may be considered as a common denominator of Latin-American mining, viz. the intimate reliance upon fluctuations in world demand, since mining activities are almost exclusively directed towards export. For this reason, it has been thought appropriate to include in this *Economic Survey* a detailed analysis of developments on the world market during the last few years. This has allowed emphasis to be placed upon the changes which have occurred both in long-term trends and in the recent changeover from an economy influenced by wartime contingencies to one in which civil needs one more predominate.

The most general phenomenon in respect of this latter aspect is the imbalance which has either arisen or has become more apparent between the supply of and the demand for mining products. In regard to long-term trends, the methods of analysis used, such as a comparison between a given level of industrial activity in the more highly-developed countries and the consumption of copper, tin, lead and zinc, have clearly revealed the decline in the utilization of non-ferrous metals. This decrease has been brought about by such widely differing factors as the price relationship to other metals, strategic cconsiderations, economy in utilization, or replacement by substitutes as a result of progress in technical research. These factors also provide a clear view of the prospects for Latin-American mining within the world distribution of natural resources.

Latin America's mining output, which has responded to the stimulus of high prices and increased demand between 1950 and 1952, was obliged to reduced its rate of growth during 1953 owing to adverse influences on these factors, Latin America thus demonstrating a greater flexibility than other regions to adapt itself to new circumstances, for while the world mining production index continued to rise, that for Latin America declined. (See table 141.)

Table 141. Indices of mining output

(1948 = 100)

Years	*World total*	*Latin America*
1949	97	98
1950	107	108
1951	116	119
1952	119	124
1953	121	122

Source: United Nations, *Monthly Bulletin of Statistics*, April 1954.

The greater part of this chapter relates to the four metals which play the most important part in Latin America's economy, i.e., copper, tin, lead and zinc. Sections on coal and sulphur have, however, now been added for the first time. Coal is of topical interest at present as a result of the energy shortage and the establishment of iron and steel industries requiring coking coal. Sulphur merited closer attention through the substantial increase in demand, which has stimulated search for new deposits and the use of methods to extract or recover it.

II. Copper

1. *Principal market factors*

The *Economic Survey of Latin America, 1951-52* confined its analysis to the influence of the higher prices provoked by the Korean War upon copper output and upon investments to expand production. This analysis will be broadened to include the evolution of world demand on the one hand and the capacity of existing plants on the other.

The salient feature of the world copper market at present is that production exceeds consumption, despite the fact that the industry both in Europe and in the United States continues to work at very high employment levels. Copper stocks held by the producing and consuming industries have risen again, after falling to a minimum at the end of 1950.

(a) *World consumption trends*

Consumption in the eight industrialized countries[1] which used 84 per cent of all copper supplies (excluding the USSR and countries in Eastern Europe) in 1953 declined by 7 per cent in relation to 1952, while industrial activity rose by 9 per cent. This appears to indicate that, without taking into account the changes in the volume of stocks held by consumers which are usual during a price decline there is a sharper declining trend in copper consumption in relation to industrial activity. (See table 142.)

These figures show that, for the eight countries together, copper consumption per 100 dollars' worth of industrial output fell in relation to 1948—the peak year of an economic cycle—by 12 per cent in 1952 and by 25 per cent in 1953. The question arises whether copper consumption will be still lower, both in relative and in absolute terms in the event of a continued contraction in industrial activity in 1954.

It is unfortunately impossible to determine the factors which have influenced the change in the consumption pattern and decreased copper utilization in various branches of industrial activity. Nevertheless, some idea may be given of the magnitude of the changes which have taken place in copper consumption in relation to industrial output

[1] Austria, Belgium, France, Italy, Sweden, the United Kingdom, the United States of America and Western Germany.

Table 142. Industrial production and copper consumption in eight industrialized countries[a]

Years	Industrial production (thousands of millions of dollars)[b]	Copper consumption (thousands of tons)	Copper consumption per each 100 dollars of industrial production			
			All countries	United States	United Kingdom	European countries
			(Kilogrammes)			
1948.....	56,360	1,894.3	3.36	3.31	4.47	2.73
1949.....	57,390	1,693.3	2.95	2.71	3.74	3.06
1950.....	66,347	2,082.3	3.14	3.07	3.62	3.03
1951.....	72,019	2,118.6	2.94	2.88	3.42	2.84
1952.....	73,766	2,173.0	2.95	2.94	3.79	2.56
1953.....	79,149	2,014.0[b]	2.54	2.70	——	..

Sources: For industrial production, official statistics of the countries concerned, and United Nations, *Monthly Bulletin of Statistics;* for copper consumption, *Yearbook of the American Bureau of Metal Statistics.*

[a] Includes consumption of refined scrap, especially in Western Germany and the United States.

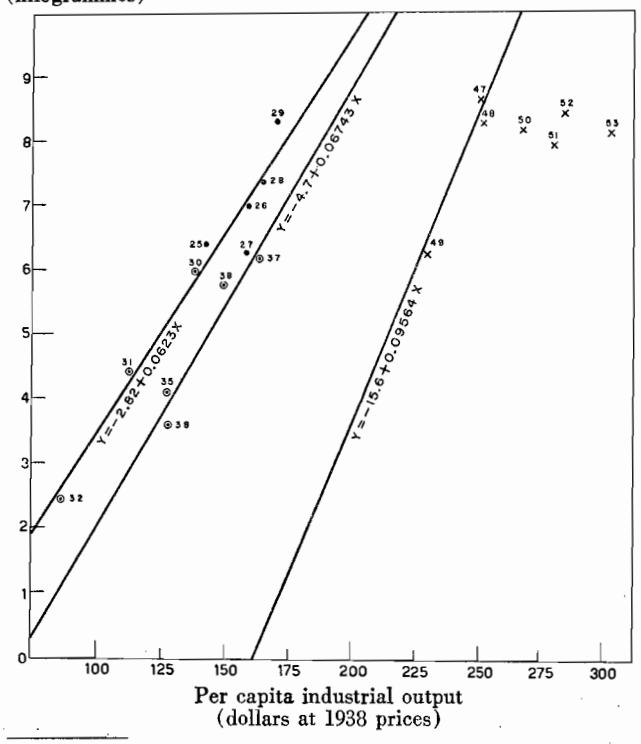
[b] Based on preliminary estimates appearing in the *Engineering and Mining Journal,* February 1954.

(see chart LXVI). The points corresponding to this ratio within each economic cycle were plotted along well-defined curves of regression until and including 1949; in other words, copper consumption per 100 dollars' worth of industrial output tended to fall from one cycle to the next.

There was no increase in consumption in 1950-53 despite the growth in industrial activity. This is all the more serious since copper has never yet, during the twenty-eight years shown in the chart, recovered markets lost in any one year owing to changes in the pattern of consumption. Furthermore, consumption in 1953 was 584 thousand tons less than it would have been had the 1947-48 pattern been followed. It is difficult and almost impossible to indicate what share of this decline may be attributed to each factor influencing consumption—i.e., rationing, high prices and the results of technical research tending to reduce industrial uses for copper.

Chart LXVI

RELATIONSHIP BETWEEN PER CAPITA INDUSTRIAL OUTPUT AND PER CAPITA COPPER CONSUMPTION 1925/32 — 1935/38 — 1947/49 — 1950/53



Source: Yearbook of the American Bureau of Metal Statistics; Statistical Abstracts of the United States Government.

Copper consumption in absolute figures has, since 1948, shown a considerable increase in those sectors in which economic development has progressed—mainly Canada and Latin America—and a moderate increase in the United States (see table 143).

The figures for the sterling area, Western Europe and Japan require more detailed explanation. The sterling area consists of the United Kingdom and some less industrialized regions such as India, Africa and Australia. In the United Kingdom, which is the largest consumer in the area, the trend towards using less copper for a given industrial output resulted in a decline in absolute consumption figures, although this has been more than offset by the growing consumption in the countries which are in process of industrialization.

There was a sharp rise in Western Europe, due mainly to the recovery of Germany. Even so, comparing present consumption figures with those for the years immediately before the Second World War, there is a slight decline due to a reduction in Western Germany's purchases, notwithstanding the recovery. The explatnation is that Germany purchased a great deal of copper, presumably as a strategic material in the 'thirties. The other Western European countries generally show slight increases, implying that the growth in their industrialization has more than compensated for the trend towards reducing the consumption pattern.

Japan shows an increase between 1948 and 1952, but the totals in this last year are still far below the volume imported in the years before the Second World War, probably for similar reasons to those operating in Germany.

Finally, it should be noted that a market for approximately 65 thousand tons a year, and consisting of Czech-

Table 143. Copper consumption, by country groups[a]

(Thousands of tons)

Years	United States	Canada	Latin America	Western Europe[b]	Sterling area[c]	Japan	Total
1948.....	1,221	100	38	400	424	65	2,248
1949.....	937	92	53	497	390	45	2,014
1950.....	1,245	97	48	554	409	64	2,417
1951.....	1,242	122	86	608	424	95	2,577
1952.....	1,313	120	40	576	446	93	2,588
1953.....	1,311	..	..	..	..	..	..

Sources: Economic Commission for Europe, *The European Steel Market in 1953;* and *Yearbook of the American Bureau of Metal Statistics, 1952.*

[a] Includes varying quantities of scrap refined in foundries customarily used for unrefined metal, especially in the case of Belgium, Japan, the United States and Western Germany.

[b] Includes: Austria, Belgium, Denmark, Finland, France, Italy, the Netherlands, Norway Portugal, Spain, Sweden, Switzerland and Western Germany.

[c] Includes: the United Kingdom, Africa, Australia and Asia (excluding Japan).

oslovakia, Hungary, Poland, and the other countries in Eastern Europe, has been lost. These republics are currently supplied by imports from the USSR, although there has been some development of domestic production in some of them.[2]

Information on industrial activity in the Soviet Union is scanty. In order to estimate the state of its copper supplies, these are compared with crude steel output, because of the possible direct ratio between steel output and copper consumption. Data for other industrialized countries are added. (See table 144.)

Table 144. Crude steel output and copper consumption in some industrialized countries, 1952

Country	Output of crude steel (thousands of tons)	Copper consumption (thousands of tons)	Copper consumption per ton of steel (kilogrammes)
United States.....	84,500	1,312	15.5
USSR.....	34,500	295	8.5
United Kingdom.....	16,700	353	21.1
Western Germany.....	15,800	318	13.8
France and the Saar.....	13,700	113	8.2

Source: Economic Commission for Europe, *The European Steel Market in 1953;* and *Yearbook of the American Bureau of Metal Statistics.*

It will be seen that the United Kingdom has the highest copper consumption per ton of steel and France the lowest. United States consumption in 1953 was slightly below the 1952 level, while crude steel output exceeded 100 million tons, so that copper consumption per ton of steel was only 12.8 kgs. reducing the margin separating the United States and the USSR.

The next stage is to examine the distribution of consumption in 1951-52 by groups of countries and regions in which it may be assumed that similar factors occur to determine copper consumption. (See table 145.)

The first group includes the United States, the United Kingdom and Western Europe—excluding Germany—with a consumption of 1,984 thousand tons, that is, 76 per cent of the world total. In view of the change in the pattern, there seems no justification for expecting any greater consumption in this sector, unless the technological factors which unfavourably changed the pattern should cease to take effect.

The second group consists of Western Germany and Japan, with 324 thousand tons, that is 12.7 per cent of world consumption. Both countries currently use smaller amounts of copper than during 1937-39, when their purchases were unusually high. Industrial activity in these countries is at a higher level than in 1938 and there is a

Table 145. Distribution of copper consumption, by country groups,[a] 1951–52

Countries or regions	Consumption (thousands of tons)	Percentage of consumption to world consumption
Industrial countries with apparently relatively stable consumption:		
United States.....	1,277.4	49.3
Western Europe (excluding the United Kingdom and Western Germany).....	362.4	14.0
United Kingdom.....	344.8	13.3
Industrial countries with higher pre-war consumption:		
Western Germany..... Japan.....	323.8	12.5
Countries whose industrialization has greatly increased in recent years:		
Canada.....	120.7	4.7
Latin America.....	69.5	2.7
Australia..... India..... Africa.....	89.6	3.5
TOTAL	2,588.2	100
USSR.....	295	
Eastern Europe.....	18[b]	
GRAND TOTAL	2,901.2	

Source: American Bureau of Metal Statistics.

[a] Includes some consignments of old refined copper, especially in Western Germany, United States and Japan.

[b] Estimate.

[2] The American Bureau of Metal Statistics attributes to these countries an aggregate annual output of 14,500 tons, and to the USSR an output and consumption of 295,000 tons in 1952.

trend towards modifying the consumption pattern. They thus might well be included in the first group, since there is little prospect of any immediate increase. They have, however, been placed apart because it is possible that their industrial output will continue to expand for several years to come, as it has done since 1948.

The third group includes Africa, Australia, Canada, India and Latin America, where industrialization has quickened its pace over recent years. Consumption, although low, amounted to 280 thousand tons in 1952. Should industrialization and the demand for copper continue to grow at the present cumulative annual rate of 8.2 per cent, aggregate consumption might well rise by 130 thousand tons in the next five years and by 330 thousand by 1963.

Finally there is the Soviet Union and the group of East European republics, for which a 1952 consumption and production of 313 thousand tons of copper has been estimated. The assumption that there was no copper shortage in the USSR during 1952 is based on the fact that it has deposits in the Urals and Kazakhstan which are among the largest in the world. It therefore seems justifiable to assume that this sector can continue to supply its own requirements.

(b) *Production trends*

Although there are copper deposits in many countries, world output is mainly concentrated in five regions, in the following order of importance: (*a*) the western United States; (*b*) a belt in South and Central Africa which includes Northern Rhodesia and the Belgian Congo; (*c*) the Andes in the north of Chile and the south of Peru; (*d*) the Urals in the USSR and (*e*) Canada. There have been changes in all of them, in one direction or another, during recent years, and projects are on foot which merit some mention here.[3] (See table 146 for the global output of these groups together with that of smaller producers which have not been mentioned.)

It is evident that some countries have made efforts to develop copper resources. The USSR increased its output by 64 per cent between 1948 and 1952; the Belgian Congo and Rhodesia together showed a 36 per cent increase, but the United States only 9 per cent. In contrast, Canada's production, which rose by 10 per cent in 1951, fell again in 1952 on account of labour problems. Latin America's output has declined slightly in absolute terms and even more so in proportion to world production.

[3] The USSR is excluded from this survey through lack of adequate information.

This smaller real share of Latin-American output might be reduced still further if expansion plans for copper mining in other parts of the world take effect. Without entering into details beyond the scope of this survey, some indications will be given of possible results in this direction, to provide an initial idea of the extent to which Latin America's relative position would be affected.

In the United States, where strategic considerations prevailed and mining companies were encouraged to work marginal mines,[4] the extension of operations on existing deposits and the mining of new ones will signify an additional output of 140 thousand tons in 1954, some 90 thousand tons in 1955 and some 64 thousand tons in 1956,[5] by which time capacity will exceed one million tons. Since the Government has undertaken to purchase the metal extracted from the new mines, copper exports to the United States will obviously become more difficult.

The expansion programme in Africa is principally based upon an increase in the generation of power, upon mechanization, and upon the development of a mixed deposit of copper and cobalt in Uganda.

Canadian copper companies, which maintained their high level of production, plan expansions calling for a 65-million-dollar investment, particularly in the mixed mines (copper and nickel).

Should all these plans materialize—most of them with United States financial support—the world's productive capacity will increase by some 300 thousand tons during the next four years, that is by about 20 per cent over the 1952 level.

(c) *Supply prospects*

Thus there would be an even greater disequilibrium with consumption, which at present shows no prospects of an increase. From a production deficit of 80 thousand tons in 1952, there would be a change to a 270-thousand-ton surplus in 1954. In 1958 the surplus would amount to 566 thousand tons, that is, a surplus equivalent to 22.5 per cent of the 1952 consumption figure, the peak level in recent years.

This represents a cumulative annual increase of 3.45 per cent. For consumption to absorb the surplus—even assuming that no new technological changes are introduced to the

[4] The incentives used to achieve this end were direct capital contributions by the State, purchase contracts at fixed prices and terms, and tax exemption on mortgage repayments.

[5] See *Engineering and Mining Journal*, July 1953.

Table 146. Share of productive regions in the extraction of world copper

(Thousands of tons)

Regions	*1948*	*1949*	*1950*	*1951*	*1952*
World total	*2,324*	*2,283*	*2,508*	*2,632*	*2,710*
United States	776	691	831	852	846
Rhodesia and the Belgian Congo	369	404	461	509	503
Peru and Chile	463	399	393	412	435
USSR	180	200	218	254	295
Canada	222	239	240	245	234
Rest of Latin America	82	87	85	80	77
Rest of the world	232	263	280	280	320

Source: Yearbook of the American Bureau of Metal Statistics.

Table 147. Estimates of theoretical copper output capacity

(Thousands of tons)

Countries or regions	*1952*	*1954*	*1956*	*1958*
United States	846	985	1,075	1,139
Canada	234	234	285	284
Latin America	512	597	597	597
Western Europe (excluding the United Kingdom)	118	118	118	118
Belgian Congo	207	207	240	240
British Africa	375	500	517	560
Australia Asia (excluding Japan)	99	99	99	99
Japan	53	53	53	53
TOTAL	2,444	2,793	2,983	3,090

Source: Economic Commission for Latin America.

detriment of copper—industrial activity would have to keep pace with this rate of expansion. The question arises whether such a possibility exists in view of the medium-term trends at present evident.

In this connexion it is worthwhile to study the respective position of the various producing areas in relation to the probable world market. The United States was the largest importer, followed by Western Europe (excluding the United Kingdom). The main exporter is Latin America, and Chile in particular, followed by Canada, the sterling area and Japan. Should the decline noted at the end of 1953 be short and slight, then a rise in consumption may be anticipated within the next few years, before 1958. However, assuming that this increase does not materialize, but that the 1952 consumption level prevails, then the supply position would alter. (See table 148.)

According to this hypothesis, by 1958 the world market would be able to import 364 thousand tons a year, whereas the supplies offered by potential exporters might amount to 935 thousand totns. In the event that no interim agreement to regulate production on a negotiated basis had been reached, exporters will be in differing positions, depending on their costs or on the proportion of their output which is exported.

Latin America is the region least capable of using surcharges on costs in the domestic market to provide a subsidy for exports.[6] On the other hand, it is doubtful whether a unilateral reduction in output on the part of Latin America with a view to maintaining prices would yield good results. By 1956, if there had been no increase in consumption, Canada and the sterling area would be able alone to satisfy the aggregate copper requirements of the rest of the world. In the event of open competition, Latin America would have no alternative but to lower prices in order to remain in the market. This would mean a substantial decline in the economic contribution which copper mining countries—particularly Chile—had received from this industry until 1952.

2. *Latin-American copper production*

Copper output in Latin America has declined over recent years in relation to the peak figures recorded in the past. Bolivia registered its maximum output in 1946, Chile in 1944, Ecuador in 1945, Mexico in the twenties and Peru in 1938. In general, the reduction is due to the fact that some mines have gradually been worked out without being

[6] This disregards the possibility that some importing countries may defend their domestic output by means of customs tariffs.

Table 148. Balance of exportable copper surpluses, and deficits to be imported, over the next few years, assuming constant consumption at the 1952 level

(Thousands of tons)

Countries or regions	*1954*		*1956*		*1958*	
	Surplus	*Deficit*	*Surplus*	*Deficit*	*Surplus*	*Deficit*
United States	—	−387	—	−297	—	−233
Canada	120	—	170	—	170	—
Latin America	544	—	544	—	544	—
Western Europe and its dependencies (excluding the United Kingdom)	—	−161	—	−131	—	−131
Sterling area (including Asia and excluding Japan)	152	—	169	—	212	—
Japan	9	—	9	—	9	—
TOTAL	825	−548	892	−428	935	−364

Source: Economic Commission for Latin America.

replaced by new enterprises or by extensions to the remainder. In some cases new mines have not been opened owing to a material lack of reserves, and it should be noted in this connexion, that mining prospection is inadequate almost throughout Latin America. In other cases, such as Chile and Peru, there are known deposits which could be worked as economically as those being developed in Africa and the United States, for example, yet they have not been successfully worked.[7] (See table 149 for production since 1948.)

(a) *Bolivia*

Bolivia's copper output consisted exclusively of concentrates obtained from the Corocoro mine, owned by a United States company, but it has been declining gradually from a maximum of 6,100 tons in 1945. In October 1952 the company notified the Government of its intention to close down, since the reserves were exhausted and the reduction in the average grades together with the increase in taxes made it no longer possible to operate the mine on an economic basis. In order to prevent unemployment, the Government rented the deposits to the company, abolishing all tax charges except 5 per cent of the copper output, to be delivered to the Government at the port of Arica. This proportion was to be raised gradually to a maximum of 10 per cent. The duration of this special contract was to be used to explore for new reserves, but the search has apparently proved unfruitful. The definite closure of the mine was announced in the second half of 1953.

(b) *Cuba*

Work at two small new copper mines began in 1952 and 1953. Even when they come into production, most of the country's copper will continue to be supplied by the old Matahambre mine, which was extended in 1950 to provide an annual capacity of nearly 21 thousand tons. A fire destroyed some of the mine installations, and reconstruction and extensions have since been proceeding; they are expected to restore the extraction rate in 1954 to the 1950 figure of 21 thousand tons. Cuba's total output in 1953 remained practically the same as in 1952.

(c) *Chile*

Chilean copper is extracted from three large mines financed with United States capital and from over 400 medium and small mines owned by Chilean and some French capital. To simplify the analysis, the production of each of these groups since 1948 is shown separately in table 150, together with the maximum production figure achieved before that year.

[7] The respective situations of Chile and Peru are fundamentally different. As they will be dealt with separately in the respective sections, a general idea of some of the more interesting aspects of what is happening in Latin America with regard to copper mining can be obtained only by reading both sections.

Table 149. Latin America: Copper output

(Thousands of tons)

Years	*Chile*	*Mexico*	*Peru*	*Cuba*	*Bolivia*	*Total*[a]
1948.....	444.9	59.1	18.0	15.2	6.6	544.3
1949.....	371.1	57.2	28.0	14.1	5.1	479.9
1950.....	360.9	61.7	30.3	20.9	4.7	479.1
1951.....	378.1	67.3	32.2	19.2	4.8	501.7
1952.....	406.5	58.4	29.8	17.3	4.7	516.7
1953[b].....	339.0	58.0	30.0	17.5	4.0	448.0

Sources: Yearbook of the American Bureau of Metal Statistics, 1953; and official statistics of the countries concerned.

[a] Includes small-scale producers, for example Ecuador.

[b] Estimates based on partial data.

Table 150. Chile: Copper output, by enterprise groups

(Thousands of tons of refined copper)

Years	*Large mining companies*[a]				*Small and medium mining companies*[a]	*Grand total*
	Chuquicamata	*Potrerillos*	*El Teniente*	*Total*		
1948.....	207.9	67.9	149.0	424.9	19.9	444.8
1949.....	175.8	49.2	126.5	351.5	20.3	371.8
1950.....	155.8	45.9	143.2	345.4	15.9	360.9
1951.....	163.5	41.3	155.3	360.1	17.9	378.1
1952.....	159.2	47.0	167.6	373.9	32.5	406.5
1953.....	157.1	41.0	127.3	325.5	25.5	351.0
Former maximum.....	211.4[b]	94.3[c]	..	..	..	..

Sources: Dirección General de Estadística, *Yearbook of the American Bureau of Metal Statistics*, and data from enterprises concerned.

[a] Large mining companies are financed by United States capital. Small and medium-scale work with domestic investment and with French contributions in some cases.

[b] 1944.

[c] 1941.

Most of Chile's copper mining industry was operating considerably below capacity during 1953, particularly since the capacity of Chuquicamata, the largest mine, had been increased by 80 thousand tons in 1952, as noted in the *Economic Survey of Latin America, 1951-52*. The decline in production is due to the difficulty of selling copper on the world market at the prices which Chile tried to obtain, and to shutdowns caused by wage disputes.

Although this study is mainly concerned with 1953, it is essential to consider past events in order to obtain a better appreciation of the present situation. The United States Government agreed in May 1951 that United States consumers would pay, for 80 per cent of the output of Chile's large mining companies, 3 U.S. cents per pound more than the basic price fixed for domestic copper. There was thus a dual price: 27.5 cents for Chilean and 24.5 cents for United States and other copper. The Chilean Government decided that the 3 cent difference should be paid into the Treasury and that the 50 per cent tax on company profits should be computed on the basis of a price of 24.5 cents per pound. The remaining 20 cent of the copper output was sold elsewhere in the world at a much higher price, some shipments securing as much as 54 cents per pound. As in the first case, the difference between this selling price and 24.5 cents was taken in full by the Chilean Treasury. The agreement with the United States was terminated in May 1952 and within a short time price controls on imported copper were lifted by the United States Government. The Chilean Government fixed a price of 36.5 cents for all copper exports, receiving the full difference between this and the selling price for United States copper, which was 24.5 cents.

Shortly afterwards, all copper imported by the United States rose in price until it reached the Chilean level; in view of this, imports from all sources rose considerably, until there was no longer any shortage. In February 1953, the United States Government lifted price controls on domestic copper, and within three months the price rose to 30 cents per pound, while copper imports, except from Chile, fell to this same figure. For the rest of the year the price ranged between 29 and 30 cents. The only exceptions to this rule were some consignments sold by the large mining companies in Chile at the price of 36.5 cents fixed by the Government, which were purchased by the United States processing industry owned by the same companies.

Eventually the Chilean Government maintained the price of 36.5 cents per pound until October 1953, but Chilean sales were hampered by an adequate world supply at lower prices. Unsold stocks accumulated, as the months went by, in spite of the cutback in Chilean output through lack of sales. Overtime was eliminated, and more effective measures followed. The production capacity of the large mining companies amounted to some 470 thousand tons in 1953, but because of these events (strikes and the lack of sales) only 314 thousand tons were actually produced, of which 110 thousand remained unsold at the end of the year. Simultaneously, copper stocks in the United States rose some 70 thousand tons above the figures for the end of 1952.

The reduction in consumption, when added to the increase in productive capacity which is taking place and will take effect within the next few years, particularly in the United States and Africa, points to keen future competition on the world copper market.

Due to the multiple exchange system, copper production costs in Chile are related to the exchange rate applied to the companies' expenditures within the country. Under 1952 conditions and with the industry working only at a percentage of its capacity, the average production cost can be estimated without any great margin of error. (See table 151.)

Table 151. Chile: Estimate of average probable cost of copper under 1952 working conditions and with different dollar exchange rates[a]

Exchange rates (pesos per dollar)	*U. S. cents per pound of copper*
19.37	21.6
50	14.2
100	11.8
150	9.4

Source: Data based on a distribution of expenditure prepared by the Banco Central de Chile.

[a] Does not include reserve for depletion of the field.

The figures in this table should be compared with a cost of 14 U.S. cents per pound for Rhodesian copper.[8] The costs shown for Chile are averaged for the output for the three mines. The one with the lowest productive capacity has considerably higher costs, however. Thus the costs of the two large mines, Chuquicamata and El Teniente, with a present joint capacity of some 400 thousand tons, are even lower for each of the alternatives considered.

(i) *Chuquicamata.* The company completed, in August 1952, the construction of a new sulphide ore flotation section, and in November of the same year started to smelt these ores to produce blister copper. The new unit has a capacity ranging from 75 to 85 thousand tons of blister copper a year, depending on the grade of the concentrates. This factor, added to the estimated 200 thousand tons a year of electrolytic copper from the oxide plant, theoretically raises the combined capacity to some 280 thousand tons a year. In practice, however, the real capacity was less. It does not exceed some 240 thousand tons annually, owing to the necessity of treating in the two installations successively batches of ore containing both oxides and sulphides in amounts warranting double treatment. On the other hand, the remaining reserves of oxide ores represent approximately 1.5 million tons of fine copper; the period of working is conditioned to the rate of production, which cannot exceed the 200 thousand tons a year which is the plant's capacity. The cost of this work, originally budgeted at some 120 million dollars, actually amounted to almost 180 millions owing to the increase in the cost of imported materials and of wages in Chile.

It is obvious that if the company wishes to maintain the present capacity once the oxide ore has been worked out it will have to build new sulphide processing plants. There are no problems from the point of view of reserves, their volume being so great that they have never been accurately determined. Among the projects being studied in relation to this problem is one under which the present open-cast mining would be replaced by underground mining. It is possible that the consequent higher costs would be largely offset by the slight enrichment of the ore grade which, as drillings have shown, takes place as the depth increases.

[8] Statements by the Board of one of the companies in the area.

(ii) *Potrerillos.* Of the three three Chilean mines, Potrerillos has the greatest technical and economic difficulties, which are due to the gradual decline in the average ore grades. When the reserves were originally proven in 1933, during the early stages of the mine's operations, they were estimated at 130 million tons, with an average grade of 1.5 per cent of copper. To date some 150 million tons of ore with a grade slightly below 1 per cent have been worked. It is estimated that the active life of the deposit will be some 5 to 6 years more if the present conditions of working are maintained. Areas have been found in which the grade is slightly lower, allowing for an additional production of some 225 thousand tons of copper. When these areas are worked, costs will rise not only on account of the lower ore grades, but also because of the greater hardness of the rock, which will necessitate the use of more explosives and labour. It may therefore be anticipated that the working of these additional reserves will not be economically sound under present taxation conditions, even should prices remain favourable.

Despite the almost marginal position of this mine over a period of years, some enlargement of the mills has been undertaken to ensure total capacity utilization of the concentrating plant and the smelting furnaces, thus partly offsetting the effects of closing the oxides section.

(iii) *El Teniente.* Except in 1953, this company has continued to raise its electric power generating capacity slightly, the shortage of electrical energy being one of the factors which limit production, especially in drought years. Furthermore, a programme of mill renewal and expansion, which will lead to a slight increase in capacity is being undertaken.

(iv) *Medium and small mining.* This branch, which has always operated at high cost and has received more favourable taxation treatment than the large mines, took advantage of the high prices in 1951 and 1952, since excesses over 24.5 cents were, after payment of income tax, entirely at the producers' disposal. As a result, the small and medium companies increased their output from some 20 thousand tons annually—the average over recent years—to 32 thousand tons in 1952. A large proportion of excess profits was re-invested. The high prices coincided with the establishment of the small national smelting plant at Paipote, a factor of substantial value to the smaller companies. As a result, it was unnecessary to export ores and concentrates for smelting, blister bars, which are more easily marketed overseas, being exported instead.

Medium and small mining companies did not operate at full capacity in 1953 since during most of the year there were no buyers at 36.5 cents per pound and the Government was reluctant to permit small supplies from this source to interfere with its general price policy. Aggregate output, in terms of exports, therefore fell to some 25 thousand tons. At the end of the year considerable tonnages of ore and concentrates awaited a change in the Government's policy; the capital of the Paipote smelting plant was raised to a figure which would allow of the purchase and treatment of these materials.

(d) *Mexico*

In Mexico, copper mining as such received no incentive from the high prices prevailing in recent years, probably because no new deposits have been found that could be operated on an economic basis. Cananea and Moctezuma —owned by United States companies—and El Boleo are the only important copper deposits which have been worked recently; their combined output approaches 40 thousand tons a year. (See table 152.) This capacity will be reduced within the next few years, as the definite closing of the old mine at El Boleo in Baja California was announced at the end of 1953. This mine was originally owned by a French company, being later—at the end of the Second World War —transferred to the Mexican Government; it had become unprofitable for private enterprise because the ores were virtually worked out. Exploration for new reserves has apparently been unsuccessful.

Table 152. Mexico: Copper output

(Thousands of tons)

Years	*Mines producing copper only*[a]	*Copper from mixed minerals*[b]	*Total*
1948.....	44.0	15.0	59.0
1949.....	43.8	13.4	57.2
1950.....	43.6	18.4	62.0
1951.....	40.9	26.4	67.3
1952.....	38.1	20.4	58.5
1953.....	..	..	58.0[c]

Sources: Dirección General de Estadística; and *Yearbook of the American Bureau of Metal Statistics.*

[a] Includes the El Boleo, Cananea and Moctezuma mines; the last-named mine is represented by export figures.

[b] Because of differences between totals given by Mexican statistics and the details on individual concerns published in the *Yearbook of the American Bureau of Metal Statistics.*

[c] Estimated on the basis of ten months.

The slight increase in copper production during 1951 and 1952 was due to the large amount of blister bars produced by plants processing mixed ores containing silver, lead, zinc and copper. Output rose from 15 thousand tons annually at the beginning of the post-war period to 26 thousand tons, declining again when lead and zinc prices fell during 1952. Mexico's total copper output therefore depends not only on the copper cycle, but also on that of other metals.

(e) *Peru*

At present there is no large mine being worked in Peru exclusively on the basis of copper. Output, which has fluctuated around 30 thousand tons in recent years, is mainly derived from mixed mines which produce silver, zinc, lead, gold and other metals, in addition to copper. (See table 153.)

Table 153. Peru: Copper output

(Thousands of tons)

Years	*Cerro de Pasco*	*Huarón*	*Other mines*	*Total*
1948.....	12.9	1.9	3.2	18.0
1949.....	21.1	1.7	5.2	28.0
1950.....	20.3	2.1	7.9	30.3
1951.....	22.8	1.5	7.9	32.2
1952.....	20.3	1.4	8.0	29.7
1953.....	..	..	..	30.0[a]

Sources: Anuario de la Industría Minera del Perú; and *Yearbook of the American Bureau of Metal Statistics.*

[a] Estimate.

The major share of output is provided by a United States company, which until 1940 had a productive capacity of over 35 thousand tons a year. Output has fallen since 1946 to a minimum of 12,800 tons in 1948, while a new electrolytic refinery was being installed with an approximate annual capacity of 22 thousand tons. This new installation has been working almost to capacity since 1949. Another, smaller company, financed with French capital, smelts mixed ores and also produces blister copper.

The high prices in 1951 and 1952 encouraged many small mines, assisted by the Banco Minero del Perú, to work to full capacity and increase their output of mixed metals. Copper concentrates from this group rose from some 3,000 tons in 1948 to 8,000 in 1952. The fall in the prices of zinc and lead, which are associated with copper in this industry, will undoubtedly cause a number of these mixed mines to become marginal producers. A decline in Peruvian copper output may therefore be anticipated, at all events until lead and zinc prices improve.

The only Peruvian deposit of any size that is exclusively copper-bearing is at Toquepala in the south, near the Chilean frontier. Reserves of 360 million tons, with a grading slightly above 1 per cent have been proven to date. A United States company has prepared a plan to invest 168 million dollars in a mine with a productive capacity of 90 thousand tons a year. The money was to be provided by the company, partly by the Export-Import Bank and partly by the Defense Materials Procurement Agency. Unfortunately the foreign capital has not materialized, so that the project has been shelved, despite the fact that the Peruvian Government, when formulating the new mining code, in 1950 abolished the export duty on copper and undertook to confine taxation for a twenty-year period to 20 per cent of the profits after deduction from the latter of 15 per cent as a reserve against exhaustion of the deposits.

III. Tin

1. *Disequilibrium between world production and consumption*

The position of tin on the world market deteriorated considerably in 1953 owing to the excess of production over consumption which had prevailed for several years. Output reached a post-war peak as a result of the gradual recovery of the Far Eastern producing countries where mines had been destroyed during the war. Bolivia's production also reached a high level, above that of the previous four years. This may well be an indication that the difficulties which arose from the nationalization of the mines were rapidly overcome. (See table 154.)

Despite the steady rise in output, the pre-war levels, which averaged approximately 180 thousand tons during the 1936-39 period, have not yet been restored. Nor has consumption which averaged some 160 thousand tons annually in 1936-38 and has stood at some 130 thousand tons in recent years, been restored to its former level. World consumption exceeded this average in 1950 as a result of the stimulus provided by falling prices due to the substantial surplus of the previous year.

The decline in consumption as compared with the pre-war period is basically due to the new techniques adopted by industry in order to economize in the use of this metal or to replace it by other materials, a process which was particularly in favour during the war because of the difficulty of obtaining supplies from Asia. As a consequence, there has been a production surplus of some 40,000 tons in each of the last two years.

As the surpluses were almost entirely purchased by the United States as a strategic reserve, they exerted no adverse effect on the world market until mid-1953. During the second quarter of 1953, however, there was a 20 per cent drop in the New York price for this metal, and the downward trend continued in the following months. The weakness of the market, which resulted in a 32 uer cent fall in prices between the first and third quarters of 1953, was intensified by reports that United States purchases had exceeded the estimated strategic reserve figur by 38 thousand tons.

Further, since the technological changes causing the consumption decline have continued, there is little hope of a short term increase of demand, at all events until industry is given other incentives to consider new uses for this metal.

If 1948 is taken as the base year and the eight industrialized countries that consumed 71per cent of the total world output in 1951-52 are considered as a whole, it will be seen that there was an increase of 31 per cent in industrial production during that period, while tin consumption over the average of those two years experienced a drop of 4 per cent, the downward trend continuing in 1953. (See table 155.)

Tin is not utilized to any great extent in the production of strategic materials. The rise in consumption duing 1950,

Table 154. Output, consumption, surplus and prices of tin

(Thousands of tons)

Years	*World production*	*Bolivian production*	*World consumption*	*Surplus*	*Average prices in new York*[a]
1948	153.9	36.7	130.5	23.4	99.20
1949	164.6	33.6	115.0	49.6	99.34
1950	169.1	30.7	151.5	17.6	95.56
1951	170.7	32.6	139.5	31.2	128.31
1952	173.7	31.4	130.0	43.7	120.43
1953	177.3[b]	34.8	131.6[b]	38.6	95.20

Sources: International Tin Study Group and official Bolivian statistics.

[a] U.S. cents per pound.

[b] Estimates based on ten months' production and consumption.

Table 155. Tin consumption in eight industrialized countries

Years	Consumption (thousands of tons)	Consumption per each 100 dollars of industrial production		
		United States	United Kingdom	Western Europe (6 countries)[a]
		(kilogrammes)		
1948.....	100,742	0.165	0.316	0.125
1949.....	83,924	0.139	0.244	0.105
1950.....	117,391	0.178	0.251	0.130
1951.....	104,345	0.134	0.248	0.117
1952.....	89,196	0.103	0.246	0.101
1953.....	93,698	0.117	0.188	0.089

Sources: International Tin Study Group; and United Nations, *Monthly Bulletin of Statistics.*

[a] Austria, Belgium, France, Italy, Sweden and Western Germany.

which might be attributed to accelerated armament production, was in fact the result of a tendency on the part of private industry to stock-pile against possible shortages and of an increase in the production of food containers for the armed forces. These factors disappeared as international tension declined, and some of the stocks were used in the years that followed, so that actual consumption may have differed from that indicated by the official figures given here. Even if the long-term prospects were less unfavourable, the immediate problem of a regular production surplus of about 24 per cent would not be solved.

An increase in consumption may be anticipated in the less highly developed countries, but their aggregate tonnages are at present very small and the possible rise would be inadequate to solve the problem of disequilibrium. Moreover, as soon as a country's consumption reaches a substantial figure, measures are adopted to economize in the use of tin. Brazil, for example, is installing a plant at Volta Redonda to manufacture tinplate by the electrolytic process, which will replace the immersion process used at the old plant.

Lastly, the increasingly large quantities of tin obtained from scrap have an additional unfavourable influence upon the expansion of the market. In the United States the consumption of tin from scrap in proportion to that of tin from the mines rose from 34.3 per cent in 1948 to 38.2 in 1952, and fell to 34.8 per cent in 1953. It may be assumed a similar tendency will become apparent in other countries as tin consumption increases.

2. *The International Tin Conference*

Since all the tin producing countries are under-developed and depend mainly on tin exports to finance their consumption needs and their economic development, the United Nations convened a meeting of the principal producing and consuming countries.

In the past, organizations have been established to achieve stability in the tin industry by balancing consumption and output so as to permit high cost producers to continue in business. At times, such organizations have held executive powers to establish production quotas and have maintained buffer stocks. During and after the war, their activities were confined to research, as in the case of the International Tin Study Group, upon which the recent United Nations Tin Conference in Geneva was based.

The organization proposed by this Conference consists of a group of producers and consumers comprising the International Tin Council, with headquarters in London. This body has executive functions and will be entrusted with the regulation of output and consumption. Producers and consumers will be represented separately. To balance production and consumption, the establishment of buffer stocks is contemplated, to consist of 10 thousand tons as a beginning and to reach a maximum of 25 thousand tons. In addition, a minimum price of £640 sterling per ton[9] and a maximum price of £880 per ton, equivalent to 0.82 and 1.12 dollars per pound weight, respectively, have been established. When tin prices exceed £800 sterling per ton, the Council will sell the buffer stocks on the market. Conversely, when the price drops below £720 per ton, the Council will effect purchases. In order to obtain funds or tonnages for these market activities, the contribution to the reserve will be a maximum of 75 per cent in metal and the balance in sterling or dollars.

The Council will peg export quotas every three months in accordance with estimates for production, consumption and the trade in tin, simultaneously establishing the size of the buffer stocks. Export quotas will be divided in proportion to the number of votes for each country, without permitting an excess or deficit of more than 5 per cent. This organization cannot be considered as a definite solution to the problem, but it will allow for a readjustment system in production and consumption, capable of cushioning the consequences of a crisis.

3. *The mining situation in Bolivia*

Bolivia produces almost 97 per cent of Latin America's tin output, and its situation is the only one that merits analysis here, since only small tonnages are obtained from Argentina, Brazil, Mexico and Peru.

Bolivia is among those large world producers most affected by market instability, for three fundamental reasons: (*a*) it probably depends most upon tin exports to cover imports; (*b*) production costs are among the highest; and (*c*) a substantial part of the ores and concentrates exported are of low content and contain impurities; they therefore require special treatment in refineries; and as a result, the number of foundries and refineries capable of handling Bolivian tin is extremely limited.

Since 1929, the average ore grade has been declining, the working faces have receded further from the mine entrance—so that underground transport is lengthened—and the thickness of the veins has been declining. The shortage of rich tin veins to meet production programmes has meant that increasing proportions of mixed ores, with a growing degree of complexity, have been worked. The average tin content of the ores worked in Bolivia has shown a progressive decline from 3.94 per cent in 1929 to 3.08 per cent in 1939 and 2.18 per cent in 1950. Elsewhere in the world the corresponding percentages remained steady, or declined less.

No precise information is available for recent years, but it is probable that the situation has continued to deteriorate. This may be proved by the fact that during periodic discussions concerning the role of mining in supplying foreign exchange and taxes—an increase which was necessary for economic development—the possibility

[9] These figures are based on long tons of 1,016 kgs.

has been studied of modifying extraction methods in some mines by abandoning the veins and treating large masses of lower-grade ore in order to obtain dispersed tin. The process is similar to that employed for porphyritic copper deposits.

Broadly speaking, Bolivia's tin mining industry has overcome the difficulties of the reduction in the ore grades treated and has mechanized mining in order to increase labour productivity, perfecting the methods for concentrating increasing quantities of complex ores required on the world market. (See table 156, comparative figures for labour productivity in several tin producing countries.)

It may be seen that Bolivia's productivity has followed an upward trend, in spite of the reduction in the average ore grade. Output is almost the same as that of Malaya or Indonesia, double that of Thailand and some eight times greater than in Nigeria. No data are available to compare real wages of Bolivian workers with those in Malaya or Indonesia. These countries are regarded as low-cost producers, although their output per worker is almost the same as in Bolivia.

High transport charges are another factor in excessive costs. In the interior it is often necessary to haul very low grade ores to concentrators particularly suited to their degree of complexity, using very primitive means of transport. The tin recovery rate, especially from more complex ores not presenting the simplicity of casiterite, is low and seldom exceeds 60 to 65 per cent. Consequently, in such cases, the ores must be hauled through long underground galleries or over poor roads in order, at the end, to recover one per cent or less of refined tin. The concentrators produce metals with grades ranging between 18 and 62 or more per cent, which are taken first to the Pacific and later to smelters in Europe or the United States. The average grade of the casiterite concentrates produced in the Far East is 70 to 77 per cent and the smelting is mostly carried out in Malaya.

Thus, in order to increase its competitive prospects on the world market, Bolivia is determined to improve domestic transport and to raise the grades of ores and concentrates as a means of reducing the waste tonnages which at present are transported overseas. Research and experiments are being intensified and acid factories are being installed, especially for hydrochloride, to modify the chemical compositions of some of the ores and increase concentration. The Bolivian Mining Corporation is studying this problem, and has contracted a concentration expert through United Nations Technical Assistance Administration. The ideal solution would be to melt the ores in Bolivia, since freight costs for transport to the coast and by sea would then only affect the refined metal.

Bolivia is now faced with the serious problem of the projected closing down of the Longhorn Smelter at Houston, Texas, owned by the United States Government, which since April 1942 has bought and smelted the entire output of Bolivian concentrates. This excludes tin produced by a large group of mines, which has always been refined in the United Kingdom.[10] The closure of the Texas smelter —if it takes place—will oblige Bolivia to solve the problem of smelting its complex concentrates.

Since the nationalization of the principal tin mines, the Government's efforts have been focused on: (*a*) maintaining the rate of output and exports prior to nationalization;[11] (*b*) reducing transport costs by improving roads in mining districts; (*c*) raising the recovery of tin at the concentrators to obtain higher tin percentages as a means of reducing freight charges and smelting costs; (*d*) investigating the possibility of a smelter which would finally solve the difficulties of placing concentrates with a complex composition and would permit greater sales flexibility. In addition, the Government has undertaken a broad programme for diversifying the economy in order to make the country less dependent upon the world tin market. All these projects imply heavy capital investment, a substantial amount of which would be in foreign currency. For the present, the only means of achieving even temporary stability and of gaining time to improve the overall domestic situation, would be the ratification of the World Tin Agreement. But this would not entirely solve Bolivia's problem. High production costs would remain, while the world lack of balance between production and consumption, which the agreement aims at eliminating, would reduce output for all producers, including Bolivia.

IV. Lead and zinc[12]

1. *Principal market factors*

The factors affecting production of these metals in 1952 and 1953 bore a certain resemblance to those applying to copper. Nevertheless, lead and zinc have shown greater sensitivity to fluctuations in demand and prices.

[10] Consisting fundamentally of casiterite, with which ore smelting problems are small.

[11] The Government has more than succeeded in doing this during 1953. (See again table 154.)

[12] The reason for considering lead and zinc together was already noted in the *Economic Survey of Latin America, 1951-52*. In general deposits being worked show a mixture of both metals.

Table 156. **Annual tin yield per worker**[a]

(Tons per annum)

Years	Malaya	Indonesia	Thailand	Bolivia		Nigeria
				Large and medium mines	Small mines	
1948	1.060	1.067	0.413	1.002	0.516	0.244
1949	1.189	1.265	0.583	—	—	0.156
1950	1.237	1.465	0.782	1.229	1.219	0.151
1951	1.264	1.333	0.654	1.136	—	0.141
1952	1.290	1.133	0.649	1.181	—	0.137

Source: International Tin Study Group (*Yearbook 1952* and *Supplement 1953*).

[a] Refined tin contained in concentrates.

Firstly, the incentive of higher prices caused by the Korean War brought about an increase of 34 per cent in zinc production and 22 per cent in lead production between 1948 and 1952, while copper output rose by only 19 per cent during the same period. But since the rise in lead and zinc consumption was less marked, surpluses accumulated and by mid-1952 there was a sharp fall in prices, followed by declining output. On the other hand, the high price of copper continued for another year.

Zinc is considered as a strategic material, while lead is not. The zinc control measures adopted by the United States Government were similar to those for copper. A domestic price was fixed for domestic and imported zinc, consumers were encouraged to buy all the zinc they could obtain and production in marginal lead and zinc mines was fostered by means of purchase contracts with specific prices and terms and direct capital investment.

(a) *World consumption trends*

The same procedure has been followed as in the case of copper in estimating the ratio between industrial output and lead and zinc consumption in the industrialized countries. (See table 157.)

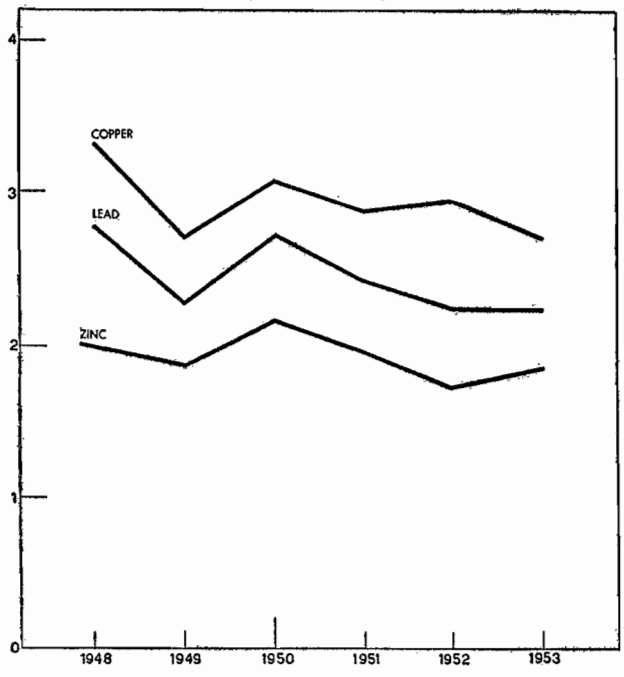
All these countries show a downward consumption trend for both metals in relation to industrial output. This tendency is particularly serious in the United Kingdom, where lead consumption fell in 1952 to 48 per cent of the level attained in 1948, while for the same period zinc consumption fell by 66 per cent. In the United States, the only country for which 1953 data are available, lead consumption appears to have been stabilized, while zinc consumption shows a slight recovery. In fact, taking changes in stocks into account, it is probable that consumption has maintained its ratio to industrial output during the last three years.

A glance at chart LXVII provides some idea of the importance of substitutions by other metals during the period of rationing and high prices. This chart also shows consumption of copper, lead and zinc in the United States for each 100 dollars of manufacturing output at 1938 prices. In the case of copper, the rate of consumption was lower in 1953 when manufacturing output was higher, while a slight recovery could be noted in the case of lead and zinc. This was probably due to relatively lower prices

Chart LXVII

METAL CONSUMPTION IN THE UNITED STATES FOR EACH 100 DOLLARS OF INDUSTRIAL OUTPUT AT 1938 PRICES

(Natural scale)



Source: Yearbook of the American Bureau of Metal Statistics.

Table 157. Lead and zinc consumption in eight industrialized countries

Years	Consumption (thousands of tons)	Consumption per each 100 dollars of industrial production			
		Total	United States	United Kingdom	Western Europe (6 countries)[a]
		(Kilogrammes)			
		I. Lead			
1948	1,412	2.50	2.78	2.36	1.72
1949	1,182	2.07	2.28	1.84	1.66
1950	1,555	2.33	2.71	1.77	1.77
1951	1,566	2.13	2.42	1.69	1.87
1952	1,424	1.81	2.24	1.13	1.62
1953	..	..	2.23[b]	..	..
		II. Zinc			
1948	1,230	2.18	2.01	2.80	2.29
1949	1,176	2.05	1.87	2.33	2.32
1950	1,451	2.20	2.16	2.56	2.03
1951	1,425	1.98	1.96	1.95	2.02
1952	1,346	1.84	1.73	1.86	2.02
1953	..	..	1.85[b]	..	..

Sources: For industrial production: official statistics from the respective countries, and the United Nations *Monthly Bulletin of Statistics;* for metal consumption, *Yearbook of the American Bureau of Metal Statistics.*

[a] Austria, Belgium, France, Italy, Sweden and Western Germany.

[b] Based on a preliminary consumption estimate published in the *Engineering and Mining Journal,* February 1954.

and abundant supplies in 1952-53, which discouraged research into substitutes. It should be noted that the deterioration of the zinc market in 1953, in comparison with the peak 1948 period of the previous cycle, was only 7 per cent, whereas copper and lead fell by 18 and 19 per cent, respectively.

If the falling off in industrial output which began in the second half of 1953 should continue or become accentuated in 1954, there will be a reduction in the consumption of both lead and zinc and in addition a tendency to close marginal mines. This movement had already begun in the United States during 1953 when as a result, there was even greater pressure to obtain higher tariffs than those currently in force.

To provide some idea of the supply situation in the USSR, lead and zinc consumption has been related to steel production. (See table 158.) The substantial variations are probably due to the fact that each country preferred, whenever possible, to use the metal produced in greatest quantity within its own territory. This is to some extent reflected in the Soviet Union's consumption rates, since they vary between 63 and 65 per cent of the average in other countries. It may thus be assumed that either the structure of heavy industry is such that it does not require greater supplies of non-ferrous metals, or else there is a uniform shortage of them.

Table 158. Relation between consumption of non-ferrous metals and crude steel output in several countries, 1952

(Kilogrammes of non-ferrous metal per ton of steel produced)

Countries	*Lead*	*Zinc*
United States	8.43	9.9
USSR[a]	4.45	5.4
United Kingdom	6.45	10.3
Western Germany	7.12	8.35
France (including the Saar)	7.15	8.9

Sources: American Bureau of Metal Statistics; and Economic Commission for Europe, *The European Steel Market in 1953.*

[a] Estimates of the American Bureau of Metal Statistics.

(b) *World output trends*

World lead output in 1952, excluding the USSR, exceeded by 21 per cent the 1948 figure of 1.4 million tons. Between 1950 and 1952 it increased by almost 7 per cent. (See table 159.)

The reductions in Canada and the United States were probably due to restrictions on lead stocks. The United States has equipped new mines or reopened old, high-cost workings in order to maintain its declining production. Thus, between 1948 and 1950, there was a change in the share of the different regions in the world market. The increase in European production has in fact implied a return to the pre-war situation, except in the case of Sweden, where output has increased. Furthermore, the slower rate of increase between 1950 and 1952 makes it unlikely that there will be any considerable further increases in that region. On the other hand, output in Africa, has more than doubled in five years, and the 55 per cent increase between these years indicates that greater tonnages will be mined in future. (See table 160 on world zinc output.)

It may be noted that there has been an expansion of lead output in all these countries or regions; but there was a slight reduction in the United States in 1952, and a stationary trend in Australia, as compared with the previous year. It is therefore probable that the high-cost deposits which were worked in the United States during 1951 as a result of high prices, once again became marginal in 1952, and even more so in 1953 when mines began to be closed.

Almost everywhere else in the world, the continuance of the high price level of 1951, has permitted greater tonnages to be extracted. In general, these increases have not been due to large-scale projects deserving special mention, but rather to a number of small workings, which together have produced aggregate results.

(c) *Status of world supplies*

To obtain a broad picture of how world demand is met and the surpluses are distributed by regions and countries, a comparison of production and consumption is required.

(i) *Lead.* Production in 1953 exceeded consumption by 164 thousand tons, half of which went to the United

Table 159. World lead output

Countries or regions	*Production*			*Percentage variation*	
	1948	*1950*	*1952*	*1948–52*	*1950–52*
	(*thousands of tons*)				
World total	*1,410*	*1,604*	*1,712*	*21.4*	*6.7*
United States	358	391	349	−2.5	−10.7
Canada and Newfoundland	172	150	153	−11.0	2.0
Mexico	198	224	222	12.1	−1.0
South America	101	123	138	36.6	12.2
Western Europe	197	269	166	−15.7	−38.2
Asia (excluding China)	15	12	22	46.7	83.3
Africa	86	118	173	101.2	46.6
Australia	208	211	225	8.2	6.6
USSR[a]	75	112	154	105.3	37.5

Source: Yearbook of the American Bureau of Metal Statistics.

[a] Estimates.

Table 160. World zinc output

Countries or regions	Production			Percentage variation	
	1948	1950	1952	1948–52	1950–52
	(thousands of tons)				
World total	*1,795*	*2,026*	*2,406*	*34.0*	*18.8*
United States	572	566	600	4.9	6.0
Canada and Newfoundland	252	284	333	32.1	17.3
Mexico	172	188	208	20.9	10.6
South America	92	120	172	86.9	43.3
Western Europe	235	302	375	59.5	24.2
Asia (excluding China)	33	53	89	169.7	67.9
Africa	89	127	179	101.1	40.9
Australia	152	170	169	11.1	−0.6
USSR[a]	111	130	186	67.6	43.1
Eastern Europe[a]	87	86	95	9.2	10.5

Source: Yearbook of the American Bureau of Metal Statistics.
[a] Estimates.

Table 161. Balance of world lead supply, 1952

(Thousands of tons)

Countries or regions	Output	Consumption	Balances	
			Exportable	To be imported
United States	349	710	—	361
Canada and Newfoundland	152	50	102	—
Mexico	222	10	212	—
South America	138	41	97	—
Western Europe	278	507	—	229
Asia	22	27	—	5
British Africa	58	15	43	—
French and Belgian Africa	115	—	115	—
Australia	225	34	191	—
USSR[a]	154	154	—	—
TOTAL	1,713	1,548	760	595
Entered the U. S. strategic stockpile[a]		82		
Increase in producers' and world industry stocks[a]		82		

Source: Yearbook of the American Bureau of Metal Statistics.
[a] Estimates.

States strategic stockpile and the other half to increase stocks held by producers and industrial consumers. These surpluses led to the price decline in the middle of the year. (See table 161.)

If export and import balances are observed, and assuming that Australia and Africa continue to supply Europe's needs primarily, it is found that the export balances from these areas exceed the import requirements of Europe and Asia by 115 thousand tons. A market was thus logically sought in the United States. Assuming further that Canada, Mexico and South America, which are geographically better situated, sought their markets in preference in the United States, it will be seen that their production also exceeded that country's import needs by 50 thousand tons.

(ii) *Zinc.* A comparison between world production and consumption is based, as in the case of lead, on 1952 figures, since statistics for 1953 are not yet available. The production surplus amounted to some 420 thousand tons, of which 36 thousand tons were set aside for the United States strategic reserve and the remaining 384 thousand tons were used to increase stocks held by producers and consumers. (See table 162.)

The surplus stocks in Africa and Australia—278 thousand tons—were almost the same as the excess consumption in Western Europe and Asia, which amounted to 305 thousand tons. On the other hand, the import requirements of the United States—171 thousand tons—must be compared with the substantial exportable surpluses of Canada, Mexico and Latin America, equivalent to 632 thousand tons. This surplus explains the price fall in 1952. Should world output continue at the high levels of that year, the situation may be expected to become more critical in the near future. Fortunately, there appears to be a trend towards stabilizing the consumption pattern, which would permit the balances to be absorbed as industrial output grows. For the time being, as in the case of lead, the situation in the United States market will be of paramount importance to zinc mining.

Table 162. Balance of world zinc supply, 1952

(Thousands of tons)

Countries or regions	Output	Consumption	Balances	
			Exportable	To be imported
United States	600	771	—	171
Canada and Newfoundland	334	47	287	—
Mexico	208	9	199	—
South America	172	26	146	—
Western Europe	375	670	—	295
Asia (excluding China)	89	98	—	10
British Africa	36	18	18	—
French and Belgian Africa	143	—	143	—
Australia	169	52	117	—
USSR[a]	186	186	—	—
Eastern Europe[a]	95	100	—	5
TOTAL	2,407	1,977	910	481

Source: Yearbook of the American Bureau of Metal Statistics.

[a] Estimates.

2. *Latin-American output*

Latin-American production of lead and zinc has developed within relatively narrow limits. The increase in the case of lead was 30 per cent between 1948 and 1953, as against 44 per cent for zinc. (See table 163.) In 1952, lead production increased by only 2 per cent, while zinc output declined by the same percentage.

(a) *Argentina*

Most of Argentina's lead output comes from a company which has maintained annual capacity at between 20 and 24 thousand tons, depending on domestic market conditions and transport facilities for concentrates, which have always been a problem due to the mine's location. In recent years deposits have been found near Mendoza; their output is estimated at some 4 thousand tons annually, but no official data are yet available.

Production of zinc remained steady around 15 to 16 thousand tons a year, although the 1953-57 Five-Year Plan proposes an output of 40 thousand tons of refined metal. The largest mine, near Jujuy, produces approximately 90 per cent of the total.

(b) *Bolivia*

There were no important changes in lead or zinc output, which have remained at approximately the same levels since 1951.

(c) *Brazil*

No accurate statistical data are available concerning lead production. There are two small smelters with occasional output. The first is in the State of Paraná, and concentrates, smelts and refines some 2.5 thousand tons a year of 99.96 grade lead. The other is a small smelter operated by the Technological Research Institute at Apiai, São Paulo, which has been rebuilt since 1949 for an annual capacity of 1.2 thousand tons. Brazilian consumption is estimated at 35 thousand tons of lead, some 10 per cent of which is supplied by these two smelters. Prospects for

Table 163. Latin America: Lead and zinc output

(Thousands of tons)

Years	Argentina	Bolivia	Chile	Peru	Mexico	Total
			I. Lead			
1948	21.7	25.6	5.1	48.3	193.3	294.0
1949	19.8	26.3	2.8	53.3	220.8	323.1
1950	23.0	31.2	3.3	64.9	224.1	316.6
1951	24.0	30.0	9.2	82.3	201.4	347.0
1952	18.0	29.3	10.3	98.1	221.0	376.8
1953[a]	22.0	30.0	9.0	100.0	223.0	384.0
			II. Zinc			
1948	12.2	21.1	0.7	58.9	179.0	272.0
1949	11.0	17.6	0.1	72.1	178.4	279.1
1950	12.7	19.6	0.1	87.9	223.5	343.8
1951	15.5	30.6	1.3	101.2	180.0	328.6
1952	15.4	35.7	2.9	120.8	227.4	402.1
1953[a]	16.3	34.5	3.5	122.6	226.5	392.6

Sources: Yearbook of the American Bureau of Metal Statistics; and official Chilean and Mexican statistics.

[a] Estimates based on partial data.

enlarging output are limited, because proven reserves are scarce.

(d) *Chile*

Lead and zinc deposits are scarce in Chile's traditional mining area, and the workings are small. The largest, in the province of Aconcagua, has a concentrator, which, since 1952, has begun to produce 154 tons of lead in concentrates and 723 tons of zinc annually. These minerals have exclusively been used almost entirely, by the heavy chemical industry.

In the province of Aysén, to the south, a company has increased lead production to a total of 8 thousand tons of fine metal. Lead concentrates contain 70 per cent of lead and 9 per cent zinc. Conversely, zinc concentrates contain 50 per cent of zinc and 4 per cent lead. Both metals are almost entirely exported to Argentina. Prospection work for new deposits has proved fruitful, and as a result reserves have increased considerably, but there is no information of any expansion for extraction and processing plants.

Since 1951, when a selective flotation plant was installed at the Aysén lead mines, some 3.5 thousand tons of zinc have been produced, which are exported to Argentina for smelting and refining.

(e) *Mexico*

Since lead and zinc production are far greater than any potential domestic consumption, Mexico has traditionally exported a high percentage of all output, particularly to the United States, which is the nearest market. This fact underlies the efforts of United States mining interests to obtain a modification of the present import duties to give greater protection. Consequently, such efforts have had substantial repercussions on the plans for expanding Mexican lead and zinc mining activities.

Despite the drop in prices and the difficulties involved in placing metals abroad, zinc output was maintained at the former level. The output of lead, on the other hand, increased by 1 per cent.

(f) *Peru*

Output of both metals showed considerable annual increases between 1948 and 1952. In 1953, this upward trend continued although at a slower rate. A major share of the lead and zinc increases was due to enlarged operations at Cerro de Pasco, where an electrothermic refinery is being installed by stages.

V. Coal

Since this is the first time that a chapter on Latin-American coal mining has been included in this *Survey*, a general description of the deposits and other background information is provided to explain events and trends during recent years.

Until the First World War, Latin America showed considerable interest in coal mining, as a means of meeting the growing demand for fuel caused by economic development. Local fuel resources had to be supplemented by coal imports, the main supplier in Europe being the United Kingdom. From 1914 it became almost impossible to obtain imported coal and the supplies recovered slowly after hostilities ceased. The demand thus tended to turn towards the growing availability of fuel oil, so that incentives for coal mining declined and even disappeared altogether.

In more recent years, and especially since the Second World War, there has been renewed interest in coal, mainly due to the two following factors, (*a*) the increased demand for coal as a fuel and reducing agent for the new Latin-American metallurgical industry, especially in Argentina, Brazil, Chile, Colombia, Mexico, Peru and Venezuela; (*b*) in some countries, particularly in Argentina, Brazil and Chile, the shortage of foreign exchange combined with insufficient domestic petroleum supplies has caused domestic coal to be accepted as an efficient substitute for imported coal or fuel oil. The search for coal undertaken in Colombia and Peru as a result of the incentive offered by wartime demand provided a clear example of this new interest in coal mining. Since suitable deposits were found, tentative attempts have been made, with or without Government help, to organize a coal industry based on the export market.

Since 1950, coal output in several Latin-American countries has been increasing. The only substantial changes occurred in Mexico and Argentina, although in the latter case the total is still very small. (See table 164.)

The following pages describe briefly, by countries, the coal fields currently being mined, or in the course of development, in addition to reserves, development plans and annual output in recent years.

1. *Argentina*

Argentina's main known coal field is at Río Turbio in the south-west, very close to the Chilean border. The deposits consist of four workable beds with a dip ranging between 5 and 25 degrees. Clay intrusions of different thicknesses appear in the beds, and after deducting such

Table 164. Latin America: Coal output

(Thousands of tons)

Years	*Argentina*	*Brazil*	*Chile*	*Colombia*	*Mexico*	*Peru*	*Total*
1950.....	26	1,956	2,094	1,010	912	196	6,194
1951.....	39	1,968	1,988	1,050	1,104	186	6,355
1952.....	113	1,944	2,208	1,050[a]	1,317	224	6,743
1953[b].....	120	2,000	2,138	1,050	1,475	223	6,931

Source: Official statistics.

[a] Estimate.

[b] Estimates, except in the case of Chile.

intrusions, there is a minimum thickness of 1.5 metres of clean coal in each seam. Total reserves have been estimated at 350 million tons, of which 180 million tons had been proven by 1950, when large-scale development of the mine began. The coal is sub-bituminous type B, that is, non-coking; its higher heating value ranges from 5.7 to 6.3 thousand calories with 11 per cent ash and 1.1 per cent sulphur in the washed coal.

In addition to Río Turbio, coal outcrops in different parts of the eastern Andes have resulted in the discovery of at least seven smaller fields, none of which exceeds one million tons in reserves. Some of these deposits are being worked for local consumption.

Furthermore, in southern Mendoza and northern Neuquén, asphaltite deposits have been found with current reserves estimated at about half a million tons. They may acquire importance as a means of improving the coking properties of Río Turbio coal.

As to Río Turbio, expenditure on mining equipment in 1948 totalled 2.2 million dollars and included such items as compressors, mechanical loaders, undercutters, conveyor belts, diesel locomotives, mine cars and so forth. Power for the mine is at present supplied by two power stations with an aggregate capacity of almost 5 thousand kW. The final development plan for the mine includes complete mechanization and a power station of 30 thousand kW. Run-of-mine coal has an average of 18 per cent ash, which is reduced by washing to between 9 and 11 per cent. A 500-ton-per-hour washing plant is in course of construction. In order to transport the coal to markets in central Argentina, a 75-centimetre gauge railway, 257 kilometres long, from the mine to the port of Río Gallegos is used.

Starting from a production of 113 thousand tons in 1952, output will rise gradually to 400 thousand tons a year, which is the maximum handling capacity of the present port installations. The rate at which production increases will depend upon progress in the training of personnel and the building of houses. Once the projected improvements of the Río Gallegos port installations have been completed, the capacity of the mine may be expanded to 2 million tons a year.

The fact that there have been substantial imports of petroleum and coal into Argentina, in addition to domestic production (see again table 164) shows that sufficient markets exist in Argentina to absorb the entire coal output proposed in the above-mentioned plan.[13]

2. *Brazil*

Brazil's reserves are estimated at 500 million tons, distributed as shown below. The flora from which the coal originated were small and dispersed so that the coal has a high ash content.

	Millions of tons
Santa Catarina	400
Rio Grande do Sul	60
Paraná	30
Other small fields	10
TOTAL	500

[13] In 1953, Argentina consumed approximately 8.1 million tons of petroleum products, mostly imported.

This estimate may be subject to considerable alteration, according to the results of current exploration being carried out in the vicinity of São Jerônimo, Xarqueada, and extending over 50 square kilometres, where the existence of a bed almost two metres thick is being verified. Furthermore, the Departamento Autónomo do Carbão has been prospecting near Bagé, close to the Uruguayan frontier. Nearly 100 million tons have been proven there, but as the coal has over 40 per cent ash content, it would be suitable only for domestic consumption. Reserves may also be increased as a result of the recently discovered deposits in the Xingú and Fresco valleys, on the border of Matto Grosso and Paraná, although this is anthracite coal and is very far from any navigable point.

In Rio Grande do Sul, almost 90 per cent of all output is obtained from two mines belonging to a single company, while in Santa Catarina there are twenty-four companies with over 80 mines in operation.

The properties of Brazilian coal are as follows: in Santa Catarina, ash content: 18 to 41 per cent; volatile matter: 12 to 32 per cent; fixed carbon: 31 to 61 per cent; and heating value: 4.8 to 6.7 thousand calories; in Río Grande do Sul the amount of fixed carbon and the heating value are lower.

Brazil's coal production (see again table 164) has remained almost stationary since 1948, in spite of the incentive provided in 1946 by the establishment of the Volta Redonda integrated steel plant.

Since future prospects were uncertain, the government decided to prepare a plan to rationalize the coal industry. This plan included studies of all the coal producing zones, and in the case of the Santa Catarina area, indicated the conditions to be met for centralizing the work, for mechanizing the mines to save labour, for reducing production costs and improving the means of transport. Briefly, the plan showed that aggregate investments for 1951 should reach 735 million cruzeiros, 322 millions being in Brazilian currency and the remainder equivalent to 18.9 million dollars.

The principal obstacle to increasing production of washed Santa Catarina coal lies basically in the low proportion of metallurgical (coking) coal obtained in relation to coal with a higher ash content which must be used for other purposes.

With regard to Río Grande do Sul, two types of coal could probably be produced: one having 25 per cent ash content and mainly for use on the railways and a second type, having an ash content of about 40 per cent, for use at the thermo-electric plant of São Jerônimo. This plant already has a first 10 thousand kW turbine installed and could be expanded to twice that capacity.

On the other hand, the Paraná region has a potential consumer in the Paraná-Santa Catarina railway, which could be completely converted from wood to coal. With these enlargements, consumption could, within a very short period, reach 2.6 million tons annually, of which 1.3 million would be from Santa Catarina coal, 1 million from Río Grande do Sul and 300 thousand from Paraná.

In addition, there are prospects of using by-products from the coal washing plants, consisting of refuse containing high grade iron pyrites, for sulphuric acid production or elemental sulphur. Both these products are of interest to Brazil, since few sulphur reserves exist there.

The possibilities for developing productive capacity are linked to the four year plan, presented at the end of 1953, for increasing output to 2.5 million tons of washed coal annually, with a considerable decrease in unit costs. In order to obtain these results, mechanization of the mines and washing and transport facilities should be improved, through the investment of some 800 million cruzeiros.

3. *Chile*

(a) *Production*

The principal collieries, which currently produce 80 per cent of Chile's coal, exploit the submarine coal deposits in the Gulf of Arauco. The coal is locally known as "heavy" coal, and corresponds to "high-volatile bituminous A". Aggregate reserves of this type of fuel are estimated at 400 million tons, 300 million of which correspond to submarine deposits and the remainder to underground deposits in the Province of Arauco.

According to the results of direct samples in extreme cases, the heating value ranges from 8,020 to 7,460 calories per kilogramme; the volatile matter content from 42.9 to 44.9 per cent, and the ash content from 3.1 to 8.7 per cent. The percentage of sulphur in these samples was 0.7 and 4.5. During mine operations the coal becomes contaminated with rock from the pit-roof and floor, raising the ash content to an average of 17 per cent. Nevertheless, the systems used for classifying sizes and for cleaning the larger fraction (over 22 millimetres) enables the coal to be sold with only 7 to 8 per cent ash. The fine fraction is delivered without much further preparation, with an ash content of 15 to 17 per cent.

Only one seam in the submarine coal deposits can be used in the preparation of metallurgical coke. Output from this seam represents from 50 to 60 per cent of the total output of these submarine mines, which in 1950 amounted to 1,770,000 tons. The Huachipato Steel Plant is a large consumer (160,000 tons in 1950; 385,000 tons in 1953) of the coal produced from this seam. This coal, however, has to be blended with between 20 and 50 per cent of North American coal of medium volatile content, since the Chilean product is highly porous and has a lower resistance than that required in steelmaking.

The largest reserve of sub-bituminous A and B coal, known in Chile as "light coal", is to be found in the Lirquén submarine collieries in the Bay of Talcahuano. The heating value of this coal is 6,000 calories per kilogramme, and its ash content ranges from 12 to 15 per cent. Further south in the province of Valdivia pits of this type have been worked intermittently since 1920; the workings have extended sporadically to the vicinity of Puerto Montt (Caleta Parga). Reserves throughout this area may be estimated at 55 million tons, including known, probable and possible reserves.

In the province of Magallanes there are deposits of lower grade coal such as black lignites and high-volatility sub-bituminous coal. Seams so far found in an area of 400 square kilometres are between 2 and 6 metres in thickness, thus the total reserves may well exceed 1,000 million tons. Possible reserves may amount to 30,000 million tons. The heating value is 4,500 calories per kilogramme, while the ash content ranges from 20 to 30 per cent.

Chilean production has remained relatively constant. (See table 165.)

A very high proportion of the total production consists of submarine coal. In 1953, for instance, the proportion was 84 per cent, and this explains the relatively high cost of solid fuel in Chile.

(b) *Development plans*

Since 1938 it has become increasingly evident that Chilean coal output is insufficient to meet the growing demand. For this reason the Government began systematic prospecting in the Arauco coal field, which was estimated to contain the country's largest coal reserve. At the same time several small mines were opened, with or without official aid.

Geological planning in the central Arauco zone has already covered an area of 1,500 square kilometres in which fifty exploratory borings have been made. The most important of these was carried out at the coastal village of Arauco in 1947, and revealed three large coal seams ranging from 90 centimetres to 1.25 metres in thickness, which were identified as belonging to the deepest level on the coal bed, the Lota level. On the strength of this discovery, the Chilean steel plant obtained a concession of 64,000 hectares over which a systematic boring plan is being conducted which in due course will be put to use in organizing a deep mine.

In the underground workings in the Gulf of Arauco there is a serious problem due to the ever-increasing distance between the working faces and the pit entrance. The greater depths and increased haulage, together with the associated problem of ventilation, have obliged the companies to seek some means of increasing output per worker, through mechanization, centralization of production and the construction of better galleries.

Table 165. Chile: Coal output, by types

(Thousands of tons)

	1947–49[a]	*1950*	*1951*	*1952*	*1953*[b]
Total heavy coal.....	1,685	1,867	1,761	1,956	1,898
Total light coal.....	251	227	237	252	240
GRAND TOTAL	1,936	2,094	1,998	2,208	2,138

Source: Statistics of the Departamento de Minas y Combustibles, Ministerio de Minas.

[a] Average.

[b] Provisional data from the Ministerio de Economía.

The plans prepared for this purpose by the two largest companies require the investment of about 12 million dollars, 950,000 pounds sterling and over 2,000 million Chilean pesos (at 1952 prices). This plan would yield an output of 2,400,000 tons a year.

It is anticipated that with this increased capacity the companies mining heavy submarine coal will be able to meet both current and future domestic demand. This would prevent the appearance of a situation of the kind which arose in 1953 when in addition to large tonnages of coking coal for the Huachipato plant 55,000 tons of coal had to be imported for use as fuel.

Since Chile's reserves of coal with a high heating value are relatively small and extraction is costly, research has been undertaken to find some process for the removal of the finely powdered ash which reduces the quality of the vast reserves of light coals. Laboratory experiments eliminated 44 per cent of the ash from Magallanes coal and 51 per cent from that of the Valdivia region. These very favourable results have led to plans for investing 1,200,000 dollars in an experimental plant with a daily capacity of 180 tons of primary coal, which could produce 100 tons of semi-coke.

The by-products of distillation would be used to produce the viscous oil used in the separation process and the pitches required for briquettes. The re-washings from the concentration will be thickened and used as a substitute for bentonite.

If the practical results of this experiment on a semi-industrial scale demonstrate that the process is economic, Chile may consider using its large southern reserves of low grade coals to offset, either partly or entirely, the deficit in petroleum output.

4. *Colombia*

Colombia's coal deposits run from north to south in two different zones. One begins in the Department of Magdalena some 30 kilometres from the Venezuelan frontier and follows the Eastern Cordillera southwards through the Departments of Santander Norte, Santander, Boyacá and Cundinamarca. The second field lies further west and extends through the Departments of Antioquía, Caldas, Valle del Cauca and Cauca.

Possible reserves are estimated at over 12,000 million tons, of which 10,000 million are in Cundimarca and Boyacá, 2,000 million in Antioquía, 450 million in Valle del Cauca and Cauca, and 50 million in Magdalena. Coal is also known to exist in the Department of Bolívar, but no studies have yet been made there.

Almost all the coal in these fields is bituminous. The Magdalena bed in the district of Cerrejón consists of lignite but, owing to the dynamic metamorphosis which has taken place there, it has the properties of high-volatility bituminous non-coking coal.

The main source of output is the Department of Cundinamarca, which covers most of the country's requirements and will supply the Empresa Siderúrgica Nacional de Paz de Río, Colombia's new steel plant. For this purpose mines in the area between Paz de Río and Sogamoso will be used; coal from these mines ranges mainly between high-volatility bituminous A coal and the B group. Total reserves in this region are estimated at 1,900 million tons.

Colombia's output in 1953 is estimated at slightly over a million tons, of which approximately 46 per cent came from Cundinamarca, 21 per cent from Cauca and Valle del Cauca, 20 per cent from Antioquía, 10 per cent from Boyacá and the remainder from other deposits.

The coal deposits in the Eastern Cordillera are fully adequate to meet the growing requirements of industry. The "La Chapa" mine in this area has been chosen to supply the steel mill of the Empresa Siderúrgica Nacional de Paz de Río, which is certain to absorb at least 200,000 tons a year. These seams have a possible reserve of 200 million tons, and the coal will be prepared in a Drewboy washing plant which will use magnetite to produce the heavy medium and will have a capacity of 125 tons of washed coal an hour.

It is anticipated that the ash content of the washed coal will not exceed 9 per cent, with a recovery of 85 per cent. The original ash content is as high as 15 per cent and the average sulphur content 1.5 per cent, but as the latter consists mainly of sulphides it is hoped to reduce it to less than 0.8 per cent.

The prospecting for coal suitable for the steel industry was undertaken simultaneously with studies aimed at the development of other coal supplies for the export trade. Two areas have been explored: (*a*) coal beds in Valle del Cauca, which would have an outlet through the port of Buenaventura on the Pacific coast, and (*b*) deposits at Cerrejón, close to the mouth of the river Magdalena on the Atlantic coast. The Cauca deposits are the more important. There are a number of small mines in the region which have now been united in a single corporation with Government participation;[14] they produce each year some 200,000 tons of coal with 17 to 20 per cent ash content. The Government has guaranteed a loan from a French bank which is to be used for the construction of a washing plant to reduce the ash content to 10 or 11 per cent. At the same time improvements are being made in the Cali-Buenaventura railway, which at present has a haulage capacity of only 20,000 tons a month. Finally, the question of installing better port facilities at Buenaventura is being studied to ensure rapid loading in sufficient volume for export by sea.

Providing that production in some of the mines in this group can be increased sufficiently there will certainly be no difficulty in finding foreign markets, since within a range of 200 kilometres there are coals ranging from low-volatility (13 per cent minimum) to sub-bituminous high-volatility (non-coking) group C.In the intermediate grade there is a vast range of the fuels universally used to improve the coking properties of other coals. This particular type of coal is very scarce on the Pacific coast both in North and South America.

The second deposit at Cerrejón is still in the prospecting and exploration stage; to date some 35 million tons of easily mined coal have been found, and measures for improving transport in an area without ports are under study. The coal in this bed is of the bituminous, high-volatility, non-coking type and could probably find a market in the countries on the Atlantic coast of South America, all of which, except Venezuela, are not self-sufficient in fuels.

[14] Through the Instituto de Fomento Industrial, which has played an active part both in the Valle del Cauca projects and in those for Cerrejón.

5. *Mexico*

(a) *Production*

Coal mining began in Mexico in the second half of the nineteenth century and it is estimated that about one million tons have been extracted since 1890. At the beginning of this century petroleum began to replace coal as a fuel for practically all purposes, and this substitution process continues even among the few railways in the mining areas which still burn coal. For some twenty years interest has centred on the mining of coals with good coking properties, and the resultant coke is used both in the non-ferrous metals industry and in steelmaking, which was established in 1901 with the building of the first integrated steel mill at Monterrey.

Reserves are estimated at 1,817 million tons, of which 1,690 million tons are found in the State of Coahuila which produces bituminous coal. The Sabinas coalfield is in that State, and has reserves of 1,000 million tons. There are smaller deposits in Nuevo León (lignite), Sonora (anthracite) and Oaxaca (bituminous coal). The washing plants are located at the collieries and have a yield of nearly 70 per cent.

Mexican coal production has increased considerably (61 per cent) between 1950 and 1953, mainly as a result of the expansion of existing mines. (See again table 164.)

(b) *Prospects for increasing production*

Roofing conditions in the Mexican mines are poor,[15] which has meant timbering to the fullest possible extent; consequently it will be very difficult to obtain higher yields by mechanization since this involves large machines which cannot be used in prevailing roofing conditions. Nevertheless, as a result of the increase in steel production, coal output must be raised in order to ensure adequate supplies of fuel. The need to increase coal supplies had led to wider prospecting of the known coalfields with a view to extending their use and applying advanced mining methods. Among such work undertaken in recent years, that carried out at the Palau colliery should be mentioned. This mine obtained a loan of 2,600,000 dollars from the International Bank for Reconstruction and Development; this has been used to expand the mine itself and to instal a washing plant which will have a daily capacity of 4,000 tons of raw coal and a yield of 70 per cent.

Careful study is currently devoted to the coking possibilities of Sonora anthracites and Oaxaca coals since there are also iron ore deposits in these two States and since there is considerable interest in relieving the congestion in the transport system by establishing new steelmaking centres in other parts of Mexico.

6. *Peru*

Two types of coal are found in Peru: anthracite coal in the Departments of Ancash and La Libertad in the foothills of the Cordillera, and bituminous coal in the Departments of Junín, Lima and Pasco, at an altitude of some 3,000 metres. The bituminous coal has been mined continuously since the second half of the nineteenth century and is at present used almost exclusively in the production of high-grade metallurgical coke for non-ferrous metal smelting. Anthracite mining, which was sporadic in the past, has been organized on an export basis since the last war, mainly with a view to supplying the proposed steel industry.

(a) *Anthracites*

The reserves in the Department of La Libertad, although believed to be substantial, have not been fully explored. The mines are small, and cleaning is done by hand picking. The output of 7,500 tons a year is almost entirely consumed in the mining camps.

Although the deposits there have not been completely prospected it is estimated that the Santa coalfield contains more than 200 million tons. The three principal collieries are Ancos (San Antonio), Pallasca and La Limeña. The first two mines have washing plants, while the third sends its output to the Chimbote washing plant.

As mentioned earlier, this field has been developed with a view to the export market and to supplying the projected Chimbote steel plant. The Government, through the Corporación Peruana del Santa, has reconstructed the port of Chimbote for this purpose and has improved the railway between the mines and the port. The central washing plant at Chimbote belongs to another Government agency, the Banco Minero del Perú, and is equipped for a daily capacity of 3,000 tons of mined coal.

Only a very small part of the total output, possibly not more than 8 per cent, is of adequate size for direct use in blast furnaces or electric reduction furnaces; on the other hand, Peru is short of asphalt as a binding agent for the direct manufacture of metallurgical coke from a blend of anthracite and asphalt. This has led to the testing of separate-phase cleaning processes for the production of coke briquettes with very small amounts of asphalt. With a view to solving the fuel question for the steel industry, a pilot plant on a semi-industrial scale is now being built with a daily capacity of 60 tons of coke. It is anticipated that this plant, which will cost more than 500,000 dollars, will begin production by mid-1954.

(b) *Bituminous coals*

The coal deposits mined contain medium-volatility, high-coking coal. Goyllarisquizga (Pasco) is the largest colliery and has been worked since the beginning of the century. Its output is at present used to produce metallurgical coke for the smelting of non-ferrous metals.

During the war the Banco Minero del Perú prospected in the Oyón area on the western side of the high Cordillera to discover deposits that would ensure supplies of a high-coking coal for the projected steel plant at Chimbote. It was also felt that there would be a good future market for such coal in Chile as an improving agent for domestic Chilean coals. An investment of five million soles in this exploratory work resulted only in the discovery of some deposits which were too small to justify the construction of special transport communications to the coast. The deposits have been bought by a private firm which is at present working them.

The production of anthracite has doubled in the past four years, while there has been no great increase in the output of bituminous coal. (See table 166.)

[15] Usually due to hydro-scopic clay, which fills with moisture and swells rapidly on exposure to air.

Table 166. Peru: Coal output

(Thousands of tons)

Years	Anthracite	Bituminous coal
1950	32.9	162.7
1951	63.7	121.9
1952	78.7	145.7
1953[a]	70.0	153.0

Sources: Anuario de la Industria Minera del Perú; and Banco Minero.

[a] Estimates.

7. *Venezuela*

Coal is found in a number of locations in Venezuela and total reserves are believed to be large, but have not so far been systematically explored. Small quantities of coal, up to a maximum of 23,000 tons in 1918, have been mined at Naricual, State of Anzoategui. Since that time mining activities have declined steadily; output in 1940 was only 5,000 tons and it is almost nil at present. However, interest in the coal deposits has recently been revived by an investigation of the possibilities of establishing an integrated steel industry. Naricual coal is high-volatility, bituminous type B, and is therefore very brittle and unsuitable for coking purposes. However, there is in Venezuela, to the north-west of Lake Maracaibo, an extension of the Colombia Boyacá deposits. In Colombia this coal varies from the low-volatility high-coking to the high-volatility non-coking type. Hence it would be worth while to make a detailed investigation of this deposit before a final decision is taken on the location of the steel industry.[16]

VI. Sulphur

1. *General*

The increase in the relative importance of elemental sulphur since the United States began to work large deposits of the salt dome type by the Frasch method[17] is one of the most noteworthy recent developments affecting this substance. The low cost sulphur obtained in substantial tonnages by this method has flooded the world market. This has provided a considerable spur to consumption. At present so-called Frasch sulphur forms 90 per cent of the world production of elemental sulphur which in turn amounts to 50 per cent of all output.

Until 1939 sulphur consumption increased annually by 3.0 to 3.5 per cent, but the end of hostilities and subsequent reconstruction in Europe raised the rate of increase to 9 per cent. Output, in contrast, increased much more slowly not only because there was no work started on new deposits in North America but also because United States sulphur was so cheap as to discourage expansion elsewhere. Hence, from 1948 to 1950 sulphur supplies of all kinds increased by only 15.3 per cent, while consumption rose by 18.5 per cent. Elemental sulphur output rose by 11 per cent, while consumption advanced by 19 per cent. United States stocks fell from 3,560,000 tons in 1945 to 2,440,000 tons in 1950, and it accordingly became necessary to place restrictions on exports and domestic consumption and to fix official prices of 24.6 to 27 dollars per ton in 1951 and 1952. The price of sulphur sold freely on other markets, however, rose considerably and even reached 100 dollars a ton. The increase in the world production of native sulphur, of which Latin America's output is very small, was undoubtedly brought about by these high prices. (See table 167.)

Table 167. Native sulphur output

(Thousands of tons)

	1937–39[a]	1945–49[a]	1950	1951
World total	*3,100*	*4,633*	*5,649*	*5,814*
United States	2,447	4,403	5,275	5,362
Latin America:				
Argentina	..	10	8	8
Bolivia	2	2	4	11
Chile	28	13	15	30
Colombia	..	[b]	1	2
Ecuador	[b]	[b]	[b]	[b]
Mexico	[b]	6	11	11
Peru	2	2	2	2

Source: United Nations, *Statistical Yearbook, 1952.*

[a] Average.

[b] Less than 1 thousand tons.

The lack of definite information about United States Frasch sulphur reserves led in 1950 to the assumption that they would be insufficient to meet the demand for more than 25 year if prevailing trends persisted.[18] However, the discovery of new salt domes in Texas and Louisiana and in the Mexican Isthmus of Tehuantepec makes it difficult to predict how long the total reserves are likely to last.

Production from pyrites, which was much affected by the war, has recovered rapidly and is once more the traditional source of Europe's sulphur supply. In 1951, world output reached 4,789,000 tons (of sulphur content), i.e. it was 10 per cent higher than in 1937/39 and 62 per cent higher than in 1945/49.[19]

As a result of the sharp increase in output supplies began to improve substantially towards the end of 1952, and from March 1953 the International Materials Conference suspended its operations of world sulphur distribution, for which it had been responsible since the beginning of the crisis.

According to Conference estimates, in 1953 output of all types of sulphur should have reached 13,800,000 tons against consumption of only 13,600,000 tons. The sub-

[16] During 1953 some 10 tons of samples of these coals were shipped to Norway for examination.

[17] This system was invented to extract sulphur from salt dome deposits, which are deep formations of this metalloid. The process consists of melting the sulphur at the deposit itself by means of superheated steam. Subsequently the molten sulphur is forced to the surface by compressed air. A very pure product is obtained by this method in a single operation and there are no mining extraction costs; hence the low cost of the sulphur obtained.

[18] The Paley Report (Resources for Freedom, Washington, D.C., 1952) indicates that the tonnages of Frasch sulphur required to satisfy demand in the next 25 years would amount to 180 million tons, and that it is unlikely that present reserves—estimated at 100 million tons—are sufficient for the extraction of this amount in the next quarter of a century.

[19] There is no Latin-American production from pyrites, except in Brazil, where output is estimated at some 2 thousand tons.

sequent price decline make it necessary to shut down or partially close many marginal deposits.

Among countries producing mined sulphur Japan is in a favourable position because the deposits are mechanized and advanced techniques are used in its recovery. Italy, which is the second producer in the world, is recovering from the fall in production during the war and is attempting to reduce costs. Other producers are making similar efforts. In Latin America, for instance, Colombia has installed a plant using a new flotation process which will ensure a pure yield of 90 to 95 per cent at a cost competitive with Frasch sulphur. Mexico is testing a plant using the same system.[20] In Venezuela a United States firm is installing a plant to refine up to 200,000 tons of mined sulphur.

Knowledge of these new methods is extremely important since they provide fresh possibilities of working the vast deposits in the Cordillera of the Andes and other parts of Latin America. The results obtained in the United States for processing low-grade ores are encouraging. United States mixed sulphur is produced on a small scale—5,000 to 8,000 tons — from deposits in California, Colorado, Nevada and Wyoming. In Wyoming two plants were recently installed which have a capacity of 50 to 80 tons a day and one of them appears to be producing 90 per cent sulphur concentrates at a cost of 12 dollars a totn. It may be possible to apply these processes to most of the deposits to produce low-cost sulphur. However, the extension of these new systems will place the high-cost producers, who cannot use them, in a much more difficult situation than at present.

2. *Production and consumption in Latin America*

In recent years Latin America's sulphur consumption has risen considerably due to industrial development. It amounted in 1952 to 215,000 tons, which represents a 120 per cent advance over 1945. Against this increase in consumption, production remained more or less stable until 1950. As a result imports from the United States were raised to 106,000 tons or 69 per cent of consumption, in 1950. The rise in world market prices and the increase in demand for mined sulphur caused by export restrictions in the United States strongly encouraged output in Latin America.[21] A figure of 137,000 tons was reached in 1952, representing an increase of 226 per cent above the 1950 figure. The fall in prices during 1953 forced high-cost exporting countries to reduce their output to the level of their own requirements. (See table 168.)

The increase in regional output was largely due to the establishment of the Mexican Poza Rica plant for sulphur recovery from petroleum, with a daily capacity of 120 tons, and to the mining of deposits at Puracé in Colombia and Tixán in Ecuador.

Some 61 per cent of the increase in Latin America's sulphur consumption—which approached 120,000 tons in the period 1945-52—can be ascribed to non-producers, particularly Brazil, which absorbed over 45 per cent of the region's consumption in 1952 as compared with 27 per cent in 1945. These countries' dependence upon sulphur imports has created difficulties for the consuming industry, particularly in recent years of scarcity. Brazil has probably been most affected since consumption, the highest in Latin America, has risen annually by over 23 per cent between 1945 and 1952.

Table 168 Latin America: Sulphur output and consumption

(Thousands of tons)

Years	*Production*[a]	*Apparent consumption*	*Consumption in non-producer countries*[b]
1945	45.1	97.0[c]	26.2
1946	27.8	93.0[c]	43.2
1947	32.6	124.5	44.4
1948	32.6	104.3	40.1
1949	31.3	118.6	55.9
1950	42.6	154.1	82.3
1951	82.8	141.7	70.0
1952	137.6	215.0[c]	98.0[c]

Source: Economic Commission for Latin America, based on official statistics.

[a] Argentina, Bolivia (exports), Chile, Colombia, Ecuador, Mexico and Peru.
[b] Brazil, Cuba, Uruguay and Venezuela.
[c] Partially estimated.

The producing countries — except for Argentina — can easily meet domestic demand, but their output is costly. Some of them use smelting gases to produce sulphuric acid—particularly from copper, lead and zinc. The future importance of their exports depends upon the duration of the United States Frasch sulphur reserves and the reduction of working costs.

(a) *Argentina*

Argentina's two sources of production have not, to date, been worked on a sufficient scale to eliminate imports. These sources are elemental sulphur from the Andean deposits and sulphurous gases—obtained from toasting zinc ores—which are transformed into sulphuric acid.

There are deposits in several Andean volcanoes, but costs are enhanced by the distances, both from the towns or villages which could supply the miners and from the consuming centres, which are mainly located between Buenos Aires and Rosario. These factors prevented competition with imported sulphur at a time when there were no import restrictions.

Output from the deposits on the slopes of Socompa volcano was raised during the war from 100 tons annually to almost 10,000. It amounted to 21,000 tons in 1953.

In order to use the sulphurous gases recovered from toasting zinc ores a sulphuric acid plant was built at Puerto Borghi, on the river Paraná. This plant has an annual capacity of 40,000 tons[22] and its output will closely approach this figure.

The increase in production, brought about by high world prices, has made it possible to keep imports at a stationary

[20] The flotation method consists in treating a suspension (in water) of ores in autoclave with superheated steam to melt the sulphur. Small metalloid particles are formed which, once cooled, are separated by screening. The rest of the material is subjected to flotation, by which the remaining sulphur is recovered. Later, both fractions are blended, melted and filtered, thus obtaining a product which is 99.5 per cent pure.

[21] Argentina, Bolivia, Chile, Colombia, Ecuador, Mexico and Peru. Some Central American republics also produce small sulphur tonnages.

[22] Equivalent to nearly 14,000 tons of sulphur.

level despite the apparent increase in consumption. (See table 169.)

Table 169. Argentina: Elemental sulphur output

(Thousands of tons)

Years	Production	Imports	Apparent consumption
1945	11.5	30.6	42.1
1946	10.1	24.2	34.3
1947	10.9	48.2	59.1
1948	8.3	28.8	37.2
1949	10.1	27.5	37.6
1950	7.8	23.0	30.9
1951	7.7	11.1	18.9
1952	18.5	23.4	41.9
1953	21.0	30.7	52.0

Source: Ministerio de Asuntos Técnicos de la Nación, *Síntesis Estadística de la República Argentina.*

In the Second Five-Year Plan substantial sums have been budgeted for sulphur prospection, and since increased output of lead and zinc is also planned there will be a larger amount of raw material for the plant at Puerto Borghi.

(b) *Brazil*

No sulphur deposits have yet been found in Brazil which would make possible production on an industrial scale; hence domestic demand has been met by imports. This situation has hampered industrial development, particularly during periods of import restrictions when the sulphuric acid factories were obliged to reduce output considerably.

Imports rose from an average of 33,200 tons in 1945-49 to 69,300 tons between 1950 and 1953. The world sulphur crisis which began in 1950 interrupted the upward trend in consumption, and tonnages imported were insufficient to supply industry. Thus in 1951, while the Rio de Janeiro Federation of Industries estimated Brazil's minimum annual requirements at 78,000 tons and the International Materials Conference assigned a quota of 109,000, only 60,000 tons, or 77 per cent of anticipated requirements, could be imported.

In view of this critical situation a study has been made of the use of calcium sulphate from coal distillation gases, from pyrites deposits and from the pyrites obtained as a by-product of coal washing. To date the last-named method appears to provide the source easiest to work. The calcium sulphate deposits and the anhydrides of the north-west are too far from the consuming centres, while the pyrites in the state of Minas Gerais have been used only to a limited extent. The average grade of sulphur in these deposits ranges from 10 to 60 per cent. Three companies have concessions there but only one is extracting and processing, in a very rudimentary manner. The output of some 20 tons a day of pyrites, with a sulphur content of 40 to 43 per cent, is consumed locally.

A German firm is planning to recover sulphur from the residual pyrites from a coal preparation plant at Capivari, Santa Catarin, belonging to the National Steel Company. Three solution are being studied. The first consists of producing 70,000 tons of sulphur annually; the second provides for the same sulphur output and, in addition, for 66,000 tons of sponge iron by the Krupp-Renn process; the third provides for a similar sulphur tonnage and 160,000 tons of blast furnace pig iron. The respective capital investments would be 355, 415 or 565 million cruzeiros at 1952 prices.

(c) *Chile*

Chile is a major source of sulphur in Latin America because of the large number of deposits, the high grade of the sulphur and the abundant known reserves, which are estimated at 20 million tons of fine sulphur.[23]

The deposits are found all along the Andes at heights ranging from 2,500 to 6,000 metres above sea level. The principal resources are those at Tacora (Tarapacá), secondly at Aucanquilcha, Ollagüe and Polan (Antofagasta), and thirdly in Atacama province. The southern deposits are smaller and scarcer.

Several companies work the sulphur deposits, activity being greater when export conditions are more favourable, but 90 per cent of all output comes from a few mines.

The fact that the deposits are so high above sea level and so remote from the coast, as well as the low yields—obtained by direct distillation in retorts or melting in autoclave by means of superheated steam—all raise the cost of production to such an extent that Chilean sulphur, although supplying domestic requirements, is marginal on the world market.

Between 1945 and 1949 output ranged around 12,000 tons, which is the domestic consumption figure. As a result of the world shortage exports began to rise in 1950, and production reached a maximum of 48,600 tons. Shipments abroad increased to 30,000 tons. (See table 170.) The 1953 fall in prices arrested further exports and led to the closing of some mines. Accumulated stocks, amounting to nearly 15,000 tons, could not be sold until the end of the year.

Table 170. Chile: Sulphur output and consumption

(Thousands of tons)

Years	Production	Exports	Apparent consumption
1945	20.8	5.5	15.3
1946	9.2	4.7	4.5
1947	11.8	0.2	11.6
1948	13.3	0.2	13.1
1949	10.5	—	10.5
1950	15.4	3.1	12.3
1951	30.0	12.9	17.1
1952	48.6	29.6	19.0

Source: Dirección General de Estadística.

To find a temporary solution to the sulphur crisis the Government is studying the possibility of granting a special exchange rate to encourage exports. The companies moreover are eager to reduce production costs by introducing greater mechanization and new processing methods. A plant has been imported from Western Germany to treat the ores at the Saciel deposit (Antofagasta) by means of

[23] Possible reserves are estimated at 150 million tons with an average grade of 50 per cent sulphur.

carbon sulphide. Meanwhile a plant is being installed at San Pedro de Atacama to produce this solvent. The machinery is valued at 300,000 dollars and a daily output of some 30 tons of fine sulphur is anticipated.

(d) *Colombia*

Colombia's entire output comes from the Puracé mines, on the slopes of the volcano of that name in the Department of Cauca. Reserves are estimated at 6 million tons, but the deposits were worked somewhat primitively until 1951. During this period part of Colombia's requirements had to be met by imports. In 1951 a modern flotation system was introduced with a monthly capacity of 1,000 tons. Production increased from 1,500 tons in 1950 to nearly 3,500 tons in 1953. (See table 171.)

Table 171. Colombia: Sulphur output and consumption

(Thousands of tons)

Years	*Production*	*Imports*	*Exports*	*Apparent consumption*
1945	—	0.8	0.01	0.8
1946	—	1.3	0.005	1.3
1947	—	0.7	—	0.7
1948	0.6	1.5	—	2.1
1949	0.8	0.7	—	1.5
1950	1.5	2.1	—	3.6
1951	2.5	1.4	1.6	2.3
1952	3.0	—	0.5	..
1953	3.4	..	—	..

Sources: Minerals Yearbook; and *Anuarios de Comercio Exterior.*

Most of the sulphur is used for the output of sulphuric acid, which is produced at three plants in the cities of Medellín, Barranquilla and Bogotá with an aggregate capacity of some 65 tons per day.

(e) *Ecuador*

The sulphur deposits at Tixán (Chimborazo), located at a height of 3,000 metres, are the only ones at which a substantial amount of mining has been undertaken. Production on an industrial scale began in 1952. (See table 172.) Previously extraction was carried out in a primitive manner, with insignificant results.

In 1952 a United States firm planned to invest 1,500,000 dollars at Tixán with a view to producing 30,000 tons a year for export. When it took over the deposit, mechanization plans had to be reduced—to the detriment of production costs—to prevent the unemployment of a large number of workers engaged in manual mining. Output had increased that year but fell in 1953 because of the price decline, which made it difficult to sell the sulphur. The mine ceased production in March that year but opened again in October. The company's plans include the installation of a plant to produce 5 tons of uslphuric acid daily. Ecuador at present must import all its requirements of this acid, or 60 to 70 tons a year.

Table 172. Ecuador: Sulphur output and exports

(Thousands of tons)

Years	*Production*	*Exports*
1945	1.0	—
1946	0.4	—
1947	0.2	—
1948	0.4	—
1949	0.2	—
1950	..	—
1951	..	—
1952	2.7	2.5
1953	1.0	2.5

Sources: Minerals Yearbook; and Dirección General de Aduanas.

(f) *Mexico*

The high prices prevailing in 1950-52 provided sulphur mining with a strong incentive and led to the intensive development of new deposits. Mexico has been transformed from an importer to one of the Latin-American countries with the best opportunities for becoming a large-scale exporter.

One of the most significant events in 1951 was the installation of a plant to recover sulphur from petroleum gas at the Poza Rica refinery. This unit, built by Petróleos Mexicanos at a cost of 90 million pesos, has a daily capacity of 120 tons and is currently the principal domestic source of sulphur.

Prior to 1951, sulphur was either imported or extracted by the irregular mining of volcanic deposits. The main centres were at San Rafael and Huascamán (San Luís Potosí) and those at Mexicali in Lower California. Costs were high and yields were low, so that there was no possibility of competing with Frasch sulphur; consequently imports reached a peak of 11,400 tons in 1950.

Since that year, however, sulphur extraction has shown a sharp upward turn and in 1952 about 12,000 tons were produced. Output from the Poza Rica recovery plant in that year amounted to 42,000 tons, which brought an increase in the production of elemental sulphur to 54,000 tons, a rise of 375 per cent above the 1950 figure.

In 1953 the fall in sulphur prices caused the closing of the San Luis Potosí mines, which supplied over 80 per cent of the mined sulphur in the country, because recovery methods were inefficient and did not cover costs. The Poza Rica plant also reduced its output to some 35,000 tons. This drop of 25 per cent from the previous year's figure had to be offset by imports to meet the domestic demand. (See table 173.)

Another source of sulphur is the gases obtained from toasting ores, from which sulphuric acid is produced directly. Sulphur recovered in this way is estimated at some 10,000 tons.

As a result of prospection in recent years seven salt dome deposits were found on the Isthmus of Tehuantepec; added to those already known, these raised the number of such formations to 20. These deposits are extremely important sources since their sulphur content is very high and may be cheaply extracted by the Frasch system.

The largest salt domes have been handed over to United States companies on a concession basis. The San Cristobal dome—with reserves estimated at 11 million tons—was acquired by a company, which has invested 47 million pesos and anticipates extracting 200,000 tons a year. Satisfactory tests have been made and production on an industrial

Table 173. Mexico: Elemental sulphur output and consumption

(Thousands of tons)

Years	Production	Imports	Exports	Apparent consumption
1945.....	8.5	4.1	3.1	9.6
1946.....	5.1	3.3	1.2	7.1
1947.....	5.7	3.0	1.2	7.5
1948.....	5.2	4.8	—	10.0
1949.....	5.2	7.2	0.3	12.0
1950.....	11.4	11.4	0.6	22.2
1951.....	29.6	10.6	6.9	33.3
1952.....	54.0	6.1	9.1	51.0
1953.....	41.0	7.5	4.5	44.0

Sources: For production: J. González Reyna, *El Yacimiento de Azufre de S. Rafael Huascamán, S.L.P.*, Mexico, September 1947; and Dirección General de Minas, Secretaría de Economía; for imports and exports: Dirección General de Estadística.

scale will start in mid-1954. The Jaltipán-Potrerillos location, with reserves estimated at between 7,000 and 12,000 tons, was rented to another company which plans to invest 60 million pesos for an annual output of 500,000 tons. A third company is undertaking a large drilling programme in the state of Veracruz but the results are as yet unknown.

(g) *Peru*

Peruvian sulphur is extracted from mines situated in the department of Tacna and worked by three companies. Since 1945 output has remained fairly stable at some 2,000 tons annually, which is sufficient to meet domestic demand and to provide a small exportable surplus. Only sulphur of special quality, mainly for agricultural use, is imported. The same trends have been evident in Peru as in the other sulphur producing countries during the years of the world shortage, that is, a sharp increase in output and exports, reaching a peak in 1952, followed by a decline in 1953. (See table 174.)

Production of sulphuric acid plays an important part in aggregate sulphur supplies and is obtained from the gases derived from toasting lead and zinc ores. The only plant in Peru, which is owned by a mining company, has experienced difficulty in meeting the demand because its own consumption has risen since the installation of a new electrolytic copper refinery. A textile company, one of the largest consumers, is installing a new sulphuric acid plant. Its own requirements will absorb half the output, which will total 10 tons a day.

(h) *Venezuela*

The installation of a refinery with an annual capacity of 200,000 tons of sulphur will make Venezuela a sulphur producer in 1954. The refinery is being built at Carúpano; it is owned by a United States company and will cost approximately 15 million dollars. Ores from the Costa Mora mine in the State of Sucre will be used.

Hitherto Venezuela was obliged to import in order to meet domestic requirements of elemental sulphur and derivatives. From 1945 to 1952 purchases abroad showed a steady upward trend, rising from 60 to 309 tons annually. Between January and November 1953 such imports reached a record of 1,100 tons.

The new sulphuric acid plant at Maracay began production in 1953 with a daily output of 15 tons. Consumption has been increasing in recent years, particularly since 1952 when a synthetic detergent plant was established, but will be amply covered.

Petroleum, which has an average sulphur content of 1.0 to 2.9 per cent, is another important source of output. The petroleum companies, which manufacture sulphuric acid for their own needs, have only used a part of the potential resources. Nevertheless, on the basis of present crude petroleum production, from 1 million to 1,500,000 tons of sulphur a year could be extracted using the same recovery methods as those employed in Mexico at the Poza Rica refinery.

Table 174. Peru: Sulphur output and consumption

(Thousands of tons)

Years	Production	Sulphuric acid production[a]	Imports	Exports	Apparent consumption
1945.....	2.7	2.4	0.3	0.6	4.9
1946.....	2.5	2.3	0.5	0.4	5.0
1947.....	1.1	2.6	0.4	0.8	3.3
1948.....	1.1	2.5	0.3	1.0	3.6
1949.....	0.1	3.5	0.8	0.3	4.1
1950.....	2.1	3.4	0.6	0.1	6.1
1951.....	2.3	4.0	0.6	2.9	4.1
1952.....	5.1	4.2	2.7	4.7	7.4
1953.....	..	4.2	2.7[b]	0.6[c]	..

Sources: Anuarios de la Industria Minera del Perú; and *Anuarios de Comercio Exterior.*

[a] The equivalent of sulphur—obtained from gases of toasted minerals.

[b] January to September.

[c] January to November.

Chapter III

INDUSTRY

I. General considerations

In 1953, industrialization continued in Latin America, although more slowly. Imports of industrial equipment and machinery remained at high levels in several countries of the region. In others, which are more highly industrialized, the production of machinery has increased with the rapid expansion of mechanical transforming industries.

Another indication of industrial progress in Latin America is apparent in the introduction of new branches of activity, some of them basic. In the section of this chapter dealing with events in selected countries, developments of every type in the industrial field will be enumerated, and their significance is enhanced by the fact that in general they are relatively complex industries, requiring advanced techniques and substantial investment.

The year 1953 was relatively fruitful although, due in part to the rate of growth, all the factors have not been as favourable as in the early post-war era. This situation, which is unfortunately not reflected in industrial output indices because new industries are not included therein, is due in the first instance to the efforts made in Latin America to replace imports, and secondly to the attempts of supplier countries to re-locate industries in order to protect them from the possible effects of exchange rates and tariff barriers.

The over-all trend in industrial production varied, the index showing a slight rise in the principal countries and even a reduction in two of the most important, Argentina and Mexico. The rate of increase in the region's industrial output, which on the average was 7.7 per cent during 1945-50, fell to 4.1 per cent in 1952 and to 1.3 per cent in 1953. (See table 175.) This discrepancy between the growth of industry and the falling rate of industrial output is due to a number of causes, which are analysed later.

The scarcity of foreign exchange in most Latin-American countries affects industry's purchases of imported raw materials and other indispensable items.

Latin-American industries produce essentially for their domestic markets, which as a rule are very limited. During 1953 a contraction in these domestic markets was apparent, especially in Bolivia, Ecuador, Mexico and Peru; it was mainly due to the rise in the cost of living which restricted demand to basic consumer products such as foodstuffs.

The reduction in sales in domestic markets led some countries to attempt to export surplus stocks. But the supply position in world markets prevented this policy from achieving success. The situation had been different during the two years just after the war when, as a result of the scarcity of goods caused by the war, some Latin-American countries had been able to establish an export flow of industrial goods to other countries in the region. Moreover, the efforts made by some Latin-American nations to export raw materials after the greatest possible degree of processing have in practice encountered serious handicaps, since industrialized countries have been unwilling to modify the protective policy favouring their own industries. Some examples, among others, are Argentine linseed oil, Uruguayan wool tops and Peruvian canned fish. Market restrictions have coincided in some countries, such as Mexico, with expansion programmes in a series of important industries, which have created financial problems for many enterprises and a decrease in the utilization coefficient of productive capacity.

Foreign competition sharpened in 1953, despite protective tariffs, because some countries sold their manufactures at lower prices than those established on their domestic markets in order to acquire dollars.

When anti-inflationary measures adopted in some countries caused a contraction of credit, they not only arrested the expansion process but also hampered normal industrial development. This phenomenon was noted in Argentina although to a less extent than in 1952—and in Bolivia, Colombia and Peru.

The shortage of energy, particularly electric power, prevailing in almost all Latin-American countries reduced the

Table 175. Latin America: Indices of industrial output

(1948 = 100)

Years	*Total Latin America*	*Argentina*	*Brazil*	*Colombia*	*Chile*	*Mexico*	*Peru*
1945.....	77.5	75.9	74.4	77.2	84.5	93.9	88.5
1946.....	86.8	85.7	86.8	86.7	95.7	95.9	91.2
1947.....	93.1	98.7	90.3	90.5	96.1	93.9	93.8
1948.....	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1949.....	104.2	96.3	116.4	105.4	103.6	107.7	104.4
1950.....	112.2	99.2	116.5	116.8	103.6	121.4	110.5
1951.....	120.6	101.0	131.0	120.8	107.4	133.6	123.7
1952.....	125.6	95.9	145.2	137.8	118.0	130.3	127.3
1953.....	127.2	92.4	148.7	142.2	129.6	127.7	..

Source: Economic Commission for Latin America, based on official statistics.

working efficiency of industrial plants. But there have been advances in relation to the previous year, since several power stations have been completed.

The present industrial crisis in some Latin-American countries has all the characteristics of a crisis of growth; but this does not mean that it has become any less urgent for industrialization to continue as the means of achieving harmonious economic development.

Industrial activities, and particularly those of a basic character (iron and steel, transforming industries, heavy chemical industries, cement, textiles, etc.) have favoured the growth of economic stability in the Latin-American countries by reducing their dependence on fluctuations in the world market.

II. Development of the main industries

The strongest industrial impulse has been felt in the capital goods sector. The basic iron and steel industry is already of considerable importance in Brazil, Chile and Mexico. Colombia, with the opening of the Paz de Río project, Argentina, with its San Nicolás steel mill, and Peru, with the Chimbote mill, will all contribute still further to the increase of steel production in Latin America. In 1952 regional output amounted to 1,500,000 metric tons. (See table 176.)

Table 176. Latin America: Indices of iron and steel output

(Thousands of tons)

Country and product	*1951*	*1952*	*1953*
Brazil:			
Pig iron	776.2	811.1	872.5
Steel ingots	850.0	893.4	1,009.0
Finished steel	696.6	719.6	810.8
Chile:			
Pig iron	239.9	269.9	285.8
Steel ingots	178.3	243.4	313.0
Finished steel	130.1	180.2	200.1
Mexico:			
Pig iron	254.2	305.0	242.2
Steel ingots	455.9	536.5	501.9
Finished steel	440.6	507.7	..

Source: Economic Commission for Latin America, based on official and private statistics.

[a] The table includes the three countries which produce iron and steel almost entirely from iron ore. The Argentine steel industry, which produced 300 thousand tons of steel in 1950, is excluded because pig-iron output is limited, the principal raw material being scrap and imported billet.

During 1953, however, production remained approximately at the 1952 level due to the lower output from Mexican steel mills.

On the basis of these industries, the sales of which are mainly effected in growing domestic markets, mechanical transforming industries have been established, marking a new development in Latin America's industry. Argentina, Brazil and Mexico in particular possess plants of considerable importance and have therefore been able to reduce imports of machinery, motors, railway rolling stock, and so on. The stage of vehicle assembly is already advanced, so that the manufacture of motor vehicles does not appear far distant. Elsewhere, despite the fact that many countries are passing through an unfavourable period as regards the availability of foreign exchange, no efforts have been spared to import machinery and industrial equipment and thus raise the output level.

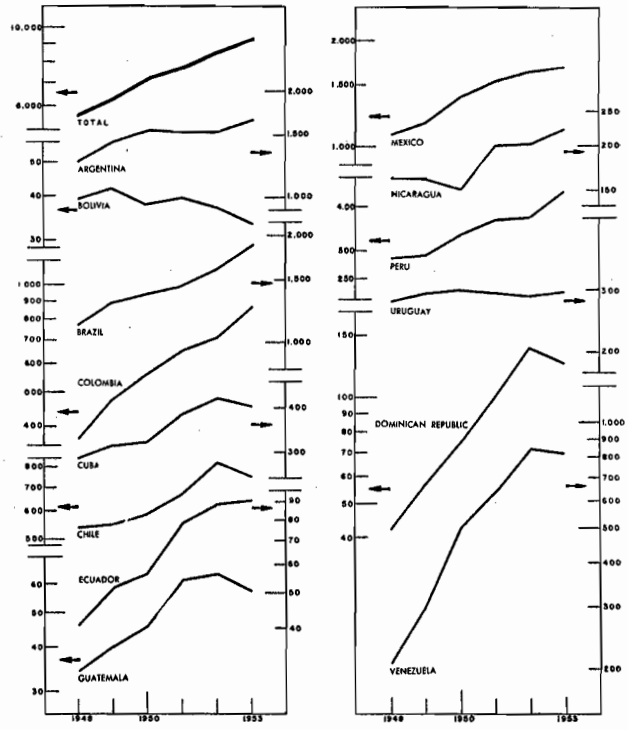
Cement production has also risen at a high rate to meet public and private demand. In 1952 output exceeded 8,500,000 tons. In 1953 there was a rise of 8.5 per cent over the previous year, providing a 10.8 per cent cumulative annual rate of increase for the entire period 1948-53. (See table 177 and chart LXVIII.)

Chart LXVIII

LATIN AMERICA: CEMENT OUTPUT

Index: 1948=100

(Semi-logarithmic scale)



Source: Economic Commission for Latin America.

Nevertheless, some countries—Bolivia, Brazil, Ecuador, Paraguay, Peru, Uruguay, Venezuela and the Central American republics—were obliged to import cement to meet consumption requirements. In contrast, the industry in Mexico for the first time recorded surplus cement stocks at the close of the year.

Progress was also visible in the sector of basic chemical industries. The example of Colombia with its Solvay soda, bicarbonate and caustic soda plants will be followed by Brazil with a sodium carbonate plant having a capacity of 100,000 tons annually. Argentina is to establish an electrolytic plant to produce 20,000 tons of caustic soda per year. In general greater activity was evident in several alkali-producing countries during 1953, always with the aim of reducing foreign purchases of these basic products which represent a substantial import quantum for Latin America. (See tables 178 and 179.)

Table 177. Latin America: Cement output

(Thousands of tons)

Countries	1948	1949	1950	1951	1952	1953	Rate of annual cumulative increase 1948–53
Argentina	1,252	1,446	1,558	1,543	1,529	1,659	5.8
Bolivia	39	42	38	39	37	34	−2.9
Brazil	1,113	1,281	1,363	1,441	1,597	930[a]	10.8
Chile	540	548	592	673	816	762	6.9
Colombia	364	475	567	646	707	869	19.0
Cuba	285	312	316	382	419	405	7.3
Dominican Republic	42	57	73	101	138	126	24.4
Ecuador	40	52	57	79	89	91	17.7
Guatemala	34	40	46	61	64	57	10.9
Mexico	1,080	1,177	1,388	1,535	1,640	1,672	9.1
Nicaragua	16	16	15	20	20	22	6.3
Paraguay	—	—	—	—	4	3	—
Peru	281	288	331	367	370	449	9.8
Uruguay	276	294	300	293	287	294	1.2
Venezuela	205	300	491	621	840	819[b]	36.9
TOTAL	5,567	6,328	7,135	7,801	8,557	9,286	10.8

Source: Economic Commission for Latin America, based on official statistics.

[a] Until June.
[b] Until October.

Table 178. Latin America: Caustic soda imports

(Thousands of tons)

Countries	1948	1949	1950	1951	1952	1953
Argentina	52.6	14.2	52.1	38.9	45.8	38.9
Brazil	58.3	56.0	65.9	103.8	48.4	75.2
Chile	4.3	4.0	5.9	5.3	5.8	4.6
Colombia	9.1	10.7	10.4	10.6	3.9[a]	0.5[a]
Ecuador	0.8	0.9	1.0	1.5	0.9	1.0
Mexico	25.6	17.2	25.6	24.3	21.5	31.0
Peru	4.2	5.2	4.8	5.7	3.4	5.0
Uruguay	3.5	3.6	4.1	4.6	1.0	4.0
Venezuela	4.4	4.3	4.0	6.0	6.5	5.9
TOTAL	162.8	116.1	173.8	200.7	137.2	166.1

Source: Economic Commission for Latin America, based on official and private statistics.

[a] The difference arises from the substitution of imports by domestic output at the Betania plant.

Table 179. Latin America: Sodium carbonate imports

(Thousands of tons)

Countries	1948	1949	1950	1951	1952	1953
Argentina	62.4	34.3	43.7	87.4	52.4	46.8
Brazil	40.0	36.8	60.8	80.0	40.8	59.2
Chile	2.7	1.6	0.9	0.9	1.0	0.4
Colombia	8.5	2.8	3.5	10.5	0.1[a]	—[a]
Ecuador	0.3	0.4	0.3	0.5	0.4	0.4
Mexico	30.5	27.8	42.4	58.6	41.8	71.0
Peru	7.3	6.9	3.0	11.6	4.5	7.8
Uruguay	5.3	6.0	9.2	11.2	5.0	8.5
Venezuela	2.9	1.2	1.4	2.3	0.7[b]	0.3[b]
TOTAL	167.9	117.8	165.2	263.0	146.7	194.4

Source: Economic Commission for Latin America, based on official and private statistics.

[a] Imports replaced by domestic output at the Betania plant.
[b] Imports reduced by domestic output of sodium carbonate from the Lagunillas deposits.

Several projects are either already in operation or being studied in order to increase the output of nitrate and phosphate fertilizers in view of the well-known shortage of nitrogen and phosphorus in Latin America's arable land.

In 1953, although a slight decline occurred in over-all sulphuric acid production due to a decrease in Brazil, work continued on the installation of new plants in Brazil, Chile, Colombia, Peru and Venezuela. (See table 180.)

Textile output, after falling by 4.1 per cent in 1951 and by a further 1.8 per cent in 1952, recovered by 1 per cent in 1953. This rise was mainly due to an increase in the production of artificial fibres, since a market favourable to higher consumption of these fibres brought new plants into production in Brazil, Mexico, Peru and Venezuela. (See table 181.)

The paper industry's market was still firm, but less active than in former years. The 9 per cent reduction in Argentina's output, which accounts for more than 30 per cent of all Latin-American production, slightly reduced the average annual rate of increase, which amounted to 8.5 per cent in the 1948-52 period. (See table 182.) But the process of expansion is continuing and at present the most important developments are those taking place in Brazil, Chile and Mexico.[1] The studies in hand in Bolivia, Paraguay and Peru with a view to the establishment of pulp and paper mills are also of great interest.

[1] In Chile a 50,000 ton capacity sulphate pulp mill is being built, as well as a second mill with a capacity of 44,000 tons of newsprint and 6,000 tons of paperboard. In Mexico a further mill, to produce 61,000 tons of pulp annually, is being installed.

Table 180. Latin America: Sulphuric acid output

(Thousands of tons)

Countries	*1948*	*1949*	*1950*	*1951*	*1952*	*1953*	*Rate of annual cumulative increase 1948–53*
Argentina	74.6	77.2	77.2	64.5	60.5	59.0	− 4.8
Brazil[a]	57.2	81.4	121.8	107.7	150.4	121.5	16.3
Chile[b]	5.1	4.8	4.9	4.2	5.0	6.1	3.6
Mexico	36.2	38.0	43.4	85.1	104.5	112.0	25.3
Peru	8.6	11.9	11.8	13.8	14.4	14.5	11.0
Uruguay	4.5	5.2	3.4	4.4	5.3	6.3	7.0
TOTAL	186.2	203.5	249.3	268.6	329.7	310.7	10.8

Source: Economic Commission for Latin America, based on official and private statistics.

[a] Estimates.
[b] Acid for sale only.

Table 181. Latin America: Indices of textile output

(1948 = 100)

Countries	*1949*	*1950*	*1951*	*1952*	*1953*	*Rate of annual cumulative increase 1949–53*
Argentina	104.0	101.1	100.2	82.3	77.1	− 5.1
Brazil	106.0	115.0	111.0	115.0	118.0	3.4
Chile	100.7	99.9	98.7	105.8	124.8	4.5
Colombia	103.3	110.3	104.7	121.6	—	5.0
Mexico	92.0	97.5	86.9	82.5	80.7	− 4.2
Venezuela	117.3	164.4	272.1	280.4	244.9	19.9
TOTAL	103.1	108.6	104.2	102.3	103.4	0.7

Source: Economic Commission for Latin America, based on official and private statistics.

Table 182. Latin America: Indices of paper and paperboard output

(1948 = 100)

Countries	*1949*	*1950*	*1951*	*1952*	*1953*	*Rate of annual cumulative increase*
Argentina	92.5	103.5	138.2	121.9	111.4	2.2
Brazil	116.0	133.0	141.0	157.0	—	11.9
Chile	104.6	109.0	116.3	119.6	121.2	3.9
Mexico	104.4	123.7	132.1	137.3	149.4[a]	8.4
Peru	109.4	106.1	138.3	141.2	—	9.0
TOTAL	105.1	119.2	136.5	138.7	137.8[b]	6.6[b]

Source: Economic Commission for Latin America.
[a] Paper only.
[b] Estimates.

For other industries producing consumer goods such as foodstuffs and beverages, tobacco, leather and footwear, tyres and other rubber products the situation of the various products has varied from country to country during 1953 without showing any specific trend.

III. The industrial situation in selected countries

1. *Argentina*

During the early months of 1953 the decline in Argentina's industrial output which had begun to be apparent in 1952 continued, although there were signs of a recovery at the beginning of the second quarter. Towards the end of 1952 there was confidence that the substantial harvests and the initiation of the Second Five-Year Plan would react favourably upon the difficult situation in which most industrial enterprises found themselves, and which was mainly due to a fall in demand. But the effects of the former were not felt as soon or as strongly as had been anticipated, while the latter was rendered inoperative when the Government decided to postpone the 1953 development and investment programme until the following year. Although the recession was serious it did not basically affect the industrial structure, and a certain optimism was already observable in commercial and manufacturing circles towards **May and June 1953.**

Sales of electric power to industrial concerns may give some indication of the general trend in industry; they show that in the first few months of 1953 manufacturing industry remained at the same low level it had reached at the close of 1952. But during the last half of the year power consumption exceeded that of the comparable period of 1952 and reached 1951 levels. In addition the decline in consumption made the effect of electricity rationing less severe. The regulations remained the same as in 1952, factories suspending production one day a week in rotation except in the textile industry, all restrictions on which were removed in May 1953.

Bank credit was still limited during 1953 but loans were more liberal, and a selective policy favouring activities in which the State has an interest was apparent.

Faced by a contraction of domestic demand in 1952 and 1953, some industries attempted to divert production to the export market. To this end, the Government established an Export Development Committee and considered modifying exchange rates to assist the project. However, the slackness of the world market prevented the Government from applying this policy.

Indices of the quantum of industrial output (see table 183) show that from the second quarter of 1953 there was an improvement which surpassed the absolute levels of the previous year. This improvement was especially marked in the non-durable consumer goods industries—textiles, piece goods, chemical products, leather and footwear—in which output had shown the most marked decline.[2] In contrast, although there was a minor fall in the output of durable goods, the level was maintained in the second quarter and tended only towards recovery during the third quarter of the year.

In 1953 cement production developed normally, reaching 1,700,000 tons, or 7.8 per cent more than in 1952. Conversely there was a marked decline in consumption, since

[2] The decrease in output of certain groups of goods (textiles and piece goods, leather and footwear, books and printed matter) was so great that during the worst period, production did not reach, or barely surpassed, 60 per cent of the 1948 output. Tobacco manufactures and petroleum by-products, on the other hand, suffered no crisis in production. Within the textile industry, woollen and cotton goods suffered most from the fall in demand; rayon and nylon goods sold more easily.

Table 183. Argentina: Quantum of industrial output

(1948 = 100)

Industries	*1952*	*1953*			*1953*[c]	*Percentage of 1953 to 1952*
		I	*II*	*III*		
TOTAL	*94.3*	*81.8*	*91.9*	*98.1*[a]	*90.6*	*— 3.9*
Non-durable goods	*95.3*	*83.9*	*94.0*	*94.0*[a]	*90.6*	*— 4.9*
Foodstuffs and beverages	102.1	89.7	110.4	140.0[a]	113.4	11.1
Tobacco	114.5	115.0	112.8	112.2[b]	113.3	— 1.0
Textiles	82.3	61.4	84.7	91.4[a]	79.2	— 3.8
Piece goods	72.6	55.8	77.8	75.1[b]	69.6	— 4.1
Paper and cardboard	106.2	80.8	97.0	97.2[b]	91.7	—13.7
Books and printed matter	64.1	57.9	71.6	72.7[b]	67.4	5.1
Chemical products	102.0	86.0	106.6	103.3[a]	98.6	— 3.3
Petroleum by-products	133.8	138.8	138.8	140.0[b]	139.2	4.0
Rubber	121.9	96.2	106.1	103.9[b]	102.1	—16.2
Hides	76.3	57.9	78.0	78.1[a]	71.3	— 6.6
Durable goods	*92.4*	*78.0*	*88.4*	*92.4*[a]	*86.3*	*— 6.6*
Lumber	79.4	73.1	89.3	79.6[a]	80.7	1.6
Stone, glass, ceramics	98.6	82.5	90.1	92.2[a]	88.3	—10.4
Metals (except machines)	89.4	71.7	84.3	87.9[b]	81.3	— 9.1
Vehicles and machines (except electrical)	87.7	75.3	82.8	87.9[a]	82.0	— 6.5
Electrical apparatus and machines	146.5	125.6	134.9	145.1[b]	135.2	— 7.7

Source: Ministerio de Asuntos Técnicos de la Nación, *Síntesis Estadística Mensual de la República Argentina.*

[a] One month.
[b] Two months.
[c] Average of the first three quarters.

imports during the first eleven months of 1953 amounted to only 1,000 tons, as against 480,000 in 1952, and factory stocks were also greater until August, when sales were apparently resumed. This 20 per cent drop in consumption was caused by a decrease in activity in both private building and public works. The latter, which had used 36 per cent of domestic output in 1951, gradually reduced their consumption to 23 per cent by mid-1953, increasing it to some 27 per cent in November. Private building remained at a low level in the first few months of the year, and the number of construction projects begun in the second quarter of 1953 was the lowest for several years.[3] A recovery is nevertheless expected, mainly as a result of the increase in loans for private housing by the *Banco Hipotecario*.[4]

Activity in the iron and steel industry, where the situation improved in March and April and output reached 70 per cent of capacity, dropped by 50 per cent in May and June due to lack of demand. Large stocks of finished and semi-finished products accumulated, but the situation improved later on.

The shortage of imported raw materials affected a number of industries but was balanced by a reduction in output. According to industrial circles there appear to have been shortages in black plate, strip for tubing, plate or sheet for coating and brass. In contrast there were no difficulties as regards supplies of raw rubber, sulphur, tinplate, aluminium and copper. Good rubber supplies made it possible to lift restrictions on tyre sales. An increase in the number of import permits from August onwards improved the industrial outlook, but it is anticipated that Argentina will still have difficulties in importing raw materials, equipment spare parts and other capital goods.

Sugar output in 1953—710,000 tons—was 15 per cent higher than in the previous year. Glucose (43,300 tons), showed an increase of 1.9 per cent for the first nine months of the year. Rayon production fell from a peak of 10,000 tons in 1951 to 9,200 tons in 1952, while the figure for the period January-September 1953 (6,400) was 14.5 per cent below that for the same period of 1952. Sulphuric acid output, which amounted to 60,500 tons in 1952, fell by 2.5 per cent. Caustic soda production amounted to 27,700 tons and will shortly be raised when production begins at an electrolytic plant from Italy, which has an annual capacity of 20,000 tons.

The fall in industrial employment followed a similar course to that in the quantum of production, although with a number of differences. Unemployment was more marked in the durable than the non-durable goods industries. For all industrial branches, however, the number of actively employed workers declined less than output, due mainly to the policy of the Government and trade unions of preferring a reduction in working hours to the laying-off of labour. Hence unemployment has not been widespread.[5]

[3] The area covered by approved projects in Greater Buenos Aires fell by 18 per cent in the first 8 months of 1953 as compared with the same period of the previous year.

[4] The limit fixed for these loans was 1,400 million pesos in the first half of 1953, as compared with 2,000 million for the whole of 1952. Loans for the first four months of 1953 amounted to 850 million pesos as against 744 million in the same period of the previous year.

[5] According to some sources it is estimated that unemployment in March 1953 was approximately 3 to 5 per cent for men and 8 to 12 per cent for women. The situation does not appear to have deteriorated subsequently.

In addition, increased activity in agriculture diverted a part of the labour force to rural activities, although the numbers involved were not substantial.

As in the previous year, the establishment of new industries has been almost at a standstill, the only activity being in official enterprises, particularly the *Industrias Aeronáuticas y Mecánicas del Estado*, by which the plans for the production of motor vehicles, tractors, etc., are gradually being fulfilled. An iron and steel company is engaged in installing the large San Nicolás plant. A plant to produce railway engines, with a capacity of 100 locomotives annually, is under construction at Mendoza. A company has been formed to undertake the manufacture of turbo-generators. The production of highly refined paraffin, vaselines and neutral oils on an industrial scale has begun at the first plant of its kind in South America. It will make possible a saving of some 3 million dollars of foreign currency. Of outstanding importance for Argentina's industry is the Act on foreign investments in mining and industry. The Ministerial Committee for Foreign Investments has compiled a list of the principal industrial groups, the development of which it is desired to encourage through new capital investments. This list is based on the priorities established in the Second Five-Year Plan. Although there has not yet been time for the practical results to become evident, it is apparent that this Act has aroused great expectations in industrial circles both in Argentina and abroad.

2. *Bolivia*

The unfavourable factors affecting Bolivian industry in 1953 caused the volume of production to fall even below the 1952 level, which was itself well below the levels of the three previous years. This decline in output was mainly due to the restrictions imposed upon imports of raw materials and other basic industrial necessities following the deterioration in the terms of trade which was aggravated for a time by difficulties in selling tin. The Decrees of 14 May 1953 pegged the new par value at 190 bolivianos to the dollar, raised tariffs on imports[6] and brought about a sharp rise in production costs, which in some cases caused the market to contract. Credit restrictions authorized under another Decree of 14 May, which fixed the maximum limit for bank loans at the figure reached on 30 April 1953, also affected industry, as did the fact that to the surcharges in force were added taxation adjustments.[7] For all these reasons output declined during the year, to varying degrees. There was nevertheless a range of investment in the manufacturing industry with the general aim of replacing imports by domestic goods.

Shortages of foreign exchange made it difficult to maintain the existing level of imports of machinery and industrial equipment, the constant value of which in 1948 dollars was 3.6 per cent less in 1952 than in 1948, when the total stood at 7 million dollars, a figure which includes some mining equipment. To judge by the figures for the first half of 1953 output of textiles, Bolivia's most important manufactured goods did not exceed the 1952 figure of 9,500,000 metres of cotton and 1,250,000 metres of wool, which in turn was 11.6 per cent below the average for

[6] An additional surcharge of 50 per cent was placed on the c.i.f. value of most raw materials.

[7] The tax on industrial profits was raised from 16.8 to 27.5 per cent.

1944-51. The fall in output was greatest in the cotton industry, which is entirely dependent on imported raw materials. The leather and footwear industries, which use domestic raw materials, enjoyed better conditions for development than most branches of industry in 1953. Some progress was apparent in the manufacture of paints, pharmaceutical products, plastic moulding and finished textile goods. In the field of glassware an automatic plant with a capacity of 1,500 bottles an hour has entered production.

Output in the milling industry, where 55 per cent of the raw material used is home-produced, also declined. The sugar industry, consisting of two small refineries—one of which is in process of expansion—at present produces 10,000 tons a year, or 25 per cent of the amount consumed. This industry will increase its output by means of a plant with a capacity of 20,000 tons annually, to be installed at Montero, Department of Santa Cruz, at the request of the Bolivian Development Corporation.

A plant for the manufacture of edible and industrial oils is being established near Ixianas in the province of Iturralde by an Italian firm; it will have an annual capacity of 2 million litres, and plantations of sunflower and peanuts have been laid down for its use. It appears that this plant will shortly be able to produce 100,000 litres of sunflower seed and peanut oil and 750,000 litres of medicinal and industrial oils.

The cement industry is represented by a single factory at Viacha, where output declined from 37,200 tons in 1952 to 33,800 tons in 1953. Since this is inadequate to supply domestic needs a second plant at Sucre, with a capacity of 100 tons daily, is about to enter production.

The Ministry of National Economy has called for tenders to equip a plant for the manufacture of tyres and rubber power belting on condition that it uses domestically produced raw materials where possible, the Government guaranteeing required supplies of imported raw materials. In view of the successful outcome of surveys and practical tests, the Ministry has also asked for an allocation of foreign exchange to cover imports of industrial equipment to produce pulp and paper. This project was still under consideration by the Ministry of Finance at the end of 1953.

Finally, the Development Corporation has drawn up a four-year industrial plan which includes the installation of a rice-polishing mill at Montero with a capacity of 2.2 tons per hour, the equipment of which has already been acquired; the establishment at Montepunco of a sawmill with an output of 25,000 square feet daily; and the construction of a third cement factory to be situated between Oruro and Cochabamba which will supply the requirements of the central zone.

3. *Brazil*

In the first half of 1953 the rate of increase in the quantum of Brazil's industrial output slackened in relation to the over-all post-war rate. The new quantum index for manufacturing industries published by the *Fundação Getúlio Vargas*[8] shows that in the first half of 1953 the rate of increase in output dropped by 1.5 per cent as compared with a rate of increase of 9.3 per cent during 1947-52. (See table 184.) This decline in the rate of expansion was largely due to events affecting Brazil's foreign trade. The difficult situation observed since 1951 in connexion with the balance of payments became acute in 1953 and made necessary the adoption of a series of restrictive import measures which affected industry.

Although the raw material stocks accumulated as a result of heavy imports during 1951 and 1952 weakened the effect of the restrictions, a slowing down of activity was noted towards the end of 1953 in various industries, especially metallurgy, which uses aluminium; textiles, due to lack of dyes and chemical products for finishing; and motor vehicle assembly plants. It is believed that this situation will continue in 1954 and that the capacity to import will stand at the 1949-50 level. However, plans for enlarging and creating new industries, above all in the basic branches, will relieve import requirements.[9]

[8] The new indices prepared by the *Instituto da Economía* of the *Fundação Getúlio Vargas* are more complete than those appearing in the *Economic Survey of Latin America, 1951-52*, which are based on data from the 1950 industrial census. Therefore the new series replace those used in the earlier *Survey*.

[9] Brazilian sources estimate that the initial economies in foreign exchange accruing from new industrial projects will be in the region of 32 million dollars in 1953, 58 millions in 1954, 126 millions in 1955 and almost 160 millions in 1956.

Table 184. Brazil: Indices of output of manufacturing industries

(1948=100)

Industries	*1949*	*1950*	*1951*	*1952*	*1953*	*Percentage of annual cumulative increase, first half-year 1947-52*
Cement	115	124	131	145	180	12.1
Metals	111	147	159	167	182	15.6
Transport equipment	63	73	143	173	57	34.0
Paper and paperboard	116	133	141	157	—	11.3
Rubber	122	139	159	170	150	14.9
Vegetable oils and fats	104	112	126	—	—	—
Hides and skins	104	104	111	105	—	2.5
Textiles	106	115	111	115	118	3.9
Foodstuffs	102	105	114	123	—	6.2
Beverages	99	117	143	151	158	10.7
Transforming industries	105	117	126	136	138	9.3

Source: Instituto de Economía de la Fundacão Getulio Vargas.

The shortage of electric power has continued to be a problem for industry, particularly in the states of São Paulo and Rio de Janeiro.[10]

The new exchange system established in October may have repercussions favourable to industry, although in some sectors there is some discontent as to the order in which import priorities have been drawn up. With foreign exchange scarce, industry may have greater difficulty in acquiring raw materials and equipment. Tariffs—now in course of revision will be higher in order to protect domestic industries. Finally, in the tradition of Latin-American industrial development, higher prices and the shortage of finished foreign goods may stimulate domestic investment, especially in the capital goods industries for which Brazil now has the necessary heavy industry.

Both the steel and cement industries were little affected by the previous restrictions, and expansion plans continued to develop normally.

Iron and steel output continued to increase: pig iron output was 9.5 per cent above that of 1952, ingots 13 per cent above and sheets 12.8 per cent above. Plans to expand the Voltat Redonda plant will greatly increase Brazil's steel production[11] and it is hoped that the second blast furnace will enter production during the first half of 1954, thus raising the plant's capacity to 710,000 tons of ingots as against 476,000 tons in 1952. The installation of a new battery of 21 coking ovens has been completed. Substantial enlargements to the power plant and steelworks have been carried out, and it is shortly hoped to begin the industrial output of metallic structures. Equipment for rolling mill production has also been enlarged and the output of sheets, rails and other items will increase accordingly. In 1953, two projects for a third addition to the Volta Redonda plant, to raise output to a million tons annually, were sent to Congress. To achieve this the capital must be increased and a foreign loan of 35 million dollars obtained to import equipment not locally produced.

Private enterprise has also been active in this field. One firm intends to increase production to 250,000 tons of steel, another will soon raise output to 125,000 tons of special high-grade steels, and three other firms will shortly produce an additional 100,000, 40,000 and 125,000 tons respectively. Everything appears to indicate that Brazilian steel output will soon reach 2,500,000 tons annually.

Metallurgical industry in general has grown more rapidly than in 1952. An important event was the opening of a plant to manufacture seamless steel tubes in the state of São Paulo; it will be the first of its kind in Brazil, and its output is estimated at 20,000 tons.

The cement industry, comprising 14 plants with an annual capacity of 2,460,000 tons, increased its production in the first half of 1953 by 24.1 per cent above the monthly average for the previous year. It is possible that by the end of the year it will have produced 2 million tons. Measures such as the suspension for five years of customs duties on imported equipment, the reduction of taxation and the like have been adopted to encourage investment in this sector and reduce the heavy imports, which in 1952 totalled 820,000 tons and in 1953 may reach one million tons. Four new plants are being built and will begin production early in 1954. They will increase productive capacity by a further 380,000 tons which, with the greater output of existing plants, should raise cement production to 3,304,000 tons towards the end of 1954. In some cases the output of cement plants encountered transport difficulties.[12]

The output of the textile industry improved in quality and tonnage, but the rate of growth of 3.9 per cent in 1952 fell to 2.8 per cent in 1953. A similar trend was observed in the beverage industry.

In 1953 production of paper from sugar cane bagasse began on a commercial scale with 9 tons daily, which is expected to increase within a few months. Aggregate paper output amounted to some 250,000 tons but was insufficient for consumer requirements and some 100,000 tons, consisting principally of newsprint, were imported.

Rubber production, which in 1952 stood at 28,200 tons, reached some 30,000 tons, of which 26,000 tons were absorbed by the tyre industry. The sheet-glass industry continued to satisfy growing consumer needs, with an output which surpassed that of 1952 in both volume and variety. This industry has begun to manufacture special glass for cars and aeroplanes.

Notwithstanding the position of Brazil's economy, there was in 1953 a marked interest in the establishment of new industries financed by both domestic and foreign capital. Most of the new companies plan to build their factories in the state of São Paulo.

There is particular interest in undertaking the production of vehicles, tractors and motors or in expanding existing assembly plants. The definite establishment of a motor vehicle industry is very important to Brazil since the number of motor vehicles totals 600,000, 100,000 of which were imported in 1952. A British concern has set up a company which will begin by assembling vehicles and will later manufacture them, while a French firm has formed a company jointly with Brazilian capital to assemble heavy trucks, with a view to producing tractors and trolley-buses later on. The Brazilian subsidiary of a United States corporation is equipped to turn out 40 jeeps a day and may soon have an output of 100. Another United States company has established a plant with a capacity of 125 units a day, and plans to manufacture pressed steel for motor-lorry cabins next year. A branch of another United States corporation has submitted to the Government a large scale plan for the installation of a motor-car and motor-lorry factory. A Brazilian firm has signed a seven-year contract with an Italian company for technical assistance and will start building part of the equipment for 1,000 tractors, with the hope of producing complete vehicles later on. The Government recently authorized the formation of a company with mixed German and Brazilian capital to manufacture farm machinery and tools. A firm recently established in Brazil will produce tractors under a French patent. It is hoped that at the end of 1954 a diesel motor factory financed by French, Belgian and Brazilian capital will begin production; the manufacture of motors up to 500 HP is envisaged. There is also interest in the production of aircraft, and contracts have been

[10] See part II, chapter IV.

[11] At present, Brazil produces two-thirds of its steel requirements.

[12] One of the plants, situated in the state of Bahía, temporarily suspended production because the cost of transport to Rio de Janeiro was 22 cruzeiros a sack, whereas transport from West Germany cost 7 cruzeiros.

signed with foreign firms for the assembly of training aircraft.

The chemical industries provide another instance of investment activity. A Brazilian firm is installing a plant for vinyl resins with a capacity of 450 tons a month, and by mid-1955 expects to produce a further 250 tons a month. In 1954 a subsidiary of a Belgian firm will begin production of polyvinyl resins in sufficient quantity to enable Brazil to become self-sufficient in plastic materials.[13] Phthalic anhydride is being produced commercially in the country for the first time at a plant with a capacity of 30 tons a month; output should increase as soon as the manufacture of derivatives of this chemical compound is begun. In Cubatão a fertilizer factory will be installed which will produce 100,000 tons of ammonium nitrate a year and also ammoniac and nitric acid; the plant, which will operate with European machinery, is being sent to Brazil and it is hoped that at least 80 per cent of the equipment will arrive at Santos by the beginning of 1954. In addition a plant financed with domestic capital is being installed to produce phosphate fertilizers in the state of Minas Gerais, where apatite deposits will be brought into industrial use. It is expected that initial production will yield 50,000 tons of superphosphates a year. Two United States companies plan to install a DDT plant producing 1,800 tons, which should reach the market by mid-1954. At the same period a penicillin plant at present under construction will begin operation at Santot Amarão. The biggest rayon-producing company in the country will begin production of high-resistance fibres for tyres in a plant with a capacity of 11,000 tons and costing 50 million dollars. Another Brazilian firm will produce 3 tons of continuous filament and 5 tons of cut filament daily by the beginning of 1954.

New installations are planned in other branches of production. The first sewing-machine company, a subsidiary of an Italian firm, with an initial output of 2,000 units annually, has been established. In São Paulo a Dutch firm plans to manufacture electric bulbs and X-ray apparatus. A factory to produce ophthalmic lenses, with a production of 3,000 pairs a day, or double the present output, will also be installed in this state. A United States firm plans to establish a typewriter factory at Rio de Janeiro and there are also plans to produce celluloid and photographic paper, precision instruments, electronic valves and other wireless equipment, carbon electrodes, thermostats, plywood and so forth. The aluminium plant will be enlarged and output increased to 20,000 tons a year, which will eliminate imports. A factory to produce pulp for paper manufacture, with a capacity of 15,000 tons a year and using eucalyptus wood, is to be established in São Paulo. It will also produce, by electrolytic means, caustic soda and chlorine, which are both needed in the manufacture of chemical pulp.

4. *Chile*

Chile's industrial output has continued to increase in 1953. The general index of manufacturing production, excluding building and including gas and electric power, rose by 6.9 per cent in the first ten months above that for the same period of 1952. In 1953, however, there were some indications that the strong upward movement apparent since 1951 was becoming less marked. The economy of the country was adversely affected by difficulties of placing copper and nitrate on the world market. Nevertheless, due to past and present efforts to import industrial machinery, Chile possesses a very advanced industrial structure which makes possible the replacement of many imported consumer goods by domestic production. Taking into account some machinery destined for the mining and metallurgical industries which cannot be shown separately in the statistics, imports of machinery and industrial equipment were 30.6 per cent greater in 1952 than in 1948, when such capital goods to a value of 31,100,000 dollars were imported. The development of mechanical transforming industries, on which a start has been made, will make it possible to reduce imports of machinery, motors, railway equipment and the like in the near future.

Import restrictions and the increasing rate of inflation were the economic factors which more affected the development of industry in 1953. Although both factors created increased demand for domestic manufactured goods, the continuation of import restrictions on raw materials may cause difficulties in the long run. Further, inflation has had its inevitable consequences, among them, strikes for higher wages and an increasingly vulnerable situation of enterprise.

Although electric power output from the thirty-two generating plants rose some 6 per cent above that for a similar period in 1952, the problem of electric power shortages reappeared in the central zone during the winter. Nevertheless the application of a new rationing system, to which industry adapted itself, improved working conditions and avoided the serious problem involved in closing factories on one day a week or fortnight according to the power shortage.

The rate of increase of production in the Huachipato iron and steel plant was less than in 1952, since with present installations capacity output has almost been attained. In 1953 the plant substantially increased its output of thick and thin plates, which was 52.6 per cent above that of 1952, but the output of bars, sections, rods and strip declined. Tinplate output also declined due to a temporary drop in consumption. (See table 185.) The development of plans to enlarge and improve the Huachipato plant continued during 1953.

The blast furnace at Corral has increased production by 8 per cent and is now producing 24,300 tons a year. During 1953 93,000 tons of steel were exported, or 89.7 per cent

Table 185. Chile: Iron and steel output

(Thousands of tons)

	1951	*1952*	*1953*
Pig iron	239.9	269.9	285.8
Steel ingots	178.3	242.6	313.0
Total of finished steel	130.1	180.3	200.0
Bars, sections, wire rods and strips	74.7	102.7	101.6
Thick and thin plate or sheet	39.6	54.0	82.4
Tin plate	11.9	16.0	15.2
Steel tubes[a]	3.8	7.6	0.8

Source: Compañia de Acero del Pacífico.

[a] Soldered tubes of medium diameter manufactured directly at Huachipato.

[13] This firm, in its São Paulo plant, now produces caustic soda, liquid chlorine, hydrochloric acid, sodium hypochlorite and other products.

more than in 1952. Exports of pig-iron amounted to 11,500 tons, or 32.3 per cent more than in the preceding year. The plant producing steel structures for building, bridges and the like, which had operated part-time since the end of 1952, began full-capacity production in mid-1953. In 1953 the calcium carbide and ferrous alloy plant began production, as did a factory making farm implements, accessories and spares for the textile, lumber and similar industries, and a wire factory. With the assistance of the Development Corporation, the installation of a factory to produce synthetic resins in the neighbourhood of Huachipato is being studied. It will use coke by-products.

The cement industry encountered marked fluctuations in supply and demand. Output amounted to 762,000 tons, 6.5 per cent less than in the previous year. This was due to the low level of domestic demand, which in June led the trade unions to make proposals to the Government for the prevention of unemployment. As a result the Government authorized various public works to offset the decline in private building. The index of building permits granted fell in the first quarter but rose rapidly in the second and third quarters. In consequence the cement plants were obliged to postpone deliveries at the end of the year because demand once again exceeded capacity.

Among consumer goods industries, the foodstuffs industry increased its output by 21 per cent in the first ten months of 1953 over the same period of 1952, though a decrease began in October. The principal causes of the rise were edible oil, output of which increased by an average of 36 per cent, and powdered milk, production of which rose by 70 per cent in the second quarter as compared with the same period of 1952. (See table 186.)

The production of beer and mineral beverages also increased sharply, by 13 per cent. After an appreciable rise in 1952 the sugar refining industry increased its output by only 5.6 per cent in the first ten months of 1953.

The textile industry's output index rose by 10 per cent in the first ten months, thus maintaining the upward trend of 1952, owing in particular to the marked increase of 90 per cent in knitwear production. Woollen cloth output rose by 9 per cent and almost equalled production in 1948, the peak year. Production of cotton and rayon fabrics also increased, though on a smaller scale. Garment production rose by 15 per cent, a substantially greater increase than that of 4 per cent recorded in 1952.

The output in the tyre industry fell by more than 14 per cent, amounting to only 140,000 units. Due to the shortage of rubber and other imported raw materials during the first quarter of the year the factory was obliged to suspend production temporarily.

Chemical industries produced 8.4 per cent less than in the first ten months of 1952, showing a marked difference from their growth during the five previous years. The output of paint, gelignite and carbide dropped particularly sharply, but that of sulphuric acid for commercial sale increased by 11.7 per cent. Mainly to meet the demand from the small and medium mining industry, the Development Corporation installed a plant producing 30 tons of 98 per cent pure sulphuric acid daily at Antofagasta. This increased Chile's daily productive capacity to 100 tons, excluding the tonnages produced by the large copper mining companies for their own consumption.

The output of paper and paperboard was slightly less than in 1952. One of the most significant industrial events

Table 186. Chile: Indices of industrial output

(1948=100)

Industry	*1952*	*January to October*		
		1952	*1953*	*Percentage of variation 1953/1952*
Foodstuffs industries	*114.8*	*107.3*	*129.9*	*21.1*
Sugar	123.6	125.0	132.0	5.6
Beer and gaseous beverages	121.9	121.2	136.9	13.0
Confectionery	91.8	87.1[a]	99.3[a]	14.0
Chemical industry	117.6	122.1[a]	111.8[a]	− 8.4
Steel	353.7	351.8	371.1	5.5
Gas, copper, tar	96.2	97.3	104.7	7.6
Electric power	160.6	161.5	171.0	5.9
Miscellaneous industry	106.8	106.5	110.2	3.5
Miscellaneous products:				
Cement	115.3	116.7	103.4	−11.4
Textiles	105.8	104.2	112.4	7.9
Cotton goods	106.6	106.2	109.2	− 2.8
Woollen goods	91.2	90.1	98.6	9.4
Rayon goods	126.9	125.8	130.6	3.8
Knitwear	305.0	279.8	529.1	89.1
Sulphuric acid for sale	99.9	100.3	112.0	11.7
Iron ingots	1,865.9	1,856.2	1,957.9	5.5
Steel bars	207.3	207.8	194.8	− 6.3
Wrought copper	83.2	91.8	65.7	−28.4
Edible oil	98.9	95.0	129.1	35.9

Source: Economic Commission for Latin America, based on official and private statistics.
[a] Nine months.

of 1953, however, was the concession of a 20 million-dollar loan by the International Bank for Reconstruction and Development. This is to be used for the construction of a sulphate pulp mill with a capacity of 50,000 tons a year near Laja and for another mill to produce 44,000 tons of newsprint and 6,000 tons of paperboard on the bank of the Bío-Bío. Chile will thus bring into being a new and interesting industry for which the country has adequate natural resources. It will not only satisfy domestic needs but will become an important source of foreign exchange through exports, since it is estimated that this industry will be able to sell some 20,000 tons of pulp a year abroad.

In 1953 progress was made in the construction of the beet sugar factory, which will begin production in the second quarter of 1954. The abolition of the differential exchange for sugar imports has encouraged plans for domestic production. German industrialists are considering investing 20 million dollars in the establishment of a further three sugar plants in southern Chile.

The Council of Foreign Trade granted foreign exchange totalling half a million dollars for the establishment of a plywood plant at Cholgüan and the Development Corporation carried out studies to find the most suitable methods of utilizing lumber in the Chiloé area. During the first quarter of 1954, a factory at San Felipe will start producing 2,800 tons of *litopón* a year using domestic raw materials—barium sulphate and zinc sulphide. In June an agreement was signed with UNICEF, which will supply 45,000 dollars to install a penicillin factory with an annual production of 1,800 million units.

Two important decrees concerning industry were drafted during the year. The first, promulgated in August, encourages the decentralization of industry by granting tax exemptions to plants installed in localities in the extreme north and south of the country. The second, dated 10 November, offers facilities and guarantees to foreign capital entering Chile.

5. *Colombia*

After a critical period in 1951, the successful progress made by Colombian industry in 1952 continued into 1953, thus strengthening the vigorous development which had taken place since the war. This was principally due to the plentiful supply of foreign exchange and the increased demand for domestic manufactured goods. In addition a series of imports are at present prohibited in order to protect Colombian industry; the list includes foodstuffs, textiles and textile garments, leather and shoes, perfumery, glassware, china and metal goods and the like. Only items not appearing on the list and imported from countries having trade agreements with Colombia are allowed to enter the country. Other products, especially luxury goods, may be imported only by the use of foreign exchange earned by exports of rice, cement and textiles; the object of this provision is to encourage the sale abroad of surplus stocks.

Colombia is one of the Latin-American countries which have made the greatest efforts towards industrialization. Imports of industrial machinery, valued at 48,900,000 dollars in 1948, were 31.2 per cent higher in 1952.[14] The country was thus able to become self-sufficient in a number of industrial comodities which had previously been imported.

Two of the principal impediments to the progress of Colombia's industry, the power shortage and transport difficulties, are at present the subject of improvement plans. In this connexion it can be stated that in 1953 several United States engineering firms held contracts for public works, hydro-electric projects, roads, bridges, railways and so forth. The fifteen largest contracts represent an investment of approximately 207 million dollars.

There was no shortage of foreign raw materials during the year and industry, protected by import restrictions, was free of foreign competition when most of the large stocks of goods, imported earlier as a protection against world shortages caused by events in Korea, had been used up.

With regard to credit, industry was obliged to meet short-term obligations with growing interest rates. As in 1952, aggregate loans and discounts of commercial banks for industrial purposes remained unchanged, in contrast to the strong upward movement experienced from 1946 to 1951, when the average annual rate of increase stood at 35 per cent.

The tax reforms of 8 September 1953 added to the profits tax a charge upon share dividends which had not previously existed. Consequently there was a fall in industrial quotations on the stock market, followed by withdrawals of foreign and domestic capital which had been invested with a view to the establishment of mixed-capital companies. In contrast, subsidiaries of large foreign corporations, financed exclusively with overseas capital, remained in a favoured position. Since they were regarded as branches, they paid taxes only on their industrial profits. For this reason a number of United States companies have invested in Colombia only in this manner.

The electric power generated by three great public utility companies and intended for industrial use, which gives a partial indication of the industrial situation amounted to some 145 million kWh in the first half of the year, and the steady growth of the previous year was maintained. The monthly average shows an increase of 17.3 per cent over that for 1952. However, the known inadequacy of the public power plants to satisfy the growing industrial demand has made it necessary for many firms to acquire their own equipment. In 1952 the installed capacity of 150 private companies stood at 80,800 kW, and their consumption at approximately 100 million kWh.

Among basic industries mention must be made of the appreciable increase in the production of cement, which rose from 700,000 tons in 1952 to 887,000 tons in 1953. This increase made it possible to export 10,700 tons in the first seven months of 1953 despite the increase in consumption among building enterprises. Furthermore, established cement industries continued to expand. One company is to produce some 100 tons of white cement a day in a plant fitted with equipment valued at one million dollars. The Government of the Department of Caldas has authorized the issue of public debt bonds totalling 5 million Colombian pesos to cover part of the cost of a cement plant with an initial daily output of 200 tons.

Construction work on the iron and steel plant at Paz de Río, which was begun in 1952 and represents one of the most profound changes in Colombian industry, has

[14] Constant values at 1948 prices. This figure includes some of the machinery imports intended for the mining and metallurgical industries.

continued to progress, and the plant is expected to start production in the second quarter of 1954. The coke plant is already operating 43 coke ovens with an aggregate capacity of 578 tons a day and a boiler producing 120 tons of limestone daily, part of which is intended for the Solvay soda plant at Betania. In August the Government authorized the issue of bonds worth 60 million Colombian pesos, bearing 6 per cent annual interest, guaranteed by the State and redeemable in twenty years, to increase the firm's capital. The first stage of the Paz de Río project comprises the production of 126,000 tons of bars, light sections, rails up to 75 lbs. a yard, and wires of various mesh. At present it is not producing finished flat products. The plant, which includes a blast furnace for 500 tons of pig-iron, enjoys an exceptional advantage in that the principal raw materials are available within a radius of 34 kilometres. Paz de Río output will largely eliminate steel imports, which have fluctuated between 100,000 and 160,000 tons of finished products in the post-war years. The cost of the entire plant is calculated at 245 million Colombian pesos. With the future operation of the plant in view, plans are being developed for the establishment of steel processing industries, which have been exempted from taxation. A steel company in Medellín has bought the steel plant at Muña and signed an agreement for Paz de Río to deliver 15,000 tons of ingots which will be made into angles, galvanized tubes and other steel products for building. In Baranquilla the subsidiary of a United States firm manufacturing tubing and metallic structures will produce pipes, tube-vaults and water-piping (sewers, drains). The first domestic factory to produce razor blades was opened in Medellín with an initial output of 30,000 blades a day. This company has requested machinery to increase its output sufficiently to meet Colombia's entire demand by 1954.

The Solvay soda plant at Betania is capable of producing 100 tons of sodium carbonate, 25 tons of caustic soda and 12 tons of sodium bicarbonate a day, and has covered consumption during the year. Production began at the end of 1951 and increased from some 7,000 tons in 1952 to 14,000 in 1953; it is anticipated that in 1954 production will be even greater. (See table 187.) The installation of this soda plant has accelerated the development of certain industries, among them the glass factories, which increased their output in 1953. In addition it has made possible the establishment of detergent factories and greater progress in industries making soap, washing and cleaning preparations. The output of superphosphates, the present annual capacity of which amounts to some 20,000 tons with 20 per cent P_2O_5 content, will be increased by an additional 25,000 tons of phosphate slag with 18 per cent phosphoric acid content, produced as a by-product at Paz de Río.

Table 187. Colombia: Output of sodium carbonate, sodium bicarbonate and caustic soda

(Tons)

	1952	*1953*	*1954*[a]
Sodium carbonate.....	2,520	6,560	11,200
Sodium bicarbonate.....	4,140	6,860	9,700
Caustic soda.....	275	650	1,000

Source: Economic Commission for Latin America, based on direct information.

[a] Preliminary estimates.

Superphosphates are at present manufactured from imported phosphorites and domestic sulphuric acid.

Among consumer goods industries, that of cotton textiles, which comprises 56 mills in all, including 21 which own their own spinning equipment, has made progress since 1952 and has had no marketing problems. Nevertheless the domestic fibre, production of which has increased substantially and provided 63 per cent of all the raw material used in 1953, is very short, and high quality goods cannot be manufactured from it. This fact has obliged the *Instituto de Fomento de Algodón* to undertake research in order to improve the quality of the fibre. The two plants producing viscose and acetate rayon operated at full capacity, estimated output being 3,500 tons of viscose thread and 1,500 thousand tons of rayon acetate. The major part of this output went to the rayon fabric factories, of which there are more than 60. Successful development also took place in the woollens industry apart from the combed wool spinning-mills, which used imported wool tops from Uruguay, France and Australia as their raw material. Since there is little difference between duties payable on tops and yarns, imports of the latter at relatively low prices increased substantially.[15]

New activities are also developing in other industrial sectors. A United States firm has established a subsidiary to manufacture rubber compounds, asphalt emulsions and other building products. Early in 1954 the plant of the *Instituto de Fomento Industrial* will start producing up to 200 tons daily of pure and iodine salts. Several United States companies are establishing branches in Colombia to meet the domestic demand. One of these is to process foodstuffs in a new plant at Bogotá, which will cost 200,000 dollars. In Cali, a city which thanks to its favourable conditions and good communications is becoming a large industrial centre, another firm of this type is constructing a pharmaceutical plant with an investment capital of one million dollars, while another plant is to produce yeast and its by-products with an investment capital of two million dollars. A new factory for the manufacture of shirts and underwear, financed with United States and Colombian capital, is introducing modern methods of garment-making. Another factory in Cali has signed an agreement with a United States corporation to enlarge its plant and to manufacture yearly 100,000 bicycle tyres, which will appear on the market at the end of 1954.

6. *Cuba*

In 1953 most branches of Cuba's industry produced less owing to a number of factors which tended to reduce the degree to which existing productive capacity was used. In particular the downward movement of sugar prices in 1952 and the prospects of smaller future harvests weakened the market situation. This trend was emphasized by a fall in the gross product. Those most affected were the low productivity industries and those which are also exposed to intensive foreign competition. However, expansion still continues in new industries to which modern production processes and advanced techniques can be applied to offset the high cost of domestic labour.

The biggest decrease in output occurred in the foodstuffs industries. Thus the vegetable oil industry, which

[15] Due to competition, one mill, financed by domestic and French capital and employing a labour force of 5,000, suspended production in October.

had developed in wartime under exceptional conditions so far as competition and prices were concerned, could not face the return to normal trade in these products which took place from 1948 onwards. Imports, favoured by the consumer's preference for certain types of edible oils not produced in Cuba, increased from 3,600 tons in 1947 to 10,400 tons in 1953. In the same period domestic output dropped from 5,000 to 900 tons. The high cost of peanut seed has been a major obstacle to domestic production. Tests are being made with other seeds which give improved yields and for which there is a better market, and it is planned to convert part of this industry to the production of castor oil, for which there is a firm export market.

In 1953, beer output, which increased at an average rate of 16 per cent a year from 1949 to 1952, declined by 18 per cent in 1953 due to a fall in income levels and in demand. It should be noted that the brewing industry has made more progress than any other industry in the consumer goods group. In 1948 a modern brewery was established with a daily capacity of 67,000 litres, which was later expanded to 160,000 litres. In 1953 another brewery capable of producing 84,000 litres a day was built, while two extensions are about to be completed which will provide an additional capacity of some 200,000 litres a day.

In 1952, there was an important development in the foodstuffs industry. A modern flour mill was established with an annual capacity of 70,000 tons, using imported wheat. In 1953, the first year of normal milling, 45,000 tion and improve the quality of the finished goods. With is expected that by 1954, this output will increase to 56,000 tons of flour, representing 40 per cent of domestic consumption.

The textile industry was obliged to curtail output, under the pressure of high costs and an unfavourable competitive position on the domestic market. In 1953, cotton textile output, in particular, dropped 17 per cent below the previous year's level.[16] It is estimated that in recent years an average of 45,700,000 metres of cotton cloth and 27,500,000 artificial woven fibres have been imported into the country. These figures illustrate the fact that there is a potential market for a local industry if it could operate under more economic conditions, and diversify production and improve the quality of the finished goods. With this aim, a plant to produce 9,800,000 metres of printed cloth annually is being set up, and should be completed by 1955. It is also planned to establish a cotton spinning mill to meet the domestic demand for yarns. In 1951-52, cotton cultivation was introduced to the southern coast of Pinar del Rio province. The first experimental crop yielded a fibre of good textile quality. Plans have been made to extend the crop in order to make good the lack of domestic raw materials, which has been one of the factors obstructing the economic operation of this industry.

During the last two years, the modern rayon plant established during 1948 in Matanzas Bay, was obliged to reduce its output of textile fibres owing to reduced demand, and to shift part of its surplus capacity to the production of tyre cords. The present annual capacity is 1,400 tons of yarn, 4,100 of short fibre and 4,500 of rayon cord. Although this plant imports the essential production elements—pulp and caustic soda—it was able to operate under favourable conditions because of the high efficiency achieved by various changes and improvements. In 1953, cord production reached a 4,700-ton peak; the product was exported mainly to Canada, Colombia and Mexico. For the future, it is planned to increase the productive capacity by 2.7 thousand tons annually and to reduce yarn output until Cuban artificial fibre textile plants—which absorb 78 per cent of this output—recover their normal rate of production. (See table 188.)

[16] Cuba's main textile mill manufacturing cotton cloth, with 72 thousand spindles and 1,612 looms, worked at 65 per cent of capacity during the year and four other smaller mills operated at lower percentages.

Table 188. Cuba: Rayon output

(Tons)

Years	*Rayon cord*	*Short fibre*	*Yarn*	*Total*
1948	209.1	51.7	31.6	292.4
1949	1,644.3	897.5	801.8	3,343.6
1950	2,871.0	1,527.7	3,096.7	7,495.4
1951	7,116.3	1,573.3	3,423.4	9,113.0
1952	3,536.7	1,265.9	3,403.8	8,206.4
1953	4,686.6	731.4	3,458.4	8,876.4

Source: Statistics of the manufacturing enterprise.

Footwear production, based on one of the highest *per capita* consumptions in Latin America, amounted to 11 million pairs in 1953. Nevertheless, the industry operated at only 45 per cent of full capacity, which is estimated at 25,500,000 pairs annually from over 1,500 factories and shops.

In 1953, with 2,500,000 dollars invested in two plants having a productive capacity of 170 thousand units yearly, the tyre industry placed 25 per cent fewer tyres on the market than in 1951. This was due to the competition from foreign tyres, imports of which over the same period increased from 121 thousand to 166 thousand units. (See table 189.)

Table 189. Cuba: Tyre output and consumption

(Units)

Years	*Output*	*Imports*	*Apparent consumption*
1948	58,595	72,144	130,739
1949	52,810	70,718	123,528
1950	85,622	153,323	238,945
1951	109,916	120,954	230,870
1952	94,421	169,080	263,501
1953	84,822	165,654	250,476

Source: Statistics of manufacturing enterprises.

In 1953, the decline in the sugar crop particularly affected fertilizer production, since sugar cane cultivation absorbs about 70 per cent of the output. The new superphosphate plant, established in 1948 with an annual capacity of 40 thousand tons, curtailed its 1953 production to 25 thousand tons. The different fertilizer mixing plants, operating with domestic superphosphates and imported chemical fertilizers, also limited their rate of output.

Fertilizer consumption for the sugar cane harvest fell from an annual average of 160 thousand tons in 1951/52 to 21 thousand in 1953. Aggregate consumption dropped 50 per cent even though other crops, mainly rice and tobacco, used greater quantities than in former years.

Building and related industries grew steadily and are still expanding. The cement factory, 60 kilometres from Havana, installed two new kilns in 1947 and 1951, reaching 408 thousand tons theoretical capacity. In 1952 and 1953, this plant worked at full capacity, but without being able to supply aggregate consumption requirements. A 125 thousand ton shortage still exists each year, and this will not be covered even in 1955-56 when the proposed new plant at Santiago de Cuba will come into production with an annual capacity of 112 thousand tons.

Iron and steel consumption has also risen in recent years, and preliminary development steps towards a steel transforming industry have been undertaken. In 1952, a small plant with 1,200 tons monthly capacity was installed, producing special rods from imported pig-iron and ingots. After a period of irregular operation, the plant was working at normal capacity, and it is expected that its output will supply about 60 per cent of the demand for rods. Consumption of other iron and steel goods, all imported, stands at 120 thousand tons annually. With a view to supplying part of this demand with domestic output, an electric furnace producing 12,500 tons annually is being installed. The raw materials used will be pig iron —of which Cuba has an annual supply of 25 thousand tons—and imported ingots. The entire project, financed with aid from the Banco de Crédito Agrícola e Industrial, includes bar, tube, forge and foundry shops and will probably be ready by 1955.

The Banco de Fomento Agrícola e Industrial is at present studying two industrial projects which would constitute marked advances for the Cuban economy. The first is the use of sugar cane bagasse as a raw material source for pulp production.[17] The second project is the use of kenaf as a textile fibre, although tests made to obtain a fibre which could compete with jute from India have not yet given any definite results. The industrial production and use of kenaf has been studied by the Comisión Cooperativa Cubano-Americana de Fibras, which allocates 275 thousand dollars a year to this work. Agricultural output has been successfully maintained and substantial tonnages of this fibre have been exported. In the industrial field, defloration plants have been established, different retting processes have been tested, and in the near future it is planned to install a pilot plant for retting, spinning and weaving. But it has not yet been possible to provide an economic process for the treatment and transformation of this fibre.

7. *Ecuador*

Ecuador's industry was influenced by two fundamental events in 1953, the consequences of which will be felt even more accutely in 1954. Firstly, abnormally bad weather conditions in the coastal area considerably affected agricultural output, particularly of cotton, which is the raw material for one of Ecuador's most important industries. As a result, export and domestic trade were dislocated, so that manufacturing output also suffered. Secondly, during the six-month waiting period before new tariffs took effect —at rates which were generally higher than previously— there was an abnormal influx of foreign manufactured goods. These factors not only contributed to the unfavourable balance of payments but also limited the availability to the import trade of credit facilities for industry.

To the limited size of the market—a problem common to most Latin-American countries—is added the scarcity of capital in Ecuador. As a consequence, there is a preference for activities requiring little capital, particularly agriculture, which can be based on the abundant cheap labour force.

Ecuador's industry is concentrated mainly on consumer gods, supplying domestic demand with the more ordinary items. The most important branches are firstly foodstuffs, beverages and tobacco, and secondly, textiles, which together absorb over 60 per cent of the labour and capital of industrial enterprises.

Flour milling and rice polishing are the two most important food industries. In 1953, the flour mills operated at greater intensity than in 1952 in order to meet the increased consumption. In the coastal area they used imported wheat, while in the Sierra the mills used domestic supplies almost entirely. There was, however, a decline in the activity of the rice mills.

There was some progress in the pharmaceutical industry, with laboratories in both areas of the country using imported raw materials. In addition to supplying the domestic market, there were exportable surpluses in 1953 totalling 800 thousand dollars.

In 1953, market problems continued for the textile industry, which had faced a serious crisis in the previous year. Some manufacturers were obliged to accumulate stocks and reduce working hours due to a lack of purchasing power on the market, particularly in the coastal area, where the poor agricultural year 1951/52 had more pronounced effects. The cotton textile industry (58,763 spindles and 1,907 looms) covered 60 per cent of annual consumption, providing, as in previous years, goods of inferior quality. As in Colombia, domestic fibres mainly used by the industry are of poor quality.[18]

Cement is Ecuador's only heavy industry. There is a plant currently in operation in the coastal area, with a capacity of 100 thousand tons a year. In 1952, it produced 89 thousand tons, and 91 thousand in 1953; this figure was below demand, so that imports had to be made. The cement plant to be installed at Rio Bamba, with an annual capacity of 50 thousand tons, has imported the required equipment, but the building is not yet constructed and difficulties are being encountered in domestic financing, owing to the dissolution of the development corporation established by the Government in January 1949. Private capital shows little interest in the project.

There are pending projects in other branches of industry and some are at present being implemented. The most important are the construction of a refrigerating

[17] The amount at present wasted would be sufficient to produce 300 thousand tons of pulp annually. In addition, better thermic utilization of the bagasse would substantially increase this amount.

[18] During 1953, the Fomento del Cultivo del Algodón Nacional was established. Assisted by the Association of Textile Manufacturers, this organization is carrying on an intensive campaign to increase the consumption of domestic textile goods and to foster cotton planting by opening up new productive areas and improving standards through seed selection and the use of pesticides.

plant with Argentine capital at Guayaquil, to preserve meat bartered for crude petroleum; the installation of a large milk pasteurizing plant in collaboration with UNICEF; the purchase of a small 5-ton sulphuric acid plant to operate with domestic sulphur; and a wrapping paper mill to supply 70 per cent of domestic consumption.

8. *Mexico*

In 1953, certain determining factors in Mexico's industrial activity were modified; until that year, development of manufacturing output had been supported by a growing level of public and private investment and by a steady upward trend in over-all demand.

Contraction of public investment during the first half of 1953[19] reduced the demand for industrial products in general and had a particularly sharp effect on the steel, mechanical and cement industries, the productive capacity of which is usually employed in covering most of the requirements arising out of public works programmes. The domestic market for manufactured goods was limited by the decline in mining revenues, which may be estimated at approximately 25 per cent, the fall in the value of total exports, reduced building activity, which according to official figures fell by 4 per cent during the first half of 1953, and the probability that prices would fall. This apparently caused a drop in the total of new industrial investment.

The trend towards lower production in some industrial sectors, which had already appeared in 1952, extended into 1953. The steel industry reduced pig-iron output by 20 per cent and steel production[20] by 5.5 per cent, in consequence of the smaller market for electrical appliances and metal goods. The cement industry reduced the rate of production increase by 50 per cent. There was also a falling off in tyre and tube production. By contrast, other branches of industry, such as plastics, chemical products and fertilizers—which have an ample market in relation to their capacity—continued to be active. Cotton textiles, the footwear and foodstuffs industries suffered more from market contraction than other branches of consumer goods; part of the available purchasing power apparently was diverted towards basic food products, production of which stabilized at approximately the 1952 level. (See table 190.)

Contraction of domestic demand for industrial products coincided with very substantial expansion programmes in some of the more important industries and this created financing problems in some enterprises, reducing the utilization coefficient of productive capacity, which was already low in 1952.

The steel industry undertook a broad expansion programme in 1952-53, with a view to reducing part of the 450-500 thousand-ton annual imports of iron and steel products of all kinds, and to satisfying a consumption which in 1948-51 had increased at an approximate average annual rate of 20 per cent. This programme included the installation of a blast furnace at Monclova, Coahuila, with a daily capacity of 700 to 800 tons. This will come into production in 1954, when annual pig iron production will be raised to 518 thousand tons. The Monclova mill is also installing coking facilities with a by-product plant, and its capacity of 572 thousand tons a year will alleviate the domestic shortage of this important fuel, enabling the steel industry to operate more efficiently than during 1951-52.[21] Steelmaking capacity in turn increased by 153 thousand tons during the last two years, and there are other plans

[19] Public investment apparently increased during the second half of 1953, while as a result, building and some branches of industry exceeded the production level recorded for the early part of the year.

[20] Some of the reductions were due to labour troubles in one of the largest steel mills.

[21] Moreover, in another plant the beehive ovens are to be replaced by by-product recovery ovens, which will produce 60 thousand tons of coke by 1954-55.

Table 190. Mexico: Quantum of output in some industrial sectors

(1948 = 100)

Industrial sectors	*1952*	*1953*	*Percentage annual increase 1950–52*	*Percentage annual increase 1952–53*
Pig iron	173.6	137.8	16.2	−20.6
Steel ingots	183.9	174.0	15.7	− 5.4
Finished steel	193.5	..	16.8	..
Cement	151.8	154.7	12.5	1.9
Sulphuric acid	288.8	308.6	76.3	6.8
Kraft paper	167.1	..	18.3	..
Printing paper	101.2	108.8	2.6	7.5
Paperboard	135.5	..	10.2	..
Tyres	112.0	109.3	5.7	− 2.4
Textiles	82.5	80.7	− 4.1	− 2.2
Soap	106.9	108.8	− 3.2	1.8
Leather footwear	90.0	81.1	− 2.2	− 9.9
Vegetable oils	126.5	129.4	0.7	2.3
Beer	170.2	168.2	14.3	− 1.2
Conserves	120.2	111.4	17.5	− 7.3

Sources: Pig iron and steel ingots: iron and steel enterprises; finished steel and textiles: Banco de México; cement: Cámara Nacional de Cemento; sulphuric acid: Cámara Nacional de la Industria de Transformación and Banco de México; paper and paperboard: Joint Commission of the Mexican Government and the International Bank for Reconstruction and Development, *El Desarrollo Económico de México y su Capacidad para Absorber Capitales del Exterior*, Mexico, 1952, and Nacional Financiera; tyres, soap, footwear, oils, beer and conserves: Dirección General de Estadística.

in hand which will raise the aggregate annual steel capacity to 950 thousand tons by 1955-56. All the extensions undertaken in recent years to meet the growing demand encountered new market conditions in 1953. Pig iron production fell—according to preliminary figures—to some 242 thousand tons after having reached a peak of 305 thousand tons in 1952. Steel output dropped from the 1952 figure of 537 thousand tons to 513 thousand. The decline in imports of finished products, by 23 per cent in 1952 and 29 per cent in the first ten months of 1953, also reveals a market contraction in the demand for iron and steel products.

There was also an expansion in rolling mill annual capacity, one new 60 thousand-ton plant being established in 1953, while there are plans to assemble a 110 thousand-ton rolling mill in 1955. As in the case of iron and steel, these new rolling mill installations will tend to replace some imports.

A series of secondary transforming industries has grown up alongside the steel industry which, both in installations and output, has one of the highest rates of increase in recent years. A factory which is being built in the state of Hidalgo will be able to deliver one thousand diesel trucks a year,[22] whilst another for railway freight waggons will have a capacity of 1.3 thousand units a year. Some relief is thus anticipated from domestic sources for the shortage of rolling stock from which the railways have suffered in recent years. The assembly plants for cars and lorries—which increased their productive capacity in 1952—exceeded the market demand in 1953, and the companies were prepared to reduce their production quotas below the 1952 level of 45 thousand vehicles. The electrical appliances industry, where productive capacity was also higher than demand for the last few years, faced a sales crisis in 1952 which continued into 1953.

The cement shortage entirely disappeared in 1953, although it had been acute during the previous two years. The expansion programme for this industry continued more rapidly than in 1950-52, and production capacity advanced by 238 thousand tons, raising Mexico's potential output to 2.3 million tons. Two new plants, currently being built, will raise capacity by yet another 420 thousand tons in 1954-55, to a total of 2,800,000 tons. With these additions, operating at a coefficient similar to 1950-53 and assuming a 7 per cent annual rate of increase in consumption, Mexico's aggregate requirements can be met until 1956 inclusive. In the meanwhile there will be some possibilities for exports, but these will principally require a substantial improvement in transport and fuel supplies, which have inflated costs and have prevented full use being made of equipment for several years. Output in 1953 increased at an estimated rate of 3 per cent annually—reaching 1,670,000 tons—and not only kept pace with demand but, for the first time in recent years, 40 thousand-ton stocks were accumulated.

In contrast to the foregoing industries, chemical products operated at high levels in 1953, but failed to meet fully the growing demand of the domestic market. Sulphuric acid output reached 112 thousand tons, constituting a record and representing an increase of 6.8 per cent over the previous year.

[22] In its first stages, it will merely assemble parts, most of which will be imported; at a second stage, it will manufacture a large number of these parts, including motors.

Even so, a small section of the market could not be supplied. Production of fertilizers also increased; output of ammonium sulphate was 61,200 tons, or 7.4 per cent higher than in 1952, while superphosphate output amounted to 56,500 tons, 97 per cent higher than the previous year.[23] This latter increase was due to the entry into production of a new plant with a daily capacity of 200 tons. Production of fertilizers is still insufficient to meet domestic requirements, and two new plants are therefore being planned, in Salamanca and Reynosa, to use the same process at present employed for nitrogenized fertilizer output on the basis of natural gas. A third plant for nitrophosphates and concentrated products will make possible a more varied production to meet requirements. Production of caustic soda was 14.1 thousand tons, or some 11.5 per cent higher than in 1952, but, once again, output was insufficient to meet the demand and some 31 thousand tons had to be imported.

The pulp and paper industry, which had doubled output during 1946-51, has experienced a firm but less active market since 1952. Production of Kraft paper and newsprint increased in 1953. In Monterrey and the central zone some increase was made in the productive capacity for paper and paperboard. A plant is being built in Chihuahua state for an annual combined capacity of 40 thousand tons of alpha-cellulose for the rayon industry and bleached pulp for papermaking. This plant will assist in overcoming the pulp shortage, which at present amounts to 50 thousand tons, or half the aggregate consumption. Other plans for producing pulp from cane bagasse have been put into effect and two mills will shortly come into production with an annual capacity of 21 thousand tons. The manufacture of cellophane and other special types of paper has also begun and it is planned to establish a further plant at Monterrey to produce transparent paper from pulp by-products.

Output in the textile industry was affected by the rise in the price of food products, since these have absorbed a growing share of the relatively small market for consumer goods. The cotton industry was influenced by even more problems than in 1952, since to the contraction of the domestic market was added the decline in exports—from 165 million pesos in 1951 to 16 millions in the first half of 1953—and the tendency to replace cotton fabrics by artificial fibres. All these factors together accentuated the crisis in the cotton textile industry, which in 1953 was operating at approximately 44 per cent of capacity. Production of woollen woven goods also dropped. On the other hand, official figures show that output of synthetic fibres, favoured by a shift in consumption from expensive fabrics and cotton textiles, increased by 10 per cent between 1951 and mid-1953. The domestic supply of raw materials for rayon yarns was assured by the entry into production of a new purified cellulose plant, based on cotton linter, established at Reynosa, Tamaulipas. Furthermore, an expansion programme has been prepared with the object of increasing the productive capacity for artificial fibres and plastics, in order to supply both the domestic and the export markets.

The contraction in the market for consumer goods has been general for all industries since 1952, and not only for the cotton and woollen textile industries. Among the industries affected were footwear, where output fell by

[23] Fiscal figures in June of each year.

9.9 per cent in 1953; tyres and tubes, for which the reduction was 2.4 per cent; canned goods, where the industry operated at slightly over 60 per cent of the 1951 production level; soap, where production declined by 1.8 per cent; and beer, consumption of which decreased 1.2 per cent. On the other hand, the output of vegetable oils rose by 2.3 per cent.

9. *Paraguay*

Although Paraguay is mainly an agricultural country, industry is gradually acquiring some importance among its productive activities. As in all under-developed countries, one of the main obstacles to industrial expansion is the small domestic market. The main industries are food and textiles, together accounting for 70 per cent of manufacturing output.

The food industry supplied a large part of domestic market requirements, although certain groups of products —particularly dairy products and preserves—were imported in large quantities. Sugar output did not reach the 1952 figure of 13,400 tons, because frosts destroyed a third of the crop; the Ministry of Industry and Commerce was obliged to request tenders for imports of 5 thousand tons to meet demand. The production of edible and industrial oils continued to show substantial activity and generally increased in relation to 1952: 2,700 tons of cotton-seed oil; 787 tons of edible coconut oil; 564 of peanut oil; 1,900 of industrial coconut oil; 852 of palm oil; 1,100 of castor oil, and 1,600 tons of tung oil. Most of these oils are important Paraguayan export items. Brewery output remained almost stationary, beer production being 5,680,000 litres in 1952 and 5,740,000 in 1953.

The pharmaceutical industry supplied a considerable consumption sector, producing various specialized products—including penicillin—from imported raw materials.

The cotton textile industry—the largest in the group, since domestic production of woollen and rayon textiles is very small[24]—had to meet heavy competition from imported textiles. Shortage of money obliged tradesmen to liquidate their stock and obtain cash to meet their obligations. In 1953, 3,400 tons of cotton were consumed, or 28.5 per cent of the domestic output of this fibre. 2,500 tons of woven goods were produced.

The tannin export industry, which is largely controlled by Argentine capital, is the third largest manufacturing activity in Paraguay. The output of 31,500 tons was thus 11.8 per cent above 1952. It should also be noted that the timber industry produced 21,200 tons of sawn wood and beams, exporting also 151 thousand tons of logs in 1953.

There is only one cement plant, with an annual capacity of 30 thousand tons, situated at Vallemi. It can supply 25 per cent of consumption requirements. It was established in May 1952, but produced only 4,200 tons in that year. Although much was expected of this plant, it has not as yet been very successful, and production stood at only 2,700 tons in 1953.

The Government has given special attention to the production of pulp and paper as a means of encouraging industrial development. An expert of FAO is conducting studies on this question. Conditions in Paraguay are excellent, since approximately half the land area is forested. From 50 to 65 per cent (4-5 million hectares) are virgin forests.

It is also hoped that by 1954/55 there will be yields from two other new sources of production. The first of these is manioc flour, which is intended for domestic consumption and will be blended with wheat flour for bread-making. As an export, it will be used in finishing cloth. The second is "caranday" wax, which is used in making greasy products for polishing, varnishes, photographic film and explosives, for which commodities there is an assured market in the United States.

10. *Peru*

There were no great changes in the industrial field during 1953 as compared with 1952. The size and nature of the domestic market—the purchasing power of which has been reduced by the rise in the cost of living—and strong foreign competition have continued to discourage any industrial expansion. Credit was a third factor having an unfavourable bearing on industry during 1953. Owing largely to the anti-inflationary measures adopted by the Government, the commercial banks were unable to provide all the credit requested. The Banco Industrial del Perú, which is empowered to grant long-term loans at low interest rates, had not the resources to meet the needs of industry to the full.[25]

During the year there was an increase in protective customs duties on artificial cotton yarns and fabrics, yarns made of linen, hemp and ramie, on jute goods, cotton and rayon ribbon, glass, wines and spirits, rubber goods, sulphide and sodium silicate.

No difficulties were encountered with regard to electric power. In the "greater Lima" area, where 80 per cent of the country's manufacturing industry is located, power sold for industrial use amounted to 143 million kWh, exceeding the 1952 figure by 14.8 per cent.

No great progress was registered in food industries and the canned fish industry, which normally exports part of the output to the United States, experienced difficulties on that market.

Tanneries enlarged their plants in order to increase and improve production; by contrast there was a considerable falling off in the output of finished leather goods—particularly those using crocodile hides—which had become an important export industry.

There was an expansion in the equipment of the tyre factory, which absorbs nearly 80 per cent of the country's rubber output, and 1952 production figures of 121.7 thousand tubes and 73.7 thousand tyres were exceeded in 1953.

Within the textile group, the situation of the cotton industry has improved since 1952 owing to increased tariff protection. Three new spinning mills and a cloth factory, all equipped with modern machinery, have been opened. They raise the total number of spindles to 200 thousand and of looms to 7 thousand, in thirty-one mills in the capital and the provinces. A new factory for producing alpaca yarn and cloth for export has been installed with

[24] In 1953, there was an output of 248 tons of woollen goods and 21 of rayon.

[25] The capital was 26,400,000 soles, rising to 73,900,000 through bank reserves and Central Bank rediscounts.

Italian captial, and will shortly enter production. To meet an annual demand estimated at 10 million sacks, the production capacity of jute was increased during the year, as well as output of fishing lines and nets, products which, apart from supplying the domestic market, have also been successful exports. Production of acetate rayon based on imported raw materials began with a capacity of over 500 tons a year.

The sheet glass factory has recommenced production, following a shut-down shortly after installation through inability to meet foreign competition.

Of particular interest in the chemical industry was the new detergent plant using whale oil as a raw material. Owing to the increased output of viscose rayon, it has been found necessary to erect a plant for carbon disulphide manufacture; this has an annual capacity of 550 tons. The sulphuric acid plant uses the gases obtained from toasting sulphurous ores; its output during the year was 14,400 tons, only 0.4 per cent higher than the 1952 figure. Since this amount is insufficient to cover consumption, the balance had to be met by imports, and some 971 tons were imported during the first nine months of the year. To reduce imports, another plant with a daily capacity of 10 tons is being installed and will come into production in 1954. Part of its output will meet the requirements of detergent production. Output of glycerine, based on the lyes obtained from soapmaking, amounted to 184 tons during the year, or 80 per cent more than in 1952, and was provided by two firms which supply the whole market. There was also a higher output of caustic soda, liquid chlorine and hydrochloric acid, amounting respectively to 1,036, 370 and 528 tons in 1952. Production of pigments, paints and varnishes also increased. At the end of the year, a plant producing sodium nitrate from caliche began its test run, and is eventually expected to produce 12 thousand tons a year. A new salt refinery is being built, which will raise output to 24 tons daily.

During 1953, the fishmeal plants were very active. Several of them expanded their capacity, while some of the new plants established succeeded in obtaining a product with a high protein content and wide demand abroad. Exports of meal, which began in 1947 with 474 tons, stood at 9 thousand tons in 1952 and 8,700 tons up to October 1953, so that the figure for the year probably exceeded 10 thousand tons.

In the metal goods industry, silversmiths received a substantial incentive when the government authorized the duty-free export of up to 40 kgs of wrought silver per tourist. Insulated copper conductors were also made for the first time during the year, in plants having a capacity of 1,500 tons a year.

Among basic industries, a noteworthy feature was the expansion in output of the cement plant to 449 thousand tons annually, representing a 21.3 per cent increase over 1952. Some 33 per cent of the 1952 output was used for public works and 67 per cent for private purposes. Extensions are still being made, and an output of 590 thousand tons is anticipated in July 1954 and of 700 thousand at the end of 1955. Another plant, with a daily capacity of 250 tons, will shortly come into production at Chilca, 80 kilometres from the capital. In addition, a United Nations expert has now completed a study for the establishment of a 120-ton capacity cement plant at Sicuani, Department of Cuzco. The International Bank for Reconstruction and Development has approved the technical aspects of the installation and financing of a cement plant of 120 thousand tons' annual capacity at Pacasmayo. Imports rose to 54 thousand tons in 1952 and to 73 thousand tons in the first nine months of 1953.

Two electric furnaces have arrived at the port of Chimbote, ready for installation. They have a capacity of 60 thousand tons of pig-iron a year. A loan from a French bank covered the cost of the steelmaking and rolling mill equipment which is now arriving. It will produce an annual output of 30 thousand tons of plain and corrugated bars, 12 thousand tons of structural steel and 15 thousand of sheet of varying thicknesses. It is anticipated that this production will cover 60 per cent of present domestic steel requirements. All that is now required before steelmaking can begin is the completion of the power installation to provide 50 thousand kW. The work is well advanced, but shortage of capital precludes rapid completion. The Peruvian Santa Corporation, which is responsible for developing the steel industry, signed a contract with a United States company to work the Marcona iron ore deposits for a twenty-year period. Production will be used both for export and for the needs of Chimbote, which are initially estimated at 110 thousand tons annually. The contract stipulates an option of up to 300 thousand tons a year, at a price below the world quotation. The Corporation receives a royalty on exports amounting to 6 per cent for the first million tons exported each year, and 7 per cent thereafter. The revenue obtained from such exports in 1953, amounting to 950 thousand tons with a value of 6,600,000 dollars, assists the Corporation to service the loan granted by the French bank.

Work is about to start on two important projects. The first is the installation of Pucallpa (a river port on the River Ucayali in the Amazon area) of a mechanical pulp mill to produce newsprint, with an annual capacity of 18 thousand tons. The mill is to be the first to use the cetico tree (cecropia Spp.) as a raw material. The research and trials carried out in the United Kingdom, France and Italy for the Banco de Fomento Agropecuario del Peru have given excellent results.[26] The second project covers the production of nitrogenous fertilizers, and subsequently explosives, from synthetic ammonia derived from natural gas or petroleum cracking.

11. *Uruguay*

There was no great increase in the rate of industrial growth during 1953, but rather a trend towards a stabilization of existing conditions. Industrial development in Uruguay following the Second World War has declined in the last four years. The production capacity of several industries which were created or enlarged on the basis of that temporary situation, has exceeded demand on the domestic market since 1949. This applies particularly to the textile, chemical, printing and oil industries. High production costs, resulting from small output and high wages, do not at present offer any prospect of success in competition on overseas markets, such as was experienced during the war. This situation is all the more serious, in the case of textiles, because many factories were installed after the

[26] If carried out—and there are still some financial problems to be solved—this will bring the number of paper mills making pulp to three, as there are at present two which use cane bagasse as their raw material, and which have a total annual capacity of 13 thousand tons of pulp.

war using secondhand equipment and machinery with a low output-capital ratio. Among other measures, the Government proposes to create a special industrial advisory service in order to raise manufacturing output. Furthermore, the plentiful foreign exchange supply obtained from exports after the commencement of hostilities in Korea led to excessive imports of competitive goods, stocks of which still burdened domestic industry in 1953, although to a lesser extent than in 1951-52. Heavy raw material imports in 1951 enabled industry to support the 1952 reductions without great difficulty, and the preferential treatment accorded to industry allowed it to supply domestic requirements during 1953. The annual aggregate of raw material imports increased again; machinery imports in general fell in relation to 1952, but their proportion in the total remained the same.

Uruguay has well-developed industries for the production of many consumer goods. They are sufficient for most domestic requirements of foodstuffs, beverages, tobacco, pharmaceutical products, textiles, tyres, rubber articles, sanitary goods and chinaware. There is no heavy industry, with the exception of cement.

The situation of the textile industry[27] improved in relation to 1952. Unemployment in this sector was 15 per cent in 1952 and declined to 9 per cent at the end of the first half of 1953. Within this group, the most important branch is the manufacture of combed wool tops, which occupies eleven mills with 363 combining machines capable of an annual output of 5.8 thousand tons, working an eight-hour day. This industry really developed after 1949 as a result of a favourable exchange rate, and is of great importance to Uruguay's economy.[28] Exports began in 1948 and totalled 8.5 thousand tons in 1953; during the last two years they have accounted for almost 10 per cent of all exports.

The sugar refinery in the department of Salto came into production in November 1952. It has a daily crushing capacity of 1,200 tons of cane sugar. In 1953, the first harvest on an industrial scale produced almost 1.3 thousand tons of refined sugar. Output could be doubled without extending the existing plant.

The tanneries have been working to capacity to meet overseas demand. In contrast, the footwear industry has a permanent over-production problem. Sulphuric acid showed a 19 per cent increase over the 1952 output of 5,300 tons. The pulp industry—which uses wheat straw as its raw material—and the paper and paperboard industry both bought more equipment, in spite of having lost their export market. During the year, workers were laid off and staff reductions made. There has been a downward trend in employment in the metallurgical industry since 1950, but the process does not appear to have become more accentuated. There have also been difficulties in the assembly of motor bodies, owing to shortage of foreign exchange for importing chassis. Private building, which had shown a sharp rise in 1951 and 1952, because most of the country's foreign capital gravitated towards it, remained at the same level in 1953.

[27] This is the most important of Uruguay's manufacturing industries. There are 46,336 spindles for woollen worsteds, 40,066 spindles for carded wool, 78,983 spindles for carded cotton, 7,648 spindles for cotton worsted, 2,654 spindles for continuous rayon thread, 19,358 for spun rayon, 374 woollen looms, 1,841 cotton looms and 1,127 silk and rayon looms.

[28] See part I, chapter III, of this *Survey*.

The cement industry, which was able to provide an exportable surplus during 1947-49, was obliged to rely on imports, as in 1951 and 1952, since domestic consumption has risen, without a corresponding increase in output. Production amounted to 309 thousand tons in 1953, representing a 4.0 per cent increase over 1952, but 41,400 tons were imported during the year. A third plant is now being built, however, with an initial capacity of 100 thousand tons a year, and is expected to come into production during the first quarter of 1955. The new plant will cost 3,300,000 dollars and is situated 4 kilometres from Minas, in a zone with rich deposits of limestone.

12. *Venezuela*

Results for the first ten months of 1953 indicate that Venezuelan industry maintained the steady rate of development characteristic of recent years, and has gradually progressed beyond the initial stages of industrialization. This was mainly the result of an economic policy favourable to productive investment. Imports of machinery and industrial equipment, excluding those for the production of petroleum and its by-products, reached very high figures in Venezuela. In 1952, they were 20.2 per cent greater than 1948, when the total value stood at 95,700,000 dollars. Another event favourable to industry was the growing domestic purchasing power. Nevertheless, in spite of high protective tariffs, foreign competition still exists, encouraged by both the large amount of foreign exchange derived from petroleum exports and the high cost—in terms of dollars—of domestic production. These high costs are mainly accounted for by wages, which are among the highest in the world, and certainly in Latin America.

Industry has not suffered from any shortage of imported raw materials. On the contrary, for the first 10 months, imports of caustic soda, pigments, rayon yarn, raw rubber, tinplate, processed copper and aluminium exceeded the figures for the same period in 1952, following the upward trend of previous years. Imports of sodium carbonate and raw cotton, which had dropped sharply in 1952, remained at the same level as in that year. The reduction in the case of sodium carbonate reflected the domestic output of natural soda from the Lagunillas deposits. Lower cotton imports resulted from the trend towards fabrics of artificial fibres.

The cement industry continued to expand substantially. During the first ten months of 1953, output amounted to 819 thousand tons, which was 17.4 per cent above the figure for the corresponding period in 1952. Imports until 30 October 1953 reached only 26 thousand tons, as compared with the 1952 figure of 121 thousand tons. Two plants are being built, one of which will have a daily capacity of 500 tons, and should come into production in 1954. A third plant is being studied to supply the requirements of La Guayra and the centre of the country. If the increase continues, Venezuela can be self-sufficient for this important item, in spite of increasing consumption due to large public and private construction programmes currently being carried out.

Transport developments have provided an incentive for tyre manufacture, output of which practically covers market requirements. Production amounted to 181 thousand tubes and 136 thousand tyres during the first ten months of the year, exceeding the production for the corresponding period in 1952 by 45.1 and 33.1 per cent

respectively. Rubber factories, following the wide development of tyre production, are planning to manufacture asphalt and rubber tiles, sponge rubber for mattresses and nylon thread for the tyre industry. Moreover it is anticipated that another factory will be completed in 1954, with capacity for 175 thousand tyres and tubes.

The Government is paying particular attention to the question of establishing an iron and steel industry to use the rich and vast hematite deposits located to the south and east of the Orinoco, close to its junction with the Caroní river. These ores are at present being exported. Technical studies are being undertaken, with the advice of foreign experts and, in addition, the government of Western Germany has offered its co-operation.

As regards Venezuela's textile production, the manufacture of cotton cloth increased by 6.1 per cent during during the first ten months of the year as compared with the same period in 1952. Although output may have amounted to 14 million metres during the year, this is still far from the length produced in the immediate post-war years. Cotton knitwear output is still expanding rapidly, but the manufacture of rayon cloth, after rising very sharply in recent years—from 3 million metres in 1948 to 21 millions in 1952—showed a 20.3 per cent decline in the first ten months of 1953 and the 1953 output is unlikely to have exceeded 16 million metres. The manufacture of fabrics from a mixture of cotton and rayon rose steadily. In contrast, woollen goods fell by 12.9 per cent during the first ten months of the year. The recent sharp reduction in cotton cloth output—which had to face competition from rayon and imported goods—has restricted the market for planters. This has led to some conflict between the interests associated with the industry and the textile trade, and research has underlined the complexity of the problem which the Government is attempting to solve.

Production of rayon yarn to replace imports is a question in which investors are showing considerable interest. One firm with Venezuelan and United States capital, with an acetate rayon plant, had begun to build a viscose rayon factory with an annual capacity of 3 thousand tons.

During the first ten months of 1953, the sugar refineries failed to record the same high output rate as in 1952, when production amounted to 65 thousand tons. The Venezuelan Development Corporation is considering the enlargement of one refinery and the establishment of five more,[29] to produce 87 thousand tons of cane sugar. It is anticipated that Venezuela will be able to meet aggregate refined sugar requirements by 1956; in 1954, imports are expected to decline from the 1953 figure of some 40 thousand tons to 5 thousand.

Powdered milk production, after declining in previous years, exceeded the 1947 figure during 1952, when output was 2,400 tons. It is probable that the 1953 figure will be some 3,300 tons. Another plant in the Torres district will come into production at the end of 1954, with an initial output of 2 tons daily.

Fish conserves are recovering the high 1948 output levels and an expansion of this industry may be anticipated, together with canned fruit and vegetable manufactures. All of them will benefit from the domestic manufacture of tinplate containers, initiated by a firm with Venezuelan and United States capital in July 1953. The new plant can produce 60 thousand cans per hour—sufficient to meet domestic requirements—and will also produce containers for the petroleum industry.

The Development Corporation is making efforts to expand rice polishing further; the quantity handled was six times greater than the 1948 index. (See table 191.) Production of edible oils rose by 38.6 per cent during the first ten months of 1953, trebling the 1948 production figure. Cigarette manufacture increased by 12.4 per cent. Production of biscuits and beer also increased, although to a lesser extent. Soap production continued to decline through the competition from detergents, the output of which will increase sharply with the establishment of a second plant in which 20 million bolívares have been invested.

Table 191. Venezuela: Indices of industrial output

(1948 = 100)

Industry		*January to October*		
	1952	*1952*	*1953*	*Percentage of variation 1952/1953*
Polished rice	559.7	487.8	454.9	−6.7
Sugar	244.5	205.4	217.4	5.8
Tinned milk	149.0	117.0	167.3	43.0
Edible oils	237.2	201.7	279.5	38.6
Tinned fish	80.8	74.3	77.7	4.6
Biscuits	73.5	61.6	65.7	6.7
Chocolates	110.0	90.9	99.7	9.7
Beer	222.6	180.5	184.7	2.3
Gaseous beverages	173.6	145.6	148.3	1.9
Cigarettes	134.2	109.0	122.5	12.4
Cotton fabrics	64.7	55.6	59.0	6.1
Rayon fabrics	549.7	473.0	377.2	−20.3
Woollen fabrics	226.8	201.4	175.5	−12.9
Tyres	397.9	321.8	466.9	45.1
Inner tubes	389.7	309.1	411.6	33.2
Cement	391.8	252.5	382.0	51.3
Soap	70.7	59.6	58.1	−2.5

Source: Economic Commission for Latin America, based on official statistics.

A sulphuric acid plant, with a daily capacity of 15 tons, was opened at Maracay, and is the first plant to sell its output. The others all belong to the petroleum companies; they obtain the acid from the sulphur of petroleum by-products and their output is reserved for use in the refineries. Acid imports, which stood at 1.4 thousand tons in 1952, fell to 550 tons in the first half of 1953 when the Maracay plant had entered production.

Apart from the projects already mentioned, others for installing new factories began during 1953. A shipyard for craft up to 12 thousand tons is to be built in Maracaibo. A United States corporation is to establish a sulphur refinery at Carúpano, with an annual capacity for 200 thousand tons of sulphur and at an approximate cost of 15 million bolívares. It will process ores from the El Pilar area, in the state of Sucre, and is expected to come into production at the end of 1954.

[29] Two of these plants are nearly complete. Construction of two of the others has begun, while the plans for the fifth are ready.

A group of industrialists from Western Germany, with support from a German bank, have drawn up a plan to build a group of small factories to produce building materials, anti-brucelosis products, cattte food and dairy products.

The Venezuelan Development Corporation, on the recommendation of FAO, has prepared advanced studies on the possibilities for a fertilizer plant. A plan is also being studied to establish a chlorine plant near Puerto Cabello. In 1954, a United States company will open an accumulator factory. An Italian firm has contracted to build 4 flour mills, capable of milling 150 tons a day, of imported wheat.

13. *Central America*

The obstacles to Central-American industrial development have been more difficult to overcome during the last two years. Foreign exchange was in easier supply and in some countries, such as Costa Rica, it was cheaper in terms of domestic currency. This tendency facilitated the purchase of industrial equipment, and made it easier and less expensive to import manufactured goods, thus reducing the size of the available market for industry. A sales crisis developed in several industrial sectors. Consequently, some of these countries are currently studying the desirability of introducing modifications in their tariff structure which would impose higher duties on imports of finished goods whilst favouring imports of industrial raw materials.

The 1952-53 electric power shortage reduced the operating efficiency of industrial plants and increased costs, particularly in the more modern and highly mechanized factories. In some countries, however, the supply of electricity will improve in the near future.

Credit available for industry continues to be insufficient throughout Central America, although some countries are strengthening credit facilities. A draft law is under consideration to establish the Banco Industrial de Guatemala, with a capital of 10 million quetzales; in 1953, Nicaragua set up the Instituto Nacional de Fomento, which is empowered to grant short, medium and long-term credit, and El Salvador is studying the establishment of a similar institution with financing and development powers; Costa Rica in 1953 successfully used a medium-term credit system for machinery and equipment imports.

Industrial development laws, which have often been modified in Central America, were used in 1952-53 to foster the establishment of new industries through total or partial exemption of industrial equipment and materials from import duties or other taxes. Laws of this nature have been in effect since 1940 in Costa Rica, since 1947 in Guatemala and since 1952 in El Salvador. Nicaragua is proposing to introduce similar regulations, while Honduras maintains a special system of tariff concessions. However, these regulations have not in themselves been sufficient to modify aggregate industrial investment. Other measures, such as new tariffs, free trade treaties between the Central-American countries, the action of development institutions, electric power projects and technological improvement programmes have been planned or put into effect to supplement laws on industrial development.

Given these conditions, the stimulus which higher income levels in 1952-53 gave to Central America has resulted in an expansive movement in some branches of industry. Although limited, this expansion is of interest for the over-all economy, since it affects industries which are either new to Central America or constitute a more advanced form of industrialization.

The demand for cement has been substantial in recent years. There was a private building boom in four of the Central-American countries during 1952-53. In Guatemala, where private building declined, Government programmes have offset this tendency; in August they absorbed 60 per cent of the aggregate cement consumption. In El Salvador, private building and housing, rural settlement and electrification programmes have expanded the cement market by 30 per cent during the last three years. Cement sales in Nicaragua increased from 16 thousand tons in 1950 to 26,500 in 1952, and now exceed the capacity of the cement plant. The demand in Honduras brought about a 44 per cent increase in the volume of imports and a similar movement was seen in Costa Rica. Central-American cement output increased above the 1951 figure by 4 per cent in 1952 and by 33 per cent in 1953. Some 104 thousand tons, or 56 per cent of total consumption, had to be imported in 1952. Several countries have undertaken the construction or expansion of cement plants; some are already complete and others will come into production in 1954-55. The aggregate demand of the area already justifies the establishment of medium-size plants to supply more than one country, but high freight costs between these countries tend to encourage plans for individual small capacity installations. In 1952, El Salvador built a cement plant with an initial capacity of 49,500 tons, entering production in January 1953, while another kiln will be ready in 1955 to double current output. A 30 thousand ton kiln is being installed in Nicaragua and is expected to enter production towards the end of 1954, raising Nicaragua's production capacity by 160 per cent. Honduras is planning to construct a 30 thousand-ton plant on the north coast, with prospects of another smaller plant in the Tegucigalpa zone. If future markets justify this step, Guatemala plans to establish a second 70 thousand-ton capacity kiln. Should all these plans mature, Central America will have a capacity of 318 thousand tons by 1956-57, excluding the 90 thousand-ton output of the plant in Panama. In brief, complete self-sufficiency for Central America is in sight, with possible surpluses in El Salvador and Nicaragua, which could be used temporarily for inter-Central-American trade to replace imports at present obtained from Europe and the United States.

Supplementary industries have developed alongside the cement plants in Nicaragua and El Salvador, and during 1952-53 the output of asbestos-cement materials increased. A plant is being built in Nicaragua to produce concrete posts for transmission lines and fences. In Guatemala, however, the decline in private building reduced the demand for such products.

Central-American output of vegetable oils increased during 1952-53 at an average rate of 10 per cent. Moreover, El Salvador, and to a lesser degree Guatemala, at present show fairly large exportable surpluses. Nevertheless, the deficit of this area in fats continues to be high, providing a broad field for industrial expansion, particularly in the production of vegetable lard. Nicaragua is building a modern edible oil factory, and is planning one for vegetable lard in 1954-55. Costa Rica established a margarine factory which operates on the basis of African

palm oil and cotton seed. In the soap industry, which is closely connected with the oil industry, output remained stationary during 1952-53. A plant was installed in Guatemala to recover glycerine from soapmaking. Since the plant entered production in January 1953, all its output has been exported.

The dairy product industry has shown substantial progress in recent years. In 1952, Costa Rica installed a pasteurization plant with a capacity of 40 thousand bottles a day, and equipped to produce powdered milk for industrial use and by-products. Another plant of this type is at present being built, in co-operation with UNICEF, which will enter production at the end of 1954 with 35 thousand litres of milk daily. In 1953, Nicaragua installed a pasteurizing plant for 30 thousand litres a day, and is building a powdered milk plant—also with UNICEF assistance—to be opened at the end of 1954. Honduras is planning to establish a powdered milk plant with a daily capacity of 15 thousand litres, while Guatemala will shortly inaugurate a sterilizing plant with a capacity of 48 thousand litres each day.

The situation of the cotton textile industry during recent years differed in each individual country. The textile crisis began in Central America about 1947-48; it was overcome by 1949 in El Salvador, which had substantially increased tariffs during the earlier years; Nicaragua had somewhat improved its position by 1953; Guatemala reached the most critical phase during the first quarter of 1953, and since then output has been at somewhat higher levels than in 1952; Costa Rica and Honduras were still experiencing the crisis, which was probably at its worst throughout 1953. The principal cause was the slow demand for products of the industry, since cheaper and better quality imported fabrics absorbed a large part of domestic demand. Moreover, although the industry's productive capacity is sufficient to meet the requirements of Central America, the mills are usually either too small or inadequately equipped to provide the variety and the qualities demanded by the market. Some establishments have made partial investment with a view to improving quality, in order to meet the difficult market conditions.

The textile industry in El Salvador, which in 1948 operated at less than 50 per cent of capacity, worked an average of two shifts daily during 1952-53; 256 looms were installed during this period, thus increasing productive capacity by 17 per cent. Aggregate output in 1953 was, however, at the 1951 level, and production of the smaller mills had not recovered from the 1948 crisis. El Salvador's shipments of cotton textiles, which are almost entirely exported to other Central-American countries, fell from 182.9 tons in 1950 to 104.4 tons in 1952 and may have declined still further, owing to competition from the United States and Japan.

Textile production in the larger factories in Guatemala decreased by 14 per cent in 1952 and continued to fall, from a monthly average of 316 thousand metres in the first half of 1952 to 267 thousand in January 1953. But sales suffered a proportionately greater decline, in spite of price cutting during the worst months of the crisis. Later, the textile market was broadened by the application of the Textiles Compensating Act, under which domestic fabrics must be sold on the market in equal proportions to imported goods. By the second half of 1953 the previous year's production level had already been exceeded.

Consumption of cotton yarn by Costa Rica's textile industry declined from 241,400 in 1949 to 192,200 in 1951, and it is estimated that the low level continued throughout 1952 and 1953. The waiving of exchange surcharges in September 1951 and the generally low tariffs on imported textiles have resulted in greater imports, the volume rising from 861 tons in 1950 to 1,100 in 1952. Costa Rica's textile mills, which are relatively small, have been unable to meet this new market situation and the industry was at the lowest ebb for output and sales in 1952-53. Conversely, production of rayon and mixed textiles, although small in absolute terms, increased by 20 per cent in 1952 and 11 per cent in 1953.

A mill entered production in Nicaragua during 1953; it is of medium capacity, and output will ensure satisfaction of a considerable part of the domestic blanket demand during 1954. In Honduras, where a new mill opened at the end of 1952, aggregate output of drill and blankets increased by approximately one million yards, but the market contraction was sharper than ever by the end of 1953.

Following the removal of import restrictions on the necessary machinery, modernization of the footwear industry has been undertaken during the last two years in some of the Central-American countries. However, the present factories have suffered from a shortage of skilled labour and the small market, which is mainly accustomed to handmade goods. Mechanization has so far not resulted in any great reduction in footwear prices, because output of hides and skins must still be modernized. The new factories, operating at satisfactory capacity levels, may open up markets for low cost products in those sections of the population which do not at present use footwear.

Paper production has been introduced in some of the countries. Paper from "citronela" bagasse in Guatemala has not found a market and attempts are currently being made to improve its tensile strength by blending it with other raw materials. After a long experimental period, Costa Rica began in 1953 to manufacture Kraft paper based on abaca fibre. Extensions are being completed which will increase the productive capacity for this type of paper to 2,500 or 3 thousand tons yearly in 1954.

The mechanization of the timber industry employs advanced techniques in several countries. Guatemala's plywood plant, with a capacity of 795 thousand square feet per month, raised output substantially in 1952-53 and exported to Cuba, El Salvador, Honduras and the United States. Honduras is establishing a similar plant to enter production in 1954/55.

Chapter IV

ELECTRIC POWER

1. General considerations

The main obstacles to the achievement by the Latin-American countries of a complete or short-term solution to the power shortage which has existed for a number of years continue to be the amount of capital required to expand the output of electric power, the rate of urban growth and the increase of industrial development.

During 1953, some countries continued to receive financial support from international sources, while others have provided incentives for private capital, either domestic or foreign. Many republics established specific national bodies to draw up and implement general electrification programmes; in others, previously established institutions of this nature continued to operate. The aim was to co-ordinate the efforts which previously had been made without such co-ordination.

Nevertheless, almost all the countries of the region suffered from power shortages to some degree during 1953. In some cases—Argentina, Brazil, Colombia, Chile and almost all the Central-American Republics—there was a lack of power in the main urban and industrial areas. In

Table 192. Latin America: Installed capacity and output of electric power, 1953

	Installed capacity			*Electricity output*		
	1952 (*Thousands of KW*)	*1953*	*1952–53* *Percentage increase*	*1952* (*Thousands of KWh*)	*1953* [a]	*1952–53* *Percentage increase*
Argentina	1,800	1,862	3.4	4,710 [b]	4,910 [b]	4.2
Bolivia	85	90	5.9	198 [b]	..	..
Brazil	1,975	2,237	13.3	9,498	10,308	8.5
Chile [c]	494	494	—	1,870	1,980	5.9
Colombia	400	430	7.5	840 [d]	917 [d]	9.2
Ecuador	49	49	—	120 [e]	132 [e]	10.0
Paraguay	18	18	—	38 [f]	..	..
Peru	278	290	4.3	376 [g]	418 [g]	11.2
Uruguay	235	246	4.7	753	845	12.2
Venezuela [h]	360	370	2.8	721	825	14.4
SUB-TOTAL	5,674	6,086	6.9	18,888 [i]	20,335	7.7
Cuba [j]	168	188 [a]	11.9	777	854	9.9
Dominican Republic	60	60 [a]	—	..	..	..
Haiti	25	25 [a]	—	..	..	..
Mexico	1,572	1,678	6.7	5,340	5,720	7.1
SUB-TOTAL	1,825	1,951	6.9	6,117	6,574	7.5
Costa Rica	46	47	2.2	..	204	..
El Salvador	41	42	2.4	103 [b]	..	..
Guatemala	39	40	2.6	106 [b]	111 [b]	4.7
Honduras	12	12	—	10 [k]	12 [k]	20.0
Nicaragua	26	29	11.5	..	..	..
Panama	30	30	—	96 [l]	..	..
SUB-TOTAL	194	200	3.11	116 [m]	123 [m]	6.0
TOTAL	7,713	8,237	6.8	25,121	27,032	7.6

Source: Economic Commission for Latin America, based on data for individual countries.

[a] Estimates.
[b] Data relative to public utility companies only.
[c] Neither capacity nor output of large mining taken into account.
[d] Output of the three principal public utility companies.
[e] Quito, Guayaquil, Riobamba and Ambato.
[f] The public utilities of Asunción only.
[g] Greater Lima area.
[h] Capacity only refers to public utility, mining and petroleum enterprises; production to this same type of enterprise but only in 10 states and in the federal districts.
[i] Includes neither Bolivia nor Paraguay.
[j] Tegucigalpa and San Pedro Sula only (fiscal years).
[k] Panamá and Colón.
[l] The public utilities of Asunción only.
[m] Quito, Guayaquil, Riobamba and Ambato.

others—Bolivia, Ecuador, Mexico and Peru—it was, in contrast, the capitals and large cities which enjoyed adequate power supplies; the shortage in rural areas continued with little possibility of immediate relief, the problem being aggravated by the excessive concentration of the power supply.

The countries in the first group are passing through a period of transition. The emergency solutions adopted in previous years generally included the use of thermal installations either for public supply or by private consumers. These makeshift measures were adopted pending the preparation of permanent and integrated Government plans, which would certainly have greatly improved the position. However, no such plans were forthcoming, and the shortage of electrical energy was aggravated by the limited efficiency of the makeshift solutions which were adopted, so that in many cases it has proved necessary to maintain electricity rationing.

The situation in the second group of countries is no less serious. Only in a few instances were regional plans made to relieve the power shortage in areas with the greatest deficit. The collaboration of local authorities was sometimes obtained, but the plans usually provided for the establishment of a number of small power stations. Colombia and Mexico may be cited as examples of such projects.

The internal disequilibrium between the different consumption sectors in countries within one group or other explains why the power shortage continues despite the apparent normal growth of electricity output and installed capacity. (See table 192.)

II. The situation in selected countries

1. *Argentina*

After having remained at a stationary level during 1952, electric power output in Argentina increased by a little over 4 per cent in 1953, so that the strict rationing of the previous year could be relaxed. Several circumstances contributed to this improvement.

The increase in output was due, firstly, to higher fuel imports, made possible through a greater availability of foreign exchange. Since 93 per cent of all electric power in Argentina is produced from thermal plants, output is closely linked with imports of coal and oil, which are not produced domestically except in quantities far below consumption requirements.

In 1953, several small State-owned hydro-electric plants with an approximate capacity of 62.3 thousand kW were completed by the end of the year. The most important, which has a capacity of 50 thousand kW, is situated at the "Los Molinos" dam in the province of Córdoba. These additions will bring Argentina's total installed capacity up to nearly 1,860,000 kW, of which 400,000 are for private use and 1,460,000 for public service.

The decline in industrial activity caused less pressure upon demand, so that the small increase in output coincided with a lower than normal rise in consumption. The rate of consumption growth would usually require a rise in output of around 7 per cent, according to the trend between 1947 and 1951.

During 1953, work also proceeded on the construction of various other electric power plants within the second Five-Year Plan, which includes the termination, between 1953 and 1957, of thirty-one hydro-electric and nine thermo-electric plants with a total capacity of 759 thousand kW. Among these latter is the large San Nicolás plant, of 320 thousand kW, which is being erected to supply greater Buenos Aires, and should be completed in 1954-55.

2. *Brazil*

During the first eight months of 1953, the average monthly output of electric power in the cities of Rio de Janeiro and São Paulo did not exceed the corresponding figure for 1952. Thus, there has been a continuation of the substantial deficit affecting the principal urban and industrial centres of the country, so that power rationing was again necessary. To the inadequate capacity of the generating plants were added hydrological conditions which reduced output from the main sources of supply, over 80 per cent of which are hydro-electric. There was an insignificant increase in the installed capacity.

In contrast, the situation was easier in the remainder of Brazil, where, by making use of existing facilities and by the addition of new units, it was possible to obtain a considerable increase in output. This was almost the sole reason for the increase of 8.5 per cent recorded in Brazil's aggregate electrical power output.

Total installed capacity at the end of 1953 was estimated at 2,237 thousand kW. This includes some 258 thousand kW installed during the year, 70 per cent of which serves regions other than the Rio and São Paulo areas.

Among the projects in progress, a mention must first be made of the foreign company which holds the concession for the cities of Rio de Janeiro and São Paulo. In 1952, this company had some 958 thousand kW installed (48.5 per cent of the domestic total), and three large new plants were under construction to add a further 790 thousand kW by the end of 1956. These plants are: the hydro-electric plant at Forçacava, which will add 330 thousand kW to the Rio system and will be completed by the beginning of 1954; the thermo-electric plant at Piratiniga near São Paulo, which will provide 200 thousand kW during the same year; and finally the hydro-electric plant at Cubatao, also serving São Paulo, the first four units of which should be generating 260 thousand kW in 1955-56. Of this programme, only 35 thousand kW could be brought into production during 1953, but it is hoped that the remainder will be completed on schedule. It is interesting to note that for this plan, involving an investment of 170 million dollars, the company has been assisted since 1949 by credits from the International Bank for Reconstruction and Development totalling 108 million dollars. To finance future plans, the company is also considering an appeal to private Brazilian capital.

Another foreign firm, which supplies a number of communities in São Paulo State, has begun building a hydro-electric plant at Peixoto, on the Rio Grande. This will provide 80 thousand kW by 1956 and in ten years' time will have a capacity of 400 thousand kW. The total cost will be some 1,400 million cruzeiros (75 million dollars); it will be met partly by a loan of 24 millions from the Export-Import Bank.

3. *Chile*

Electrical output for public use in 1953 was 1,980 million kWh,[1] which is only 5.8 per cent greater than 1952. This rise is the lowest for the past five years, and is only half that for the years 1951 and 1950. The increase takes into account the new 16 thousand kW plant inaugurated by the Empresa Nacional de Electricidad (ENDESA) in the province of Coquimbo in December 1952, and also the greater utilization of plants operated by this organization in the south of Chile.

On the other hand, no additional capacity was installed in the central provinces, where the majority of domestic industry is situated. Existing plants were used to maximum capacity during the winter peaks and rationing had once again to be imposed. This situation has now arisen for several consecutive years.

As an immediate solution for the next critical period during the winter of 1954, it is proposed to use output available from the partially completed plant at Cipreses. This power plant is being constructed by ENDESA in the mountains opposite Talca, 259 kilometres south of Santiago, and is nearing completion. It will have a capacity of 65 thousand kW, to be increased to 92.5 thousand in the following year.

To distribute the power from this plant in the central zone, further additional investments of the order of 500 thousand dollars are necessary. The Government has agreed to provide this sum if the company has difficulty in obtaining the capital.

The ENDESA electrification plan for the remainder of the country comprises additions of 146,500 kW between 1955 and 1957; research and preliminary work have already been begun.

During 1954 alone, it is hoped to bring into operation 65 thousand kW of the two first units at Cipreses, representing 13.2 per cent of the installed capacity of the country, which stood at 494,300 kW on 31 December 1953.[2] The investment involved in this first stage at Cipreses is 25,800,000 dollars; the 146,500 kW to be installed in 1955-57 will require an investment of some 26,700,000 dollars.

4. *Colombia*

Considerable efforts are being made in Colombia to increase generating capacity and thus eliminate one of the major obtacles to urban development and industrial growth. As may be seen from the measures adopted in 1953, the studies being made by the Government have led to the conclusion that an adequate solution will require the assistance of both official bodies and the private companies, given the necessary capital.

In order to encourage private investment, a decree was approved in 1953 granting tax concessions to private companies on the same level as those given to public utility undertakings.

On the other hand, the Government approved in May an estimate for an immediate programme to be carried out by the Instituto Nacional de Augas y Fomento Eléctrico. The investment amounts to 6 million dollars during the first year, rising to a total of some 20 millions within two and a half years. The programme consists of the installation of 14 thermo-electric and 12 hydro-electric plants with a capacity of 1 to 5 thousand kW each. This would add a total of 62,700 kW to the supply of the urban areas and of the neighbouring rural areas most in need of electric power.

For another project of the same institution, it is recommended that some 30 diesel generating sets should be acquired during the next five years, with a total output of 15 to 21 thousand kW, to be installed in small villages.

The institution is also studying an electrification plan on a nation-wide scale, with the object of providing a long-term solution and of making the maximum use of available resources.

Jointly with these general planning efforts, a number of important consuming centres have undertaken the construction of new plants, which, within two years, will add nearly 100 thousand kW to output. These efforts are being financed by credit from the International Bank for Reconstruction and Development, municipal funds, and both national and foreign private capital. European firms have been invited to present estimates for the supply of equipment on deferred payments, and some of these firms have shown interest in these plans.

The average output of the three main public utility companies for which figures are available, was 10 per cent higher in 1953 than in the previous year. The operation of the first units of the programmes mentioned above brought about this increase, which is directly related to the rapid rise in demand.

The Consejo de Planificación Económica has estimated that by 1962 the country will need some 730 thousand kW of generating capacity, and since the present aggregate is estimated at only 430 thousand, there is a deficit of 300 thousand kW to be covered in this period.

5. *Ecuador*

The demand for electric power continued to rise during 1953, and became correspondingly more difficult to cover. Output in the four largest cities was 132 million kWh, an increase of 11 per cent over 1952.

The bill presented to Congress establishing the National Electrification Plan is the first definite step taken by the country in this direction, and is the outcome of studies made with technical assistance from international organizations. This bill proposes a first five-year plan commencing in 1954 and involving an investment of some 350 million sucres (53 million dollars). By means of this plan it is hoped to solve the more pressing problems. It includes the installation of 42,300 kW of hydro-electric power, 18,600 kW of thermo-electric power, 456 kilometres of main transmission lines and 1,052 kilometres of rural lines. This would more than double the country's capacity, which is around 49 thousand kW and would supply 75 per cent of the population. At present only 32 per cent of all inhabitants enjoy electric power facilities.

The plan shows that previously the main obstacles to electric power development were the lack of co-ordination and the use of small municipal plants and distribution net-

[1] Estimated on the basis of statistics for nine months. The figure includes 32 power plants which represent 56 per cent of Chile's total output, including the large mining companies.

[2] This total excludes the 302 thousand kW installed for their own use by the large copper, nitrate and iron ore mines.

works which were inadequate and badly maintained. It is therefore proposed that future development should be highly centralized by the creation of organizations which can appraise and control the available resources, accumulate adequate capital and supply the necessary technical aid to the more distant consuming centres. For the financing of the plan, public bodies would take up shares in the new organization, with which the existing electricity companies would be merged.

At the end of 1953, the International Bank for Reconstruction and Development granted a loan of 2.8 million dollars for the construction of an electric plant at Cununyacu. This sum covered expenditure in foreign exchange, while the costs in the domestic currency were met by various public bodies in Ecuador. The plant will produce 15 thousand kW which will be sufficient to overcome the shortage in the city of Quito.

6. *Mexico*

The installation of electric power plants in 1953 was at a slower rate than in previous years, the total installation was 106 thousand kW,[3] which is lower than the additions of either 1951 (127 thousand) or 1952 (172 thousand). It was also less than the minimum estimated as the annual requirement to meet consumption, which rose in 1948-52 at an average rate of 10 per cent. Output in 1953 rose by 7 per cent, a rate of increase also lower than that of previous years.

The Government electrification programme, which since 1945 has been the most important element in new power construction, gave special importance in 1953 to the installation of thermal plants in heavy demand zones, where no hydro-electric resources are available in the near future. Under this plan thermal plants were installed at Guaymas in Sonora (25 thousand kW) and Chihuahua (15 thousand), which, added to those which had previously been installed in Monterrey and elsewhere, have helped to improve the supply during 1953 in the north and north-east of the country. In the central zone, the construction of hydro-electric plants fell behind the dates originally planned, and the 88.2 thousand kW of the Ixtapantongo, San Bartolo and El Durazno plants will not be available until the second half of 1954. These plants are being constructed in the Sistema Miguel Alemán. In 1953, only 44 thousand kW were installed in this zone, mainly from thermal plants, with which it is hoped to meet the increased demand until the hydro-electric plants come into operation.

As a result of these additions, and of others in public and private plants, Mexico's aggregate installed capacity at the end of 1953 was almost 1,700,000 kW and there was an increase in the trend towards the displacement of hydro-electric by thermo-electric capacity, which has been a characteristic of recent electrification progress. Of the 106 thousand kW installed in 1953, approximately 75 to 80 per cent consisted of diesel or steam plants which, by the end of 1953, already constituted 55 per cent of the total installed capacity.

However, the installation of thermal plants in recent years has been generally effected with the object of creating mixed systems, combining both types of power, or as emergency measures designed to meet as quickly as possible the power demand in areas where hydraulic development can only be undertaken on a long-term basis. The construction of hydro-electric plants continues to be a fundamental part of the present electrification plans, and both the government and one of the principal private companies have comparatively large plants under construction, which will be the basis for expansion of the power system in the near future.

In the central grid system, the government is building 4 hydro-electric plants, with a generating capacity of 223 thousand kW which, together with another privately owned plant of 45,600 kW, will increase capacity of the whole system to 667 thousand kW in 1954, and 850 thousand in 1956. The power supply to this zone will thus be assured — approximately in 1956-57 — by the output from three large hydro-electric systems (Miguel Alemán, Necaxa and Lerma) and three thermal plants, which, by using maximum capacity, will compensate for any shortages which may arise in the hydro-electric system. The government is also building a further hydro-electric power plant, of 52 thousand kW, which according to official reports should come into operation in 1954. The power from this plant will be available to supply the areas of El Bajío and Jalisco which, among the developed areas of Mexico, are those which have suffered most from electric power shortages.

The use of the water from irrigation dams for generating purposes has also been studied in recent years, and forms part of the electrification programme in the north and north-east of the country. At present a 31,500 kW plant is under construction, to use the waters of the Falcón dam on the river Bravo, to provide power for Monterrey and probably the states of Coahuila and Tamaupilas, in addition. Other similar plants, with a capacity of 70 thousand kW have been planned to use the waters of the North Pacific watershed and to provide cheap power for this region, which has no known oil resources.

Apart from these and other principal areas, which until the present have constituted the primary objective of public and private electrification plans, aggregate installed capacity has barely increased in recent years; there is an acute power shortage in the under-developed areas of Mexico. The government has prepared a rural electrification programme which consists of installing 46 plants and the establishment of rural electric systems, in cases where the proximity of the districts or the extent of their consumption so warrants; it is proposed to extend the lines and routes of various electrical networks to provide power for localities of 5,000 or more inhabitants in zones where supply is economically feasible.

Completion of these plans by the Comisión Federal de Electricidad will strengthen the trend towards the establishment of large public-owned plants, output of which will be distributed by the principal private systems and will extend the electrification process to Mexico's less developed areas. Allowing for the plants at present under construction and the dates by which they are expected to come into service, the forecast of future capacity is 1,800,000 kw in 1954, 1,900,000 in 1955 and 2 million in 1956. This provides an over-all annual increase which, apart from the zone served by the central grid, will be inadequate to meet the expected demand. The realization of other plans in addition to those at present pending completion and the fulfilment of the rural electrification pro-

[3] Provisional figures, subject to confirmation.

gramme as soon as possible are, therefore, of the greatest urgency.

7. *Peru*

In Peru there is a marked contrast between the power situation in the capital and in the provinces. In the Greater Lima area, supply was sufficient to meet increasing consumption, while in the provinces the lack of installed capacity or failure to renew equipment led to rationing and frequent breakdowns during the year. The reason for this unsatisfactory situation is that the public utility companies, with certain exceptions, are not allowed to increase power tariffs, which have been maintained at the same level for some time without regard for the considerable price increases in fuel, spares, labour, etc., consequently, there is little inducement to reinvestment in improvements or plant expansion. To rectify this situation and to regulate the expansion of the power industry, a draft bill has been presented to Congress, "The Electrical Industry Law." The necessity for offering encouragement to private capital as the basis for future power expansion is recognized in this bill.

Installed capacity in 1952 stood at some 278 thousand kW divided as follows:

Public utility companies		
Greater Lima area.....	112,823 kW	
Provinces.....	33,194 kW	146,017 kW
Private companies		
Mines.....	89,165 kW	
Industries.....	24,700 kW	
Agriculture.....	18,375 kW	132,240 kW
		278,257 kW

In 1953, there was a rise of only 4.3 per cent. The two most important projects completed during the year were the hydro-electric plant at Chaprín (Department of Pasco), which will supply 3,900 kW in its first stage and the thermal plant at Cuzco. By adding the small plants acquired by various industries, large properties, villages, etc., the installed capacity for 1953 will be 290 thousand kW. This will be increased during the coming years by a third unit of hydro-electric plant at Moyopamba, for Greater Lima (21 thousand kW); expansion of the Juan Carosio plant at Callahuanca, for Greater Lima 30 thousand kW); the Central Hidroeléctrica del Paucartambo at Lower Yaupí, for a metallurgical centre (60 thousand kW); the hydro-electric plant at Cañón del Pato, a project for 150 thousand kW; the first stage of which will provide 50 thousand kW; the enlargement of the Arequipa plant (4 thousand kW); and the completion of the hydro-electric plant at Chaprín in the province of Pasco (2 thousand kW). All this will signify an aggregate increase of 167 thousand kW.

In addition, studies are being completed of the hydro-electric plant at Vilcanota, Cuzco department (20 thousand kW) and the hydro-electric plant at Charcarri in Arequipa department (20 thousand kW), which involves a further 40 thousand kW in the next four years. Thus, by 1958 the installed capacity of Peru will exceed 500 thousand kW.

8. *Uruguay*

Uruguay has continued to plan electric power development, with due consideration being paid to consumption requirements, through Usinas y Teléfonos del Estado (UTE), a body that administers the State monopoly which covers all aspects of the production and sale of electricity.

At the beginning of 1954, the principal phases of the expansion project commenced in 1950 were completed. Working with an investment of 21.2 million pesos, and loans from the International Bank of 26,400,000 dollars, these projects add 50 thousand kW of thermal power to the Montevideo-Rincón de Bonete system, establish 886 kilometres of trunk transmission lines, and improve both the distribution within the capital and the supply to a large number of districts in the interior.

The second phase of this project was approved by the law of 10 November 1953, and provides for an investment of 165 million pesos (equivalent to 87 million dollars) during the next three years, to be financed mainly by government bonds, although foreign capital is being sought to cover the imported material. The main item of this second stage will be the hydro-electric plant at Rincón de Baygorria, which is to be erected on the Río Negro, 66 kilometres downstream from the present Rincón de Bonete, which is the only large hydro-electric plant at present in operation in the country (108 kW installed). The Baygorria plant will have 103 thousand kW installed, and could normally generate 87 thousands, falling only to 65 thousands in periods of drought. To supplement the overload periods, and to meet the needs of the immediate demand until the new projects come into use, it is also intended to add a new 50 thousand-kW-unit to the thermo-electric plant in Montevideo. In addition, the distribution in Montevideo will be improved, as also the transmission and generation of the provincial plants.

With this programme, the present capacity of 203 thousand kW, with normal water conditions, will rise to 340 thousand kW, which, it is estimated, will cover all power requirements until 1960.

Consumption has increased at a very high rate in recent years; 12.2 per cent in 1952-53. An increase of 10 per cent is expected up to 1956, and 8 per cent between 1957 and 1970.

The use of all available hydro-electric sources, which are not substantial, will at least ease requirements for fuel, all of which must be imported.

9. *Venezuela*

The output for public use in 1953 was about 825 million kWh, representing an increase of 14 per cent over the previous year, although this still is lower than in recent years: 16.6 per cent in 1947-52.

The Venezuelan Development Corporation had some 42.5 thousand kW under construction in 1953 in thirteen thermo-electric plants. This represents an investment of some 45 million bolívares (or 13,500,000 dollars) and forms part of an electrification plan drawn up by the Corporation in 1950, which includes the installation of some 225 thousand kW by 1955, through investments of around 90 million dollars. Approximately one third of this sum had been invested up to mid-1953.

Venezuela's generating capacity, which was about 236 thousand kW in 1952, will have risen by 1955 to some 460 thousand.

The additions to the generating capacity mentioned earlier form part of the group of direct investments being made by the Corporation, establishing autonomous companies in which the Corporation holds the controlling financial interest. It has also granted credits to private companies for the purpose of enlarging their installations. This planning activity is actually the leading factor in the increased demand for electric power in Venezuela, which has risen to the highest relative levels in Latin America.

10. *Central America and Panama*

During 1952-53, the demand for electric power remained greater than the generating capacity of this zone. Large rural and suburban areas continued to be without a supply of electricity and the main consuming centres —where the majority of the plants are located—were obliged to remain within the limits of the small power available.

The most recent increase in capacity involving the installation of generating units of any size was carried out between 1948 and 1951, when the 30,700 kW installed was rapidly absorbed by consumption. Since then, the development of electric power—especially in El Salvador —has been concentrated upon long-term projects; the new public service plants, installed mainly in countries which had shown the slowest rate of growth in previous years totalled only 7,400 kW.

Nicaragua raised output capacity between 1952 and 1953 by 3,300 kW, which is 45 per cent of the total increase for the zone; Honduras improved the supply on the northern coast; while the three countries where largest additions were made between 1948 and 1951—Costa Rica, Guatemala and El Salvador—installed only about 1 thousand kW each. In all, the generating capacity of Central America increased by 2.5 per cent annually, as against an average annual increase in consumption of 12 per cent.

The capacity deficit, which was already considerable in 1951, is now more than 35 thousand kW, while the demand within the region has been partially met only by permanently overloading the systems, and through installation of private plants by industry, commerce and agriculture. By this means, the output in 1952 showed a high rate of increase. In 1953, the possibilities of further overloading the plants were exhausted, and it became necessary to increase the restrictions on consumption.

Taking into account the plants under construction, the supply situation should improve substantially within the next few years in certain of the Central American countries. Projects are being implemented which will almost double the generating capacity of this region during the next four or five years. In El Salvador, the final stages have been reached in the construction of the new plant on the river Lempa, which will have a capacity of 30 thousand kW. This plant will supply the central area of the country, the district of San Miguel, and later will also improve the situation in other areas. Construction work is completed, and the first two units, with a capacity of 15 thousand kW each, will be installed by May-June 1954. By then the total load of the area will be some 20,900 kW and it is estimated that the average annual increase will be 18 per cent. This implies that the output of the first two units will be completely absorbed by 1955-56. Towards the middle of 1954, a storage reservoir will be built with the aim of installing a third 15 thousand kW unit in 1956. With these additions there will be an adequate supply until approximately 1958-59. The tariffs, which will come into force when the output of the Lempa plant becomes available, will be 25 per cent lower than power rates in the San Salvador zone, and 50 per cent below present light and power charges in San Miguel.

In Costa Rica, a 10 thousand kW steam plant will be inaugurated in 1954 to supply San José, which alone will probably absorb the entire output. In accordance with the National Electrification Plan, the Instituto Costarricense de Electricidad is building a 30 thousand kW hydro-electric plant, which should be completed by 1957; during 1955-56 this body will instal two small plants with a total of 5 thousand kW. The first of these plants will have surplus capacity available, which should meet the needs of the central district until 1960.

In Guatemala, a 3,500 kW plant is being built, to be completed at the beginning of 1954, and work has begun on a hydro-electric plant to have a capacity of 30 thousand kW, and which should be in use in three or four years' time. Other long-term projects are being studied.

In March 1953, a 3 thousand kW diesel plant came into operation in Nicaragua, and it is hoped to instal two steam units of 12.5 thousand kW each in 1956. This additional power of 28 thousand kW should meet the demand until 1960, but it is anticipated that, between 1954 and 1956, the shortage will be acute.

Honduras carried out small extensions to the Tegucigalpa and San Pedro plants during 1954, while Panama is constructing a 5 thousand kW hydro-electric plant to come into operation in 1955.

To summarize, if the power plants now under construction in Central America are completed on schedule, a total of almost 154 thousand kW will be added during the next four years—an increase of 9 per cent over 1953 capacity. However, the only countries where an early improvement in the supply situation may be expected are El Salvador and Costa Rica. From the present condition of the various projects, it appears that the shortage of electric power in the remaining countries will not be relieved before 1956-1957. In the meanwhile, it may be necessary to turn to short-term solution, installing small plants, mainly thermo-electric, which could meet some of the demand during the 1954-57 period.

Chapter V

PETROLEUM

I. General considerations

In 1953, the petroleum industry of the Latin-American countries that export this product (Colombia, Ecuador, Mexico, Peru and Venezuela) was adversely affected by world over-production. For this reason, Venezuela and Mexico registered declines of 3 and 6 per cent, respectively, in their petroleum output as compared with 1952, and Colombia's production increased only very slightly.

The other producers, which consume their entire output in the domestic market and supplement supplies with imports (Argentina, Bolivia and Brazil), increased their production considerably. Chile, which exports crude petroleum and imports the refined product, also experienced a rise in output.

Among the important producers, Latin America was most affected by the world over-production in 1953. Although the Middle East registered a slower rate of growth than in recent years, during 1953, this region was still able to show a 15.8 per cent rise in relation to the preceding year. (See table 193.)

The development of Middle Eastern production has been displacing Latin-American petroleum on many markets, especially in Europe. The competitive position of the Middle East was based for some time on high yields from its oil fields, which are relatively new and where production costs are considerably lower. Furthermore, in 1953 more oil tankers were available, thus lowering transport costs and making the Middle Eastern oil fields more accessible to consumption centres such as the United States.[1] Latin America's petroleum production is increasingly supplied to the internal market, which consumes approximately one-fourth of the Venezuelan output and, in addition, the aggregate production of the non-exporting countries. For almost all the countries, there is a substantially high rate of growth in domestic consumption. The distribution facilities of the large petroleum companies contribute to this rise in consumption, just as a completely contrary effect is caused by difficulties in developing alternative resources, such as coal for example. Furthermore, the relatively low prices maintained by certain governments for petroleum products on domestic markets have also acted as a strong consumer incentive. In 1953, Peru and Colombia reacted slightly against this tendency and authorized domestic price revision to stimulate the distribution companies, largely financed with foreign capital.

In 1953, there was a 10.8 per cent rise in Latin-American refining in relation to the preceding year. (See table 194.) But the enlargement of refining capacity was very limited and the annual figure was approximately 50.9 million cubic metres, which corresponds to 40 per cent of crude petroleum output. Nevertheless, there are important projects under construction, which involve 15.4 million cubic metres annually, and immediate plans account for another

[1] In 1953, 26 per cent of all United States imports of petroleum came from the Middle East, 50 per cent from Latin America and 23 per cent from the Netherlands West Indies and Trinidad.

Table 193. Latin America: Crude petroleum output

(Thousands of cubic metres)

Countries	1951	1952	1953 [a]	Percentage variation 1951–52	Percentage variation 1952–53
Argentina	3,890	3,909	4,475	0.5	14.9
Bolivia	83	85	96	1.9	12.3
Brazil	100	109	141	9.0	28.9
Chile	120	144	176	20.0	22.2
Colombia	6,105	6,140	6,275	0.6	2.2
Ecuador	431	452	472	4.9	4.4
Mexico	12,525	12,545	11,781	0.2	−6.1
Peru	2,528	2,593	2,563	2.5	−1.2
Sub-total	*25,781*	*25,977*	*25,779*	*0.8*	—
Venezuela	98,921	104,969	102,103	6.1	−2.7
Total, Latin America	*124,702*	*130,976*	*128,082*	*5.0*	*−2.3*
United States	336,000	344,000	352,000	2.4	2.9
Middle East	108,100	117,500	135,500	9.3	15.2
Others [b]	28,198	32,524	38,709	15.4	19.0
World total	*597,000*	*625,000*	*654,291*	*4.7*	*4.7*

Source: For Latin America: Economic Commission for Latin America, based on official statistics for others: Petroleum Press Service.

[a] Estimates.

[b] Excluding the USSR, Eastern Europe and China.

Table 194. Latin America: Crude petroleum refining

(Thousands of cubic metres)

Countries	1951	1952	1953 [a]	Percentage variation 1951–52	Percentage variation 1952–53
Argentina [b]	6,310	6,830	7,080	8.2	3.7
Bolivia	67	70	73	4.5	4.3
Brazil [c]	111	121	124	9.1	2.5
Colombia	1,575	1,825	1,894	15.9	3.8
Cuba	372	356	...	−4.2	—
Ecuador	269	281	270	0.7	−3.9
Mexico [b]	9,750	9,909	10,898	1.6	10.0
Peru	2,150	2,052	2,210	−8.7	7.7
Uruguay	998	1,167	1,290	16.9	10.5
SUB-TOTAL [d]	*21,230*	*22,255*	*23,839*	*4.8*	*7.1*
Venezuela	18,297	20,191	23,300	10.4	15.4
TOTAL	*39,527*	*42,446*	*47,139*	*7.4*	*11.1*

Source: Economic Commission for Latin America, based on official statistics.

[a] Estimates.

[b] For these countries the volume of by-products is indicated; figures for the remaining countries are given in terms of crude treated petroleum.

[c] Refers only to the output of the Refinería de Mataripe, which represents 66 per cent of total national output.

[d] Excluding Cuba.

12.5 millions. This agrees with the tendency of producing countries to refine the largest possible volume, and the efforts of substantial importers to reduce foreign exchange expenditure on refined products.

As regards petroleum legislation, an important step was taken by Argentina with the policy of stimulating private domestic and foreign capital investments in output. Colombia also adopted measures to strengthen this same policy. In contrast, Brazil passed a law creating a government monoply of the main sectors of this industry.

Despite the threat of surplus crude petroleum capacity in the United States and competition from the Middle East, the Latin-American industry has solid bases for development, including the favourable geographical position of the Caribbean oil fields and the possibilities of the domestic market. For the immediate future, investment plans appear to indicate a normal upward trend. Venezuela will continue to invest at a rate similar to that of the last two years; Argentina's energy supply is based to an increasing extent upon domestic petroleum; Bolivia, Colombia and Peru are contracting foreign prospectors on a large scale, and Brazil is initiating its new organization with large capital investments.

II. Exporting countries

1. *Colombia*

In 1953, petroleum output, estimated at 6.26 million cubic metres, was only 2 per cent higher than in the preceding year. Refining showed a small increase, estimated at 3 per cent of the 1952 figure of 260,500 cubic metres.

The Empresa Colombiana de Petróleo is an autonomous fiscal entity operating oil deposits which supply a third of production, these are declining and large investments are necessary for their improvement. In turn, the foreign companies maintained their production at the 1952 level. To overcome this deadlock, the Government is attempting to attract foreign capital. Early in 1953, a law on petroleum concessions was passed, reducing taxation and simplifying administrative procedures to encourage investment. This law establishes that the tax exemption will fluctuate between 3 and 13 per cent, depending upon the distance of the oil deposits from the ports. It enables companies to effect insurance against the drying up of deposits for an amount equivalent to 10 per cent of the gross output, after deduction of the tax exemption. The law eliminates the fiscal reserve imposed in certain zones and abolishes restrictions limiting the number of concessions for each company. In addition, the concessions may be returned to the State at any stage of development, without awaiting Government approval, as was previously the case.

At the beginning of 1953 a special committee was appointed to determine the most satisfactory solution for meeting the growing domestic needs for liquid fuel, and it was decided that the most effective policy would be to obtain foreign capital. It was also proposed to suspend price controls once the enlargement of the fiscal refinery at Barrancabermeja was completed, in order to stimulate investments in refining and distribution. Finally, the installation of a new refinery on the Caribbean coast to overcome the deficient supply of derived products was recommended.

The fiscal refinery, which is the only important one in Colombia, with a daily capacity of 4,500 cubic metres of crude petroleum, does not satisfy the domestic demand for all types of by-products. In 1952, it was necessary to import some 1,900 cubic metres daily, with an approximate value of 13 million dollars. The refinery is being enlarged to a daily capacity of 5.5 thousand cubic metres, which will permit an improvement in supply. Nevertheless, if consumption continues to increase at the present rate of 8.4 per cent annually, towards 1955 a similar shortage will again occur. This fact emphasizes the need

for the other refinery recommended by the committee, with a daily capacity of 4 thousand cubic metres; this could be completed in 1957.

One of the principal expansion projects is that of the Empresa Colombiana de Petróleo, which proposes to invest 56,600,000 dollars within the next three years. Approximately 8 million dollars will be allotted to develop output and the balance for enlarging the refinery and pipeline installation. In 1953, the construction of three new pipelines was begun in order to extend the national network by 500 kilometres, thus improving the supply of derived products from Barrancabermeja to Bogotá and Medellín.

2. *Ecuador*

In 1953, field activities continued normally and the output of crude oil increased to 472 thousand cubic metres, i.e., a 4.4 per cent rise in relation to 1952.

A British company produced 75 per cent of the total output. Twenty per cent was supplied by a concession bought by United States interests in 1951, but which had been in operation for a number of years. The new investors are exploring the deposits by drilling wells, both in new sectors and those currently being worked.

Domestic consumption has maintained the same high rate of growth as during the past few years, and absorbs increasingly larger percentages of output. Thus, it was necessary to supplement domestic production with imports of gasoline.

3. *Mexico*

In 1950-53, the petroleum industry intensified its exploration and drilling activities and new oil deposits were discovered to increase the volume of reserves and productive capacity. In 1953, the number of drillings reached a maximum figure of 355 wells and more geological surveys were made than at any previous stage of domestic development of petroleum deposits. As a result, proven petroleum reserves increased from 215 million cubic metres in 1951 to 264 millions in 1953. However, the largest field discovered produces heavy crude petroleum, and this hampers both exports and domestic refining. Natural gas deposits increased to an even greater degree and this fuel has been used to a greater extent in the industrial zones of Monterrey and central Mexico.

The new petroleum discoveries, principally at the Ezequiel Ordóñez field, a southern extension of Faja de Oro, and in the valley of Veracruz, have alleviated the reserve problem, which had become acute in recent years owing to the growth of consumption. The results of current exploration indicate a further expansion of reserves in the future. The prospecting of new areas (Yucatán, Lower California and Jalisco) in search of deposits at economic distances from the large consumption centres is being continued, although at present unsuccessfully. As a result of the newly discovered deposits, productive capacity in 1953 increased to 40 thousand cubic metres daily, which would have permitted an output of 14 million cubic metres if justified by market conditions. Nevertheless, neither the domestic market, which was stabilized at a slightly higher level than in 1952, nor the world market, with its over-production of crude petroleum, enabled productive capacity to be fully utilized.

In 1952, output was already showing signs of levelling off; it was 12,500 cubic metres in that year. In 1953, it dropped to 11.8 thousand cubic metres, a decline of 6 per cent, and at present there is little prospect of a recovery to the level of former years. In contrast, output of refined petroleum has risen from 9,700 cubic metres in 1952 to 10,000 in 1953, thus meeting the slight increase in domestic demand as well as the greater requirements for reserves consequent on the construction of a large number of storage plants.

In 1953, output at the Poza Rica field, which in recent years had been the development basis for the petroleum industry, was reduced by about 20 per cent. This was because the pressure of domestic demand on output had been eliminated and new fields were being worked where production could offset a lesser extraction rate from Poza Rica. These output modifications between the different oilfields appeared to increase the share of heavy petroleum to the total, as well as that of residual petroleum fuel and other similar oils, consumption of which has been displaced by the use of diesel oil and natural gas. At the end of 1953, heavy crude petroleum and residual petroleum constituted the main exportable surplus, adversely influencing the ability of the petroleum industry to compete on the smaller world market.

In 1953, exports of crude petroleum and by-products maintained the low lovel of 2,300,000 cubic metres exported in 1952, causing a decline in export revenues. In contrast, imports increased both in volume and value; these were mainly to meet the demand of the north-western zone of Mexico and other districts far from oil wells. Thus, the slower rate of growth in domestic consumption during 1953 coincided with an apparent decline in the share of consumption covered by domestic output, which emphasized the restrictive effect on the market on output. Wider distribution to include the zones at present supplied by imports and refinery improvements form part of a programme aimed at enlarging the domestic market, from which approximately 80 per cent of Mexico's petroleum industry revenue is derived, and obtaining a stronger competitive position abroad.

In 1953, the supply improved for some areas as a result of recent pipeline construction for refined products. The pipeline from Lagos de Moreno to Guadalajara was completed with an initial daily capacity of 1,300 cubic metres. This is a continuation of the Salamanca pipeline, and forms part of a petroleum distribution system which, commencing at the Salamanca refinery, will supply the zones of Aguascalientes, Zacatecas, Durango, Jalisco, Nayarit, Michoacán and other centres situated far from the oilfields. To carry out this programme, it will be necessary to raise refining capacity at Salamanca, and extend the pipeline from Poza Rica. Other developments are also planned to permit reduced distribution costs and an improvement in general supply conditions.

The smaller demand for domestic output, and the fact that, since the beginning of 1953, Petróleos Mexicanos (Pemex) showed an excessive productive capacity, gave this organization an opportunity to drill a large number of exploratory wells, and to reduce, proportionally, the number of wells being exploited. A prospecting and drilling programme is planned, aimed at establishing a petroleum reserve sufficient to guarantee the present rate of output for the next 50 years. This would entail a reserve

of slightly less than 640 million cubic metres. The prospecting activities envisaged under this programme will mainly be effected in the petroleum zones of the Isthmus of Tehuantepec, Tampico and of the north-west. The Veracruz valley will also be explored, since it apparently offers the best possibilities among the new zones. The rate of drilling, which in 1952 was 307 wells annually, and at the end of 1953 had reached an average of one well daily, must be maintained slightly below 400 wells each year.

Greater refining capacity also plays an important part in the future Pemex programme. The capacity of the Salamanca refinery will be raised from 4,800 to 6,400 cubic metres daily, to include the installation of a modern lubricating oil plant for completion towards the end of 1954. Output from this plant should replace some lubricating oil imports, which at present represent between 30 and 25 per cent of the aggregate import value of petroleum products. The capacity of the Atzcapotzalco refinery should, in turn, be raised from 8 to 12,800 thousand cubic metres daily, to meet the demands of the central zone, and probably of other areas currently being supplied from Salamanca. The capacity of the Reynosa plant, which refines petroleum extracted from the new north-eastern oil field, will be increased to 1,100 cubic metres per day, thus supplying more liquid fuel to the Monterrey zone. In addition, to meet the growing consumer demands of this industrial zone, a pipeline is being considered to stretch from Tampico to Monterrey. It would carry refined petroleum from the Gulf area, or, if required, a refinery could be established at Monterrey.

Finally, one of the most important projects at present is the modernization of Tampico and Minatitlán refineries and the establishment of catalytic cracking plants there which would permit the extraction of a higher percentage of light fuels and would also enable the heavy crude oil from the new fields to be refined at maximum advantage.

All this would require substantial investment. The industry's revenue, which, until 1952, had consisted almost exclusively of proceeds from sales of petroleum and by-products, were supplemented in 1953 by an internal loan of 173 million pesos in savings bonds. They were issued by the Patronato del Ahorro Nacional, with a 5 per cent rate of interest, and it is anticipated that further capital will be available from this source to carry out the proposed investment programme.

4. *Peru*

The 1952 petroleum law, whereby taxation charges were reduced and administrative procedures simplified, resulted in intense preliminary activities during 1953 in the Sechura desert, where a number of Peruvian and foreign companies are making substantial investments. The preparatory work is coming to an end, but output is not yet sufficient to offset the low production in other areas. As in the case of zones formerly exploited, no incentives have been given to output, and in 1953 only 26 new wells were drilled elsewhere.

The companies with concessions in Sechura have begun to receive prospecting and drilling equipment. A United States company, which produces more than 70 per cent of Peru's crude petroleum, was the first to start drilling in mid-1953. The first boring did not produce favourable results and was suspended, but a second attempt was made at a later date. Another company abandoned its first drilling for similar reason, but is now preparing to begin operations again.

The capital inflow for these activities is governed by legal provisions and the oil companies have indicated their intention of making full use of domestic consumer goods and the national skilled labour force.

In mid-1953, to offset increased costs, the government authorized price increases for gasoline and kerosene, which oil companies must apply for domestic consumption. Prices had been maintained below production costs for a number of years. This constituted a form of surcharge, since domestic consumption absorbs increasingly large quantities of gasoline and kerosene, in fact 70 per cent of all output in 1953. Nevertheless, according to the companies, the new prices can produce very small profits, which will not permit adequate capitalization.

5. *Venezuela*

World over-production of petroleum caused a readjustment on overseas markets, obliging Venezuela to reduce crude petroleum output in 1953. The United States policy of restricting petroleum imports also affected Venezuela's industry. This policy, encouraged by United States coal producers and independent oil companies, (that is, those unaffiliated to international companies) was aimed at strengthening the domestic position of coal and petroleum output in the United States.

Through the impact of these factors, the rate of growth achieved by the industry during the past decade was not maintained. Nevertheless, the expansion of production facilities continued its normal trend.

In 1953, output of crude petroleum was 102,100,000 cubic metres in comparison with 105 millions for the previous year. Production for the first two months of the year dropped below the normal level for that period,[2] as a result of the mild winter in the United States (which consumes approximately 35 per cent of Venezuela's petroleum) and the consequent substantial decline in the fuel demand for heating purposes. During the following months United States demand continued to be slack, and to this was added the risk of a reduction in imports, thereby causing a voluntary contraction in output to avoid weakening the market.

In this connexion, during 1953 several draft bills were presented in the United States, either to peg import quotas for petroleum or to increase customs duties.[3] These draft bills were rejected by Congress, and, in addition, the trade agreement between the two countries was renewed for another year.

In 1953, refining achieved a more stable level than during preceding years, and output was estimated to be 15 per cent higher than the 1952 average, which had amounted to only 20,200,000 cubic metres.

[2] In 1951 and 1952, the rearmament drive and the disappearance of Iranian oil from the market were reasons for the lack of a seasonal decline in demand.

[3] Since most of these imports are obtained from Venezuela, 97 per cent in the case of residual petroleum fuel, this country would have been very seriously affected and it is estimated that the resulting drop in income would have fluctuated between 100 and 340 million dollars.

Investments in 1953 were at a similar level to those of 1952, when they increased by more than 300 million dollars. Drilling activities continued a normal course in relation to 1952, with an average of 110 drillings, 30 of them for exploratory purposes. These were mainly carried out in the eastern oil fields of the state of Anzoátegui.

Proven reserves remained at approximately 1,600 million cubic metres, or approximately sixteen years' output at current levels. These reserves are limited to the zones defined in 1943 and 1944, when the present petroleum law was passed, since the Government has issued no new concessions since that date, the object being to maintain resources and carry out careful prospecting.

The largest oil company in the country, a subsidiary of a United States company, completed pipeline installations in its oil fields, for the conservation of natural gas to be reinjected into the deposits in eastern Venezuela. Construction of a petroleum pipeline was also commenced between the Maracaibo wells and the new refinery at Amuay, an undertaking in which the company will invest approximately 20 million dollars. There are plans to enlarge the Amuay refinery to an additional daily capacity of 10 thousand cubic metres, at a cost of more than 30 million dollars. The expansion of the refining capacity of this plant will require the installation of tanks in which to store 170 thousand cubic metres of petroleum.

The principal companies, three of which produce 90 per cent of Venezuela's total output, have announced that in 1954 they will invest 300 million dollars in this industry.

III. Other countries

1. *Argentina*

Argentina's Second Five-Year Plan provides for an investment of 2,600 million pesos in the petroleum industry, to raise output to 6,600,000 cubic metres. In 1952, production had been 3,900,000 cubic metres. It is hoped to raise the output of natural gas to 225 million cubic metres, as compared with 73 millions in 1952. Investments of 1,300 million pesos are planned in this sector. Despite these large-scale projects, the output at the end of the five-year period would amount to only 66 per cent of estimated demand at that time. Nevertheless, considerable progress would have been achieved, since Argentine petroleum at present satisfies only 42 per cent of the consumer demand.

In 1953, production figures reflected the impact of Government planning, and crude petroleum output was 4,500,000 cubic metres, or an increase of approximately 15 per cent over the preceding year.

Refining followed a normal course and showed an 8 per cent rise in relation to 1952, when output stood at 6,700,000 cubic metres.

Excellent results have been obtained during the past three years at Campo Durán, situated in the province of Salta, where the average of 250 cubic metres per well is high considering that these wells have only been operating for a short period. Recent prospecting in this field has been successful. Campo de Madrejones, with similarly rich deposits, was discovered at a distance of 15 kilometres from Campo Durán, while in the province of Mendoza an oil-well is being worked which supplies a daily average of 125 cubic metres. The greater output from these areas led to transport difficulties and made it necessary to instal a short pipeline leading to the railway. Thence, the petroleum is taken to the refinery at San Lorenzo, a distance of a thousand kilometres. In mid-1953, however, a pipeline from Campo Durán to the San Lorenzo refinery and another for natural gas from the same deposit to Buenos Aires were sold by auction. The establishment of new pipelines for natural gas has increased the number of consumers in inland districts bordering on the line from Comodoro Rivadavia to Buenos Aires.

Special mention should be made of Law No. 14,222, and its clauses, passed at the end of 1953; this establishes basic regulations for the participation of foreign capital in the petroleum industry. The role of capital from abroad in the activities of Yacimientos Petrolíferos Fiscales has not yet been fully defined. Nevertheless, it is understood that foreign companies will be able to act as sub-contractors, assuming the risks involved in exploratory activities and selling all output to that organization, which will remain in charge of distribution and sale. This law also authorizes investors to withdraw foreign exchange profits to an amount equivalent to 8 per cent of the capital, and to repatriate their investments gradually after ten years.

As regards the immediate supply of liquid fuel, a new agreement was signed with the USSR in August 1953, whereby the latter will supply Argentina with a little over half a million cubic metres of crude petroleum and aviation spirit, to a value of 500 thousand dollars. The agreement, valid for a year, also provide for the sale of much Soviet drilling equipment. The effect of these petroleum acquisitions from the USSR upon the composition of Argentine fuel imports is as yet unknown, but it is believed that they may replace a substantial share of petroleum imports payable in dollars. At present, two-thirds of all Argentina's petroleum imports are bought from the sterling area, while the balance is paid in hard currency.

2. *Bolivia*

Projects to raise Bolivia's output were delayed during the first half of 1953 mainly due to difficulties in the delivery of drilling equipment. Between January and July, monthly average extraction stood at 6,300 cubic metres (in 1952 this average was 7 thousand cubic metres). Nevertheless, with the drilling of several wells with a high output near Camiri, production reached 12,600 cubic metres at the end of the year. Thus, aggregate productive capacity had been doubled in relation to the first quarter of 1953.

Early in 1953, Yacimientos Petrolíferos Fiscales Bolivianos signed a contract with independent United States interests for the exploitation of the district south of the Pilcomayo river, near the Argentine border. This was the first foreign contract to be established by this national organization since it was created in 1937. The contract, which is valid for 35 years, binds the lessee to form a corporation with a capital of 5 million dollars within a period of three years, and to begin extraction immediately. As a form of royalty, the lessee must deliver to the Bolivian organization a percentage of the gross output, varying between 16.5 per cent, when production is 30 cubic metres, and 40 per cent, when daily output is above 160 cubic metres. The contract also stipulates that the lessee must sell to Yacimientos Petrolíferos the volume of petroleum necessary for domestic consumption, but is authorized to

export the surplus. In addition, the lessee has agreed to sell to the central bank all foreign exchange accruing from exports; the bank, in turn, will grant foreign exchange required by the lessee's corporation for its normal operations, interest and repatriation of profits. A fixed rate of exchange will be applied in the two latter cases.

In 1953, the new corporation imported equipment valued at more than one million dollars, to drill the first well in 1954.

The railway from Corumbá (Brazil) to Santa Cruz (Bolivia) was completed at the end of 1953, which had been financed by a treaty signed in 1938. Thus an outlet is provided for petroleum from the area north of Santa Cruz. Another agreement, signed in 1953, establishes the formation of joint companies with capital from both countries, to exploit the areas previously prospected by a bipartite commission. A treaty, also drawn up at the end of 1953, stipulated that activities should begin with a contribution of one million dollars from each country; since the new railway has been completed it is believed that drilling will commence very shortly. Petroleum stocks will be exported to Brazil by way of Santa Cruz-Corumbá-Santos, and the export revenues will at first be used to liquidate the Bolivian debt for the construction of the railway section recently completed.

3. *Brazil*

The outstanding event during 1953 was the creation of the organization entitled Petroleo Brasileiro S.A. (PETROBRAS), after long parliamentary debates, when amendments aimed at permitting the participation of foreign capital in this organization were rejected. This body was given a monoply over the principal sectors of the industry, and only for refining and distribution of by-products are private companies in Brazil permitted to continue their activities.

PETROBRAS was established with a capital of 3 thousand million cruzeiros (162 million dollars), which constitute the assets of the Consejo Nacional del Petroleo, a semi-government agency which, until 1953, worked the Bahía deposits, the only crude petroleum producing area. The capital will be increased to 10 thousand million cruzeiros (540,500,000 dollars), up to 1957, by debenture issues, taxes on fuel consumption, higher import duties on vehicles and fuel, and the compulsory purchase of PETROBRAS shares by transport companies using liquid fuel. Furthermore, contributions will be received from State governments, the central bank, semi-fiscal corporations, and certain private companies independent of foreign connexions.

The establishment of PETROBRAS has provided further encouragement to the efforts already made by the Consejo Nacional del Petroleo to develop domestic output and thus reduce petroleum imports, which currently supply 98 per cent of Brazil's requirements. In 1952, petroleum purchases reached 255 million dollars, or 13 per cent of all imports into Brazil. Daily domestic output in 1952 registered only 330 cubic metres, while consumption stood at a daily average of 20 thousand cubic metres. In 1953, the situation was even more acute owing to a greater shortage of foreign exchange and to a rise of some 20 per cent in imports of petroleum and derived products. One-third of such imports are bought from the sterling area, for which Brazil's deficit of foreign exchange cannot be relieved by credit from the Export-Import Bank, given the nature of these loans.

Current output from eight small oil fields near the port of Bahía was restricted by the small capacity of the local refinery. It is the only one of any importance in Brazil and had a daily output of 400 cubic metres until 1953, when capacity was doubled, permitting a corresponding increase in petroleum extraction.

A large programme to establish new refineries exists. In the state of São Paulo, the semi-state Cubatão plant, with a daily refining capacity of 7,200 cubic metres and the private Capuava refinery, with a daily capacity of 3,200 cubic metres, will enter production in 1954. Another refinery with a capacity of 1,600 cubic metres per day, to utilize bituminous shales found in that area, will also be installed in the state of São Paulo, in the Paraíba valley. If the proposed plants in the areas of Río Grande do Sul and São Paulo are also included, daily capacity would increase to 13,700 cubic metres, or nearly half the anticipated consumption. In 1953, the enlargement of the Mataripe refinery (to cost approximately 12,500,000 dollars) was authorized, to be used mainly for lubricating oil output. Crude petroleum from the Bahía area, which has a high paraffin content, is being considered for this purpose.

During the year, the Consejo Nacional del Petróleo drilled 68 wells, of which 52 produce petroleum and 4 natural gas. Aggregate wells drilled stood at 379, or 14 per cent more than in 1952. Of this total, 232 produce petroleum, 28 natural gas and the remainder are dry.

4. *Chile*

The activities of the para-statal body, the Empresa Nacional de Petróleo, maintained an upward trend. In 1953, estimated output was 200 thousand cubic metres, almost 25 per cent higher than in 1952. The Chilean company was able to export approximately 190,000 cubic metres during 1953, in accordance with a contract signed between the company and the Administración Nacional de Combustibles, Alcohol y Portland of Uruguay. During 1953, 30 new wells were drilled, thus bringing the total to 122 wells, of which 55 are productive.

At the end of the year, the small refinery near the deposits, south of the Straits of Magellan, processed a monthly average of 3 thousand cubic metres of crude petroleum. This volume, added to the natural gas obtained from the adjacent absorption plant, permits sufficient output of gasoline, kerosene and diesel oil to meet the needs of the neighbouring area.

In Chile's central zone, construction has continued of the Concón refinery, which will supply the country with gasoline, kerosene and a large proportion of other derivatives by the second half of 1954. Apart from refining imported petroleum, this plant, with a monthly capacity of 90,000 cubic metres, could also absorb the entire Chilean output. Up to 1954, 8 million dollars in foreign currency had been allotted for the construction costs of this refinery, while approximately 500 million pesos (4.5 million dollars) had been spent within the country. The company's technicians have estimated that, until 1957, the refinery will permit approximately 20 million dollars of Chile's foreign exchange reserves to be saved.

Appendix

FOREST PRODUCTION IN LATIN AMERICA

Prepared by the Secretariat of the Food and Agriculture Organization of the United Nations

Appendix

FOREST PRODUCTION IN LATIN AMERICA

This text provides an over-all picture of both the actual and potential role which forest resources can play in the economic life of the Latin-American Republics and the production, consumption and foreign trade in forest products. The available statistical material is probably as complete as possible, but it has serious limitations. Only a few countries have organized statistical offices to collect annual data on production and trade in forest products. Most countries have no forest inventory, although some of them have begun this work using modern statistical methods. Generally speaking, the accuracy of trade figures is much higher than that of felling statistics. However, their breakdown is not always sufficiently detailed. An improvement could be made by the adoption of the Standard International Trade Classification. These statistical difficulties have complicated the task of describing the current position, but for the moment the data are reliable enough to describe the salient features of the forestry situation.

I. *Forested area*

Latin America comprises an area of 1,976 million hectares and is inhabited by some 156 million people. (See table I.) Forests cover 39 per cent of the total land area or 771 million hectares, amounting to 4.9 forested hectares per inhabitant. This figure is very high if compared with the United States or Europe, where the forested areas per caput are only 1.6 and 0.34 hectares respectively. The average for the rest of the world may be estimated at 1.7 hectares per caput.

The fact that in nine countries about half or more of the land area consists of woodlands,[1] shows the important part forests play or could play in the economy of most of these countries. The forested area per inhabitant in Bolivia or Paraguay is among the highest in the world and can only be equalled by some Far Eastern countries. The forests of Brazil are among the largest in the world, rating this country second to the USSR, and represent about one half of the entire timber stands in South America. The woodlands of the Amazon Basin alone are over three times as large as all forests in Europe. In several countries the forested area is not large enough to fulfil the functions of watershed protection and soil erosion control. This is particularly true in Cuba, El Salvador, Haiti and Uruguay, where the woodland area per caput is only about half a hectare. (See again table I.)

But the general features are still incomplete. In fact, it is only the productive forests—whether accessible or inaccessible—which are playing, and will play in the future,

[1] In Costa Rica and Panama the proportion is over 75 per cent.

Table I. Land use and population

Country	Year	Total area	Land area	Total forested area	Forested area as percentage of land area	Forested area per capita	Population[a]
		(Thousands of hectares)				(Hectares)	(Millions)
Argentina	1948	280,850	277,830	48,570	17	2.8	17.6
Bolivia	1951	109,000[b]	108,000[b]	51,802	48	16.7	3.1
Brazil	1947	851,604	846,420	395,928	47	7.4	53.4
Chile	1953	74,177	74,177	16,360	22	2.7	5.9
Colombia	1950	113,916	105,941	50,000[b]	47	4.4	11.3
Costa Rica	1953	5,090	5,090	4,000	79	5.0	0.8
Cuba	1947	11,655	11,000[b]	3,460	31	0.6	5.5
Dominican Republic	1947	5,007	4,900[b]	3,400	70	1.6	2.1
Ecuador	1947	30,000	29,500[b]	18,000	61	5.6	3.2
El Salvador	1953	2,075	1,959	721	37	0.4	1.9
Guatemala	1952	10,889	10,639	6,568	62	2.3	2.9
Haiti	1947	2,775	2,700[b]	1,700[b]	63	0.5	3.1
Honduras	1951	11,521	11,000[b]	4,873	44	3.5	1.4
Mexico	1951	196,937	195,000[b]	26,000[b]	13	1.0	26.3
Nicaragua	1953	14,800	13,700	6,450[b]	52	6.5	1.1
Panama	1953	7,547	7,547	5,720	76	7.2	0.8
Paraguay	1953	38,719	38,719	20,906	54	14.9	1.4
Peru	1953	124,905	112,905	70,000	62	8.1	8.6
Uruguay	1953	17,536	17,276	486	3	0.5	1.0
Venezuela	1951	91,205	89,890	36,500	41	7.2	5.1
TOTAL OF COUNTRIES LISTED		2,000,208	1,964,193	771,484	39	4.9	156.5

Source: Food and Agriculture Organization of the United Nations.
[a] Mid-year 1951.
[b] Unofficial figures.

an important role in the economy of the country. Owing to the lack of reliable data, it is at present impossible to estimate the exact extent of these economically valuable forests for the region as a whole. But it is known that of the 26 million hectares of woodlands in Mexico, only 20 millions are commercial forests, the remainder consisting of shrubs and degraded woodlands. In Paraguay, out of 21 million hectares, some 10 millions are only small scattered stands or open land. It is believed that in Haiti only one third of the woodlands consist of productive forests. These facts must be borne in mind when considering figures of forested areas, but there is no doubt that many Latin-American Republics possess immense forest wealth which, to date, is only potential owing to the inaccessibility of the stands.

At present, there are no accurate data as to the area of Latin America's coniferous forests. As a rough estimate it may be said that some 2 per cent of all forests consist solely of pure conifers and that about half all such stands are concentrated in southern Brazil.

II. *Annual fellings*

From a total cut of 163.5 million cubic metres only 20.5 millions are industrial wood; thus the share of fuelwood from total output is around 90 per cent. This figure is extremely high compared with other regions or with the world average. The share of fuelwood is estimated at 17 per cent in North America, 39 in Europe, 63 in Asia, 45 in Oceania, and 46 per cent for all the forests of the world. However, it is believed that through the introduction of better felling and logging methods and through the construction of roads and railways, the share of fuelwood and waste in Latin America could be decreased to 70 or 80 per cent, thus producing an additional 15 to 20 million cubic metres of industrial wood from the same amount of fellings. It is a remarkable fact that some 40 per cent of the industrial wood cut each year is obtained from the coniferous forests, when, as mentioned above, these forests cover only 2 per cent of the region's forested area. Thus, coniferous forests are more fully utilized than the broadleaved stands owing to the increasing demand for coniferous wood on domestic and world markets.

While data for industrial wood are sufficiently accurate, those for fuelwood frequently do not include fellings for the rural population and the wood destroyed by shifting cultivation. No reliable data can be given for the region as a whole, but it is known that in Paraguay, for example, an additional 25 to 30 million cubic metres are burnt each year owing to shifting cultivation. In Chile it is estimated that unrecorded fellings of fuelwood due to shifting cultivation and local use are at least as high as the recorded cuts. (See table II.)

Table II. Fellings of coniferous and broadleaved roundwood

(Thousands of cubic metres (r), solid volume, without bark)

Country	Years	Industrial wood				Fuelwood (including wood for charcoal)	Total fellings
		Sawlogs, veneer logs and logs for sleepers	Pulpwood and pitprops	Other industrial wood	Total industrial wood		
Argentina	1952	2,120[a]	[b]	900	3,020	12,440	15,460
Bolivia	1952	700[c]	100[c]	200[c]	1,000[c]	3,500[c]	4,500[c]
Brazil	1952	4,900[d]	205[e]	500[c]	5,605	94,000[c]	99,605
Chile	1952	2,003	305	240	2,548	3,240[f]	5,788
Colombia	1952	2,150	150	7	2,307	6,622	8,929
Costa Rica	1952	200[c]	–[c]	50[c]	250[c]	500[c]	750[c]
Cuba[f]	1950	234	2	63	299	668	967
Dominican Republic[g]	1952	169	–	–	169	160	329
Ecuador	1952	193[a]	[b]	–	193	605	798
El Salvador	1952	25[c]	–[c]	200[c]	225[c]	1,500[ch]	1,725[c]
Guatemala	1947	151	–	11	162	300	462
Haiti	1951/52	26	–	–	26	7,197	7,223
Honduras	1950/51	534	–	10	544	7,000[c]	7,544
Mexico[f]	1952	2,380	608[i]	[j]	2,988	1,120	4,108
Nicaragua	1952	150[c]	–[c]	50[c]	200[c]	100[c]	300[c]
Panama	1952	45	–	–	45	1,647	1,692
Paraguay	1951	500[c]	–[c]	–[c]	500[c]	1,500[c]	2,000[c]
Peru	1952	33[a i]	[b]	[b]	33	545	578
Uruguay	1952	66	–	12	78	530	608
Venezuela	1952	240	–	3	243	42[f]	285
TOTAL OF COUNTRIES LISTED		16,819	1,370	2,246	20,435	143,216	163,651

Source: Food and Agriculture Organization of the United Nations.

[a] Includes pulpwood and pitprops.
[b] Included in sawlogs.
[c] Unofficial figure.
[d] Excludes logs for sleepers.
[e] Excludes pitprops.
[f] Excludes unrecorded fellings for local use.
[g] Roundwood for larger industries only.
[h] Includes fuelwood from brushlands and understories in the coffee belt.
[i] Includes other industrial wood.
[j] Included in pulpwood and pitprops.

III. *Other factors of depletion*

Apart from these unrecorded cuttings and the wood destroyed by shifting cultivation, the losses through forest fires draw heavily on the forest resources of many countries. Although it is not possible to provide estimates for the entire region, information available from a number of countries gives the following pattern:

Country	*Area burnt annually (hectares)*	*Timber destroyed by fire annually (m^3)*	*Value of the timber burnt (dollars)*
Chile	611,000	38,633,000	11,306,918
Peru	3,000	200,000	228,758
Uruguay	500	71,000	500,000

The extent of the damage caused by forest fire for one country is illustrated by Chile, where annual reported fellings do not reach 6 million cubic metres and the volume burnt is more than six times as great.

Shifting cultivation and forest fires, generally underestimated in research and neglected in statistics, are often complementary and represent perhaps one of the greatest dangers to forest resources. It is hoped that all responsible governments will recognize their effects and take the necessary action. In some Republics, forests are being depleted very rapidly; for example, in Cuba the forested area represented some 5.5 million hectares in 1919 but is now only 3.5 millions. The forests in the western part of the island have been destroyed so completely that it is difficult to obtain even fuelwood. Elsewhere the densely populated regions are denuded of forests, while large tracts of virgin forests are to be found in other areas of the same country. One of the essential elements, upon which any country's economic policy must be based, is the proper utilization of the land. A major task in several countries is the apportionment of forests and agricultural land, taking into consideration soil conservation and the stabilization of waterflow, since these protective functions of woodlands are an absolute necessity for the continuance of successful agricultural activities.

IV. *The prerequisites for better utilization*

There is no doubt that the forests of Latin America could yield several times more industrial wood on the basis of a sustained yield than is now the case. But this goal can only be attained when several conditions are fulfilled. Firstly, a forest policy, supported by a forest law, should be established in each country, with the support of public opinion. In some countries efficient laws exist, as for instance in Argentina, the Dominican Republic and Mexico. In Brazil, Chile, Ecuador, Paraguay, Uruguay and Venezuela new forest laws are under consideration. Secondly, an adequate Forest Service should be built up, because this is one of the weakest points in many countries. While Mexico has 980 forest employees, of whom 120 are engineers and 860 guards, Chile employs 100 and intends to increase the number to 488. Ecuador has only 4 foresters, Peru 5 and Paraguay 14. At all events, an efficient Forest Service cannot be established without trained foresters. Full professional forestry training is now available in Latin America at the University of Mérida in Venezuela and the University of Chile in Santiago. Some supplementary training in sylviculture is given to agricultural engineers in Argentina, Brazil, Mexico and some other countries.

Finally, it is of fundamental importance that the location, area, condition and productive capacity of a nation's forests should be known through carrying out a forest inventory. The forests should be managed according to the principles of sustained and maximum yield. It is understood that under careful management the majority of the accessible forests could produce much more roundwood than at present. In Honduras, for example, approximately 2 million hectares of pine forests have an annual growth of 1 to 1.5 cubic metres per hectare, but it is believed that with proper management these forests could produce some 6 cubic metres per hectare annually.

However, when considering the present and potential capacity of the forest resources of the twenty Republics, it should not be overlooked that the greater part of these forests are broadleaved and it is evident that most of the population must always depend on such species. In spite of the vast area of the forests now in use in certain regions of Latin America, only a small volume of industrial wood is felled; this is because only some species are cut whereas all others remain untouched. Some splendid forests in Central America, having hundreds of different species, are worked for mahogany alone, since the other species are not considered of commercial value. A report from Ecuador states that there are 2,410 known species in the forests, of which only 480 are used in various parts of the country and 220 in the principal towns; 23 species are known to be suitable for export, but in the final instance only 6 were exported in any volume. Yet, with few exceptions, a use can be found for each species. As a first step, the commercial properties must be accurately understood and markets for these "new" species must be found or expanded. This is one of the reasons why a Latin-American Forestry Research Institute has often been discussed and recommended. (See tables III and IV.)

V. *The trade in forest products*

Most exports consist of broadleaved sawlogs and sawn wood. (See table III.) Apart from Brazil, Chile, Mexico and Paraguay, exports are negligible and by no means contribute to the general economy of individual countries. Furthermore, it is remarkable that the majority of exports are in the shape of rough roundwood or semi-finished, relatively cheap products, while manufactured goods of high value such as plywood, veneers, pulp, paper and paperboard are not exported owing to the lack of adequate industries. Imports, on the other hand, are mainly sawn softwood and products of high value. They are estimated at some 330 million dollars annually and exports at only 66 millions. Only Honduras and Paraguay show a favourable trade balance in forest products, whereas all other countries show a deficit. These trade figures accurately describe the forest situation in Latin America—a scarcity of coniferous stands as well as under-developed forest resources and industries. (See table IV.)

VI. *Consumption of industrial wood*

Figures are available for the apparent consumption of industrial wood, and a comparison of fellings with the export and import volume in terms of the roundwood equivalent. (See table V.) It is a striking fact that Latin America, with 39 per cent of its area covered with woodlands, is on balance a lumber importing region. In terms

Table III. Imports of forest products [a]

UNIT : 1000

Country	Year	Fuel-wood m^3 (r)	Charcoal m.t.	Sawlogs: Coniferous m^3 (r)	Sawlogs: Broad-leaved m^3 (r)	Sleepers m^3 (s)	Poles, piling and posts m^3 (r)	Sawnwood: Coniferous m^3 (s)	Sawnwood: Broad-leaved m^3 (s)	Wood pulp m.t.	Veneers and plywood m^3	Fibre-boards m.t.	Box-boards m^3 (s)	Printing: Newsprint m.t.	Printing: and writing paper m.t.	Printing: Other paper m.t.	Paper-board m.t.
Argentina	1951	10.4	–	248.1	95.5	–	6.6	1161.1	49.4	131.3	2.1	–	–	108.8	39.7	28.6	19.3
Bolivia	1949	0.6	–	–	–	3.1	–	24.6	0.3	–	–	–	–	2.9	0.4	0.7	–
Brazil	1952	–	–	–	0.1	–	–	0.5	–	100.2	–	4.9	–	101.2	–	15.3	–
Chile	1952	–	0.6	–	–	–	–	2.3	–	32.2	–	–	–	10.0	–	1.7	–
Colombia	1952	–	–	–	–	–	–	–	–	–	–	–	–	20.0*	7.0*	28.0*	6.0*
Costa Rica	1951	–	–	–	–	–	–	–	3.7	–	–	–	–	1.8	0.5	1.4	0.5
Cuba	1951	–	–	–	1.7	0.2	1.3	239.4	8.8	20.1	4.8	–	1.6	28.3	11.6	10.9	18.1
Dominican Republic	1952	–	–	–	–	–	–	–	–	–	–	–	–	1.0*	0.5*	3.0*	1.0*
Ecuador	1952	–	–	–	–	–	–	–	–	–	–	–	–	6.0*	2.0*	3.0*	0.5*
El Salvador	1951	–	–	[b]	[b]	–	–	10.1[c]	5.9[c]	–	–	–	–	2.6	–	1.7	0.1
Guatemala	1952	–	–	–	–	1.0*	–	1.0*	–	–	–	–	–	2.0*	1.0*	2.3*	0.8*
Haiti	1952	–	–	1.7	–	–	–	9.1	0.4	–	–	–	–	0.3	0.2	1.5	0.2
Honduras	1951/52	–	–	–	–	–	–	0.3	–	–	0.8	–	–	0.5*	———	1.2*	———
Mexico	1952	–	–	9.0*	–	–	9.0*	20.0*	55.0*	–	–	–	–	37.0*	2.0*	6.0*	–
Nicaragua	1950	–	–	0.4	–	–	–	–	–	–	–	–	–	0.8	–	0.6	0.1
Panama	1952	–	–	–	–	0.6	–	4.4	–	–	0.1	–	0.7	1.7	0.7	1.0	1.0
Paraguay	1951	–	–	–	–	–	–	–	–	–	–	–	–	0.6	0.3	0.8	0.1
Peru	1951	–	–	0.8	2.5	1.6	–	59.0	0.4	0.7	–	–	–	10.5	2.0*	1.0*	2.0*
Uruguay	1952	–	–	–	44.2	1.5	23.0*	106.3	–	8.1	2.3	–	–	19.0	1.9	0.5	0.8
Venezuela	1952	–	–	42.9	–	–	–	–	–	7.6	–	–	–	14.3	6.5	2.3	6.7
TOTAL		11.0	0.6	302.9	144.0	8.0	39.9	1638.1	123.9	300.2	10.1	4.9	2.3	369.3	76.3	111.5	57.2

[a] No imports recorded for pulpwood and pitprops.
[b] Included in sawnwood.
[c] Includes sawlogs.

– = nil or less than half a unit.
* = unofficial figure.

Table IV. Exports of forest products

(UNIT : 1000)

Country[a]	Year	Fuelwood m^3 (r)	Sawlogs		Poles, piling and posts m^3 (r)	Sleepers m^3 (s)	Sawnwood		Veneers and plywood m^3	Boxboards m^3 (s)	Printing			Paperboard m.t.
			Coniferous m^3 (r)	Broadleaved m^3 (r)			Coniferous m^3 (s)	Broadleaved m^3 (s)			Newsprint m.t.	and writing paper m.t.	Other paper m.t.	
Argentina	1951	–	–	–	13.0	–	–	12.0	–	–	–	–	0.2*	–
Bolivia	1949	–	–	–	–	1.1	–	7.4	–	–	–	–	–	–
Brazil	1952	–	–	46.4	–	5.7	636.4[b]	25.9	3.0	([c])	–	–	–	–
Chile	1952	0.2	–	–	0.9	–	28.0	64.1	0.9	2.3	–	–	–	–
Colombia	1952	–	–	1.2	–	–	–	0.1	–	–	–	–	–	–
Costa Rica	1951	–	–	36.8	–	–	–	3.7	–	–	–	–	–	–
Cuba	1951	–	0.2	0.2	–	–	0.1	0.6	–	–	–		0.2*	
Dominican Republic	1952	–	–	2.5	–	0.6	1.4	–	–	–	–	–	–	–
Guatemala	1952	–	–	5.0*	–	–	–	5.0*	–	–	–	–	–	–
Haiti	1952	–	–	1.7	–	–	–	0.3	–	–	–	–	–	–
Honduras	1951/52	–	–	([d])	–	–	133.6	9.8[e]	–	–	–	–	–	–
Mexico	1952	–	–	43.0	–	–	191.0	41.0	2.0*	–	–	–	0.4*	–
Nicaragua	1950	–	–	23.8	–	0.3	51.5	4.0	–	–	–	–	–	–
Panama	1952	–	–	–	–	–	8.7	7.6	–	–	–	–	–	–
Paraguay	1951	–	–	202.4	33.4	6.6	–	17.4	–	–	–	–	–	–
Peru	1951	–	–	–	–	–	–	11.0	–	–	–		2.2	
Venezuela	1950	–	–	2.0	–	–	–	–	–	–	–	–	–	–
TOTAL		0.2	0.2	365.0	47.3	14.3	1050.7	209.9	5.9	2.3	–	–	3.0	–

[a] No reported exports for Ecuador, El Salvador or Uruguay.
[b] Includes boxboard.
[c] Included in coniferous sawnwood.
[d] Included in broadleaved sawnwood.
[e] Includes broadleaved sawlogs.
– = nil or less than half a unit.
* = unofficial figure.

Table V. Apparent consumption of industrial wood (including wood products)

(Thousands of cubic metres roundwood equivalent)

Country	Production of industrial wood	Round equivalent of		Apparent consumption	Exports as percentage of production	Imports as percentage of apparent consumption
		Imports	Exports			
Argentina	3,020	3,320	30	6,310	1	53
Bolivia	1,000	60	10	1,050	1	6
Brazil	5,605	880	1,170	5,315	21	17
Chile	2,548	200	180	2,568	7	8
Colombia	2,307	200	1	2,506	–	8
Costa Rica	250	20	40	230	16	9
Cuba	299	730	2	1,027	1	71
Dominican Republic	169	20	7	182	4	11
Ecuador	193	40	–	233	–	17
El Salvador	225	50	–	275	–	18
Guatemala	162	20	10	172	6	12
Haiti	26	30	3	53	12	57
Honduras	544	10	240	314	44	3
Mexico	2,988	370	440	2,918	15	13
Nicaragua	200	5	120	85	60	6
Panama	45	30	30	45	67	67
Paraguay	500	5	280	225	56	2
Peru	33	150	20	163	61	92
Uruguay	78	360	–	438	–	82
Venezuela	243	160	2	401	11	40
TOTAL	20,435	6,660	2,585	24,510	13	27

Source: Food and Agriculture Organization of the United Nations.

of roundwood, 2.5 million cubic metres are exported yearly while over 6.5 millions have to be imported for the needs of the population. Peru, for example, with forests covering 62 per cent of the land area, imports 92 per cent of its apparent domestic requirements, while Brazil, a country with substantial forest reserves, imports about one fifth of the domestic demand.

This brief description of the over-all situation of Latin-American forests thus indicates that the utilization of these natural resources has not been adequately developed. It is natural that each country should seek to derive in perpetuity, for the greater number of its people, the maximum benefits available from the protective, productive and accessory values of its forests. In 1948 the Latin-American Forestry and Forest Products Conference at Teresópolis adopted a number of resolutions on the utilization, production and development of forest resources; these resolutions are still valid today. Furthermore, there can be no doubt of the hopeful signs of efforts being made in recent years for the protection and better use of Latin-American forests. Several new forest laws have been drafted, two new forestry schools were established and Honduras has recently created a Forest Service. In addition, inventories on modern lines are being undertaken and industrial projects studied in a number of countries.[2] It is very significant that many governments have availed themselves of technical assistance in various phases of forestry.

All these signs indicate that there is an increasing economic value of their forest resources and the necessity for protecting and utilizing them wisely. Some countries are substantially increasing the allotment of funds to their forest organizations in the conviction that the expenditure will yield high returns.

[2] See *Possibilities for the Development of the Pulp and Paper Industry in Latin America*, prepared jointly by the Economic Commission for Latin America and the Food and Agriculture Organization of the United Nations (United Nations publication, 1953.II.G.2)